







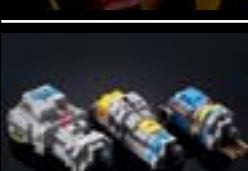
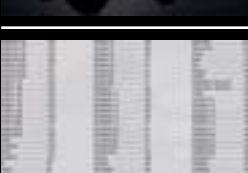


Index

	→ 01	About Us	page 002
	→ 02	Control Units	page 008
	→ 03	Panel Mount Jacks	page 572
	→ 04	Emergency Stop Buttons	page 594
	→ 05	Bus Technology	page 638
	→ 06	RFID	page 648
	→ 07	Enclosures	page 670
	→ 08	Pedal Switches	page 696
	→ 09	Terminal Blocks	page 700
	→ 10	Type Index	page 730

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index





→ About us

- About us page 004
- What sets us apart page 005
- That's what our partners and customers say page 006
- Our service offerings for your success page 007

Georg Schlegel GmbH & Co. KG in Dürmentingen

The company GEORG SCHLEGEL GmbH & Co. KG based in Dürmentingen is specialised in manufacturing pushbuttons and switches of any kind. It was founded on 1st April 1945, shortly before World War II ended. From its most modest beginning, it has become a globally operating company with 250 employees which has grown steadily and sustainably.

The first years were characterised by great uncertainty. But the ingenuity and the Swabian tinkering mentality of the company's founder Georg Schlegel, his companions and successors have led the company to what it is today: A company which holds a good reputation thanks to its innovative and elegant products. Renowned companies all around the globe have trust in the quality of SCHLEGEL products.

GEORG SCHLEGEL GmbH & Co. KG develops, designs and manufactures emergency-stops, pushbuttons and switches, RFID systems as well as control panels for the industry and the mechanical engineering. The portfolio also includes electronic solutions with integrated fieldbus technology. SCHLEGEL products can be found in trains, luxury yachts or lifts as well as in industrial plants, in the laboratory technology or on airports worldwide - wherever a button is pushed to trigger a process Schlegel appears.

The family-owned company is manufacturing on two production sites in Dürmentingen and Leipzig, thus the production is 100% "Made in Germany". SCHLEGEL products are being sold globally via distributors in more than 80 countries.

At SCHLEGEL, great importance is attached to the design of the products as good design combines form and functionality. This approach is the basis for the product development of SCHLEGEL pushbuttons and switches and it creates new design concepts.

More than 90 national and international design awards are proof for the high competence and the industry leadership in terms of design.

Over more than seven decades a highly respectful corporate culture has been established. The cooperation is characterised by mutual trust. This results in creative and innovative solutions. In order to shape the future, SCHLEGEL is continuously developing new products and applications. True to the company's motto: "If you stop getting better you have stopped being good."

Schlegel Elektrokontakt GmbH in Leipzig

Since April 1st 1993 the company SCHLEGEL ELEKTROKONTAKT based in Leipzig is part of the SCHLEGEL corporate family. The company was founded in Leipzig on 10th March 1937 under the name Monopol and was renamed DUX Elektrotechnische Fabrik in 1951. In 1972 it has been nationalised and merged into the VEB combine Robotron in 1980. With effect from 30th June 1990 DUX Schaltgeräte GmbH was registered again as an independent enterprise.

On 1st April 1993 the company was sold to GEORG SCHLEGEL GmbH & Co. KG with the assistance of the Treuhand. Since this day both companies complement each other on the market with their product range.

In the initial years DUX developed, produced and sold installation technology - starting with insulated indicator devices with drop indicator technology via doorbell buttons and panels to signal bells, door contacts and limit switches. Later the company specialised in components for individual circuit control systems. During the last years particular attention was paid to the production and development of pushbuttons and switches, enclosures and limit switches as well as to the production of control panels for the building automation sector. The development of customised solutions is also part of the SCHLEGEL portfolio in Leipzig. In addition, SCHLEGEL Leipzig is also responsible for the sales in the areas of Brandenburg and Mecklenburg-Vorpommern. In November 2005 DUX has been certified according to DIN EN ISO 9001. In 2013 DUX was renamed SCHLEGEL ELEKTROKONTAKT GmbH.

Georg Schlegel Vertriebs Ges.mbH in Austria

GEORG SCHLEGEL VERTRIEBS Ges.mbH was founded on 1st February 1980 as Schlegel-Sarel Vertriebsges.m.b.H, a joint subsidiary of the Dürmentingen-based expert for pushbuttons and switches and the French control cabinet manufacturer Sarel. This corporate constellation offered synergy effects for both companies: The control cabinets could be offered with the component parts such as terminal blocks and pushbuttons and switches required for the constructing, leading to rapid growth of both companies. In 1985 Schlegel-Sarel was converted into today's GEORG SCHLEGEL VERTRIEBS Ges.mbH - being a 100% SCHLEGEL subsidiary.

From a company with initially two employees and a storage space of 10 square meters SCHLEGEL Austria quickly grew up to a sales office with 15 employees and an assortment warehouse of 150 square meters. From their location in Wiener Neustadt they supply many well-known industrial and trading companies. GEORG SCHLEGEL VERTRIEBS Ges.mbH also manufactures complete control panels, customised terminal block assemblies and enclosures equipped with pushbuttons and switches. SCHLEGEL in Austria is responsible for the sales in the following countries: Bosnia-Herzegovina, Croatia, Macedonia, Czech Republic, Hungary, Serbia, Slovenia, Romania and Bulgaria. In the Czech Republic and Croatia SCHLEGEL Austria is represented by on-site companies with own stock-keeping.



company building Schlegel Elektrokontakt GmbH, Leipzig



company building Schlegel Vertriebs Ges.mbH, Austria

What sets us apart

→ XXL product selection!

- Variety is our strength. With over 8000 products in our portfolio we can offer variants for all common connection technologies, mounting depths and labelling types.
- A cheer for the modular system! Our product world is perfectly harmonised so that elements of our series allow versatile combinations.
- We continuously improve ourselves and keep on the tried and tested. This also goes for our product series. Our customers can buy them and add or replace parts of them over many years.



→ Our independence is your advantage!

- From product development to shipment of orders - at Schlegel everything is under one roof: This production depth makes us independent from unstable global supply chains; to the advantage of our customers.
- As a family-owned business in its third generation we act in flat organisation structures. Thus we can react fast and precise to all requirements.

→ We grow with new challenges!

- The company GEORG SCHLEGEL GmbH & Co. KG is a company with tradition which also faces the new challenges of the future with pleasure. Innovative strength is part of the company's DNA. Several patents for SCHLEGEL products are proof for it.
- Medical technology, vehicle construction or mechanical engineering: Thanks to our diverse clientele we have detailed knowledge in many several fields. We are able to transfer this know-how to other branches and to use it for innovative solutions.
- Thanks to our product variety we can meet different requirements. Should one detail be missing to reach perfection, we face the challenge and develop an individual, customised solution. Consequently about 750 SCHLEGEL products are created precisely based on customer's requests.

→ Beautiful and good!

- We like it beautiful! SCHLEGEL products are supposed to make the world a bit more beautiful. **Over 90 national and international design awards** are proof that we succeed in this.
- Tested and approved: TÜV, UL, ENEC, CCC, CSA, VDE - for global sales our products are certified by all relevant test and certification authorities.
- For us, efficiency inside the company is not a long-term objective, but a daily task. The certification of our company according to the quality management system DIN EN ISO 9001 proofs that we meet this requirement. And this since 1994.



→ We play fair and as a team!

- For us, fairness is not just a phrase, it is part of our corporate culture. We treat and expect fair dealings with customers and business partners.
- We are appreciative of each single customer. We also support customers with smaller and medium demands with great enthusiasm. Our objective: We want to grow together with our customers.
- People make companies successful. It is only thanks to our motivated and professional employees that we are able to meet the high standards we have set for products and customer service.
- As a company we are part of a regional community. Therefore we support social commitment in our region. Through our striving for a climate-neutral production and the procurement of renewable energies, we contribute our part to an intact environment.

- About Us
- Pushbuttons/Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFID
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index

→ That's what our partners and customers say:

„Professionalität, Qualität und Design - das ist Schlegel.“

„If someone can be creative with switches, Schlegel can.“

„Breitestes Produktsortiment bei Befehlsgeräten, schneller und persönlicher Support bei Fragen.“

„In addition, Schlegel as a company proves to be agile, flexible and willing to adjust to new market demands.“

„Schlegel creates products of extraordinary aesthetics and visual design combined with ease of use and durability. Any switch does switch, but Schlegel's does better.“

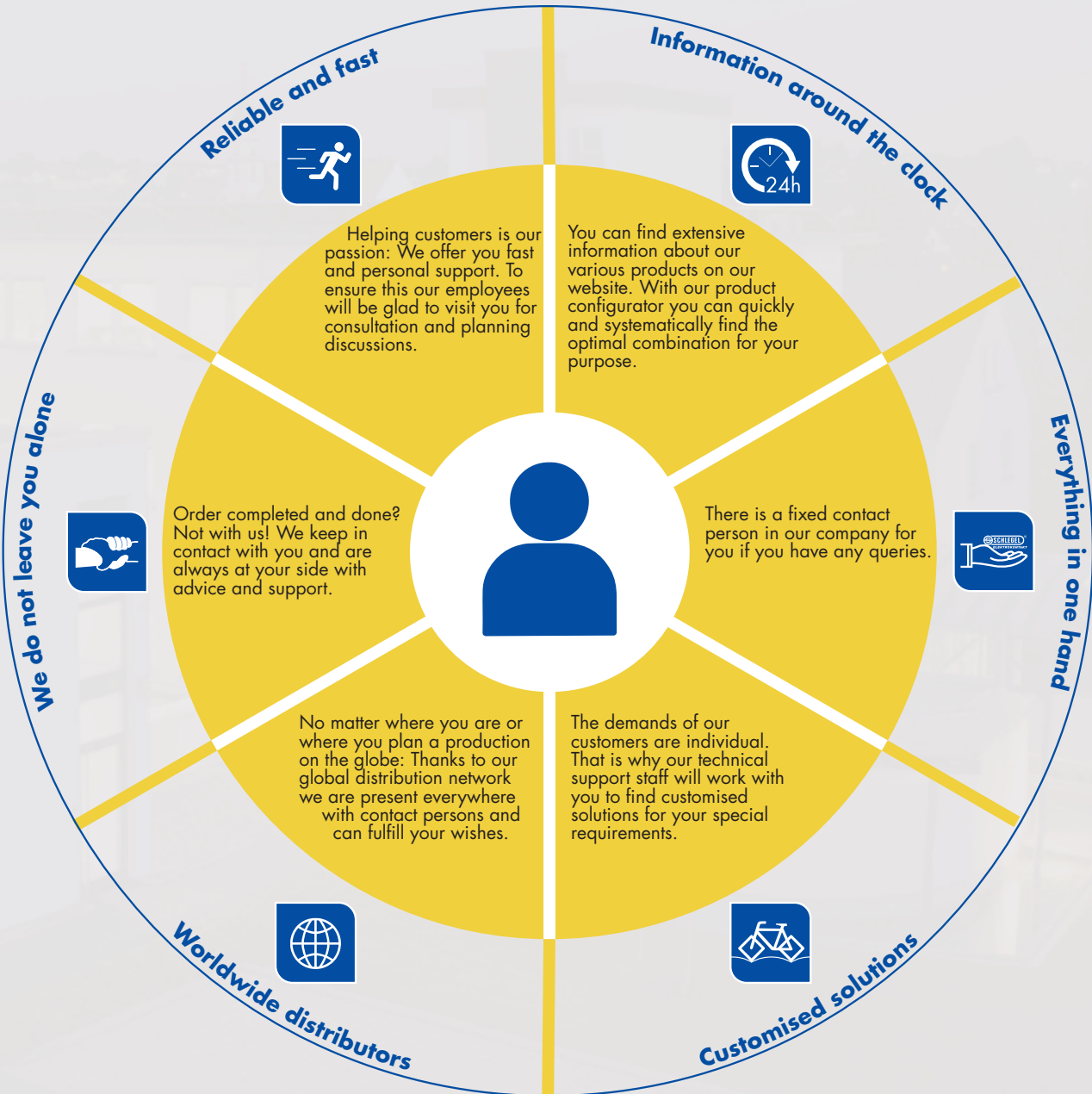
„The service of company Schlegel ist excellent.“

„It is an honour and a privilege to work and be associated with a company like Schlegel.“

„Die Firma Schlegel zeichnet sich durch ihre innovativen Weiterentwicklungen sowie durch ihre zielstrebigem und schnellen Problemlösungen aus.“

„Schlegel is a family-owned and operated business. They value their customers, their employees and their commitment to provide exceptional and innovative products. They run their business with honesty and integrity.“

Our service offerings for your success - focus on the customer



- About Us
- Pushbuttons/Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFID
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index

Panel cut-out: Ø 16.2 mm



OKTRON®

Front dimensions:
25 x 25 mm

014



OKTRON®-R

Front dimensions:
Ø 25 mm

034



QUARTRON®

Front dimensions:
25 x 25 mm

054

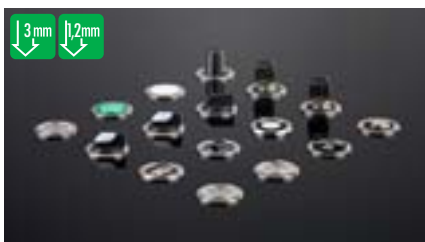


mYnitron®

Front dimensions:
Ø 23,5 mm

400

Panel cut-out: Ø 22.3 mm



RONTRON-R-JUWEL

Front dimensions:
Ø 28 mm

074



RONTRON-Q-JUWEL

Front dimensions:
28 x 28 mm

104



SHORTRON®

Front dimensions:
Ø 28 mm

122



SHORTRON for base-plate mounting

Front dimensions:
Ø 28 mm

158



SHORTRON® connect

Front dimensions:
Ø 28 mm

176



SHORTRON® M12

Front dimensions:
Ø 28 mm

200



RX-JUWEL

Front dimensions:
Ø 28 mm

210



RONDEX

Front dimensions:
Ø 28 mm

226



RONDEX-M

Front dimensions:
Ø 28 mm

242

Panel cut-out: **Ø 22.3 mm**



RONDEX-JUWEL

Front dimensions:
Ø 28 mm

258



DUX-Basic

Front dimensions:
Ø 30 mm

276



QUARTEX-R

Front dimensions:
30 x 30 mm

296



RVA stainless steel

Front dimensions:
Ø 28 mm

312

Panel cut-out: **Ø 30.5 mm**

Panel cut-out: **23.1x23.1 mm**

Panel cut-out: **24x24 mm**



KOMBITAST-R-JUWEL

Front dimensions:
Ø 36 mm

322



OKTRON-JUWEL

Front dimensions:
25 x 25 mm

344



QUARTRON-JUWEL

Front dimensions:
27 x 27 mm

360

Panel cut-out: **26x26 mm**



QUARTEX-R-JUWEL

Front dimensions:
30 x 30 mm

380

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Vandalism-proof actuators



396

Emergency-stops



594

Nameplates



634

Panel Mount Jacks



572

Enclosures



670

Contact blocks



414

Battery-free wireless pushbuttons and switches



566

Bus Technology



554

638

RFID



648

Pushbuttons and switches

→ Use and application fields

Schlegel pushbuttons and switches include a variety of complete pushbutton and switch series for front-panel and base-plate mounting. The actuators are designed for exclusive applications as well as for use in harsh environments. They are housed in attractive, square, rectangular or round insulating bodies, allowing side-by-side assembly and thus full keyboard arrangements. Due to the flexible contact configurations and ease of assembly, the units can be used in every field of application.

→ Mounting of pushbuttons and switches

First, the required mounting holes have to be drilled, punched or lasered (refer to the relative drilling pattern on the starting page of each series). For round cut-outs, keep in mind to provide a recess for the locating lug. The actuators are then inserted into the cut-outs and fixed with a mounting nut on the rear.

Because they are almost completely recessed in the panel, the square Juwel actuator housings require a spacer to be put on from behind before securing them with the mounting nut. **Lenses and nameplates have to be ordered separately unless otherwise stated. This provides high flexibility to the combination of lens colours and inscriptions once the pushbuttons and switches are mounted in the panel (see illustration under "Mounting and Service Instructions").**

→ Mounting of contact blocks

All Schlegel contact blocks have rounded corners and edges and thus allow a comfortable use without risk of injury. For the 22 mm series with bayonet applies: With the M...type series, first insert the contact modules into a module holder, then snap the module holder onto the actuator neck by a rotary motion (bayonet coupling). For side-by-side arrangements with the D... type series, snap the module holder onto the actuator neck first by a rotary motion, then insert the contact modules into the module holder. The contact blocks ETR.. (one-piece) do not need a module holder, so snap them directly onto the actuator. As to the actuators with 16mm bayonet, simply snap the contact blocks of the type series A, B, C and P onto the actuator neck (no module holder necessary). A slight twist enables to snap them off again. The contact units of the type series CTP and CZ (suitable for PCB's) are first soldered onto the PCB, then put onto the actuator of the 16 mm series and fixed by a small locking bolt. This bolt can be moved with a screwdriver through a hole in the PCB.

→ Assembly instructions for base-plate mounted version

- snap the relative contact block onto the actuator neck
- spacer sleeves ensure the correct distance between PCB and mounting plate.
- screws must be secured against loosening.

Note for base-plate mounted type "FRVKZ"
(with plunger extension):
ATTENTION: must not be used for the illuminated version!

Note for base-plate mounted type "FRVKZL"
(with plunger extension):
ATTENTION. use only for the illuminated version!

→ Illumination

For the illumination of pushbuttons, selector or key switches and pilot lights either incandescent lamps, neon lamps or LED's can be used. The contact units are optionally available with BA9s, T5,5K or W2x4,6d sockets or integrated LEDs, depending on the particular type series.

→ Marking options

With the importance of an efficient component marking in mind, the Schlegel pushbuttons and switches have been designed to accept a clearly visible marking, easy to produce and comprising a variety of symbols and inscriptions. Hence, a multitude of standard nameplates are available, but also customer-specific imprints are possible. The nameplates are inserted under the lenses and are thus protected from wearing and soiling. Still today this is the best system which was originally a development of GEORG SCHLEGEL. Other marking options offer the external markings using special nameplate holders. These nameplates can also be printed with standard symbols or according to users' requirements.

→ Front bezel colours (refer to the relative series)

Other front bezel colours can be supplied on request.

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Internationally protected design.

Please refer to www.schlegel.biz/web/de/manuals.php for detailed instructions for use and assembly.

→ **Degree of protection (acc. to EN 60529, ISO 20653)**

The Schlegel actuators generally comply with IP65 (this refers to the component in front of the switchboard). Special versions, as e.g. for the food processing sector, are classified up to IP69K (ISO 20653).

For extremely severe conditions, e.g. coarse dirt, chippings, flour, etc., there are membrane pushbuttons available or actuators with transparent silicone or PVC caps.

→ **Materials**

Only top-quality materials such as polyamide 6.6 / polyamide 12, partially reinforced, and other proven engineering plastics are utilised. Tin-plated brass is mostly used for the terminals of the contact blocks. The contacts are of a silver-nickel alloy but can also be gold-plated on request. A special surface makes them self-cleaning.

→ **Technical characteristics**

As to the technical characteristics, approvals and operating and ambient conditions of the contact blocks, please refer to the catalogue information given on the starting pages of the relevant type series.

The stroke / operating travel is shown in pictograms separately for each actuator and in switching diagrams for the relevant contact blocks. This information is included as well in the technical specifications.

The positive opening function of the NC contacts, which is necessary for emergency-stop applications is identified by a symbol (circle with horizontal arrow) next to the relative switching diagram.

→ **Definition of the IP Codes**

Standards & code digits	Numerals or letters	Protection of equipments	Protection of persons
EN 60529		Protection against solid foreign objects (incl. dust)	Protection against hazardous parts
First digit	0	non-protected	non-protected
	1	≥ Ø 50 mm	with the back of a hand
	2	≥ Ø 12.5 mm	with a finger
	3	≥ Ø 2.5 mm	with a tool
	4	≥ Ø 1.0 mm	with a wire
	5	dust-protected	with a wire
	6	dust-tight	with a wire
		Protection against ingress of water with harmful effects	
Second digit	0	non-protected	
	1	vertically falling water drops	
	2	water drops (tilted up to 15°)	
	3	spraying water	
	4	splashing water	
	5	water jets	
	6	powerful water jets	
	7	temporary immersion in water	
	8	continuous immersion in water	
9	high pressure and high temperature water jets		
ISO 20653:2013		Protection against solid foreign objects (incl. dust)	
Second digit	9K	high pressure and high temperature water jets	

Mode of operation of 3-position selector and key switches

→ One-piece plunger:

The one-piece plunger of the 3-position selector and key switches is not pushed in the left position, in the centre position it is pushed half way whereas in the right switching position it is entirely pushed through. Using a contact block with a NC contact (opens after a travel of approx. 1.5mm) and a NO contact (closes after a travel of approx. 4mm), the switching mode changes as follows:

1. left position = switching travel 0 mm = NC closed, NO open
2. centre position = switching travel ~3 mm = NC and NO are open
3. right position = switching travel 6 mm = NC open, NO closed

This yields the advantage that it is not important in which "direction" the contact elements are snapped on, the switching situation always results from the switching travel. This also means that cross coupling of the contact elements is allowed.

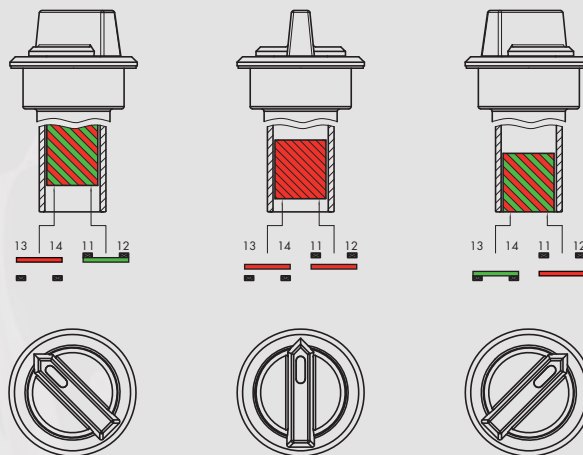


illustration of one-piece plunger

→ Two-piece plunger:

The switch has two separate half shells. In the left switching position the left plunger part and thus the left contact element is operated, in the right switching position it is the right contact element. In the centre position none of the two contact elements is activated. Therefore, it should be noted that a cross-coupling of the contact elements is NOT allowed! In addition, the contact elements must be snapped on in the correct direction, otherwise any actuation will lead to the opposite function. In order to obtain the same switching situations as mentioned before, two NO contacts must be used:

1. left position = left plunger part operated = left NO contact closed, right NO contact open
2. center position = no plunger part operated = both NO contacts open
3. right position = right plunger part operated = left NO contact open, right NO contact closed

The two-piece plunger is used in the selector heads and key switches of the following series: Oktron, Oktron-R, Oktron-Juwel, Rontron-R-Juwel, Rontron-Q-Juwel and RX-Juwel (RXJZSA12E and RXJZWBL), DUX-Basic, Kombitast-R-Juwel (KRJZ...), Rondex-Juwel.

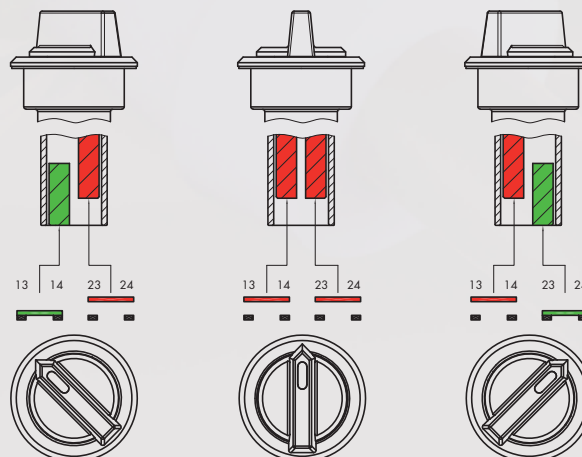



illustration of two-piece plunger



Front dimensions: 25 x 25 mm
Panel cut-out: Ø 16.2 mm
Front bezel height: 7.5 mm
Travel: 3 mm



 Product configurator



OKTRON

Overview OKTRON series



01 Pushbutton heads	page 020	06 Toggle heads	page 025
02 Emergency-stop heads	page 022	07 Key actuators	page 026
03 Mushroom heads	page 023	08 Buzzers	page 028
04 Knob set for potentiometers	page 024	09 Pilot light heads / pilot lights	page 030
05 Selector heads	page 024	Contact blocks/lampholders	page 414

Housing colours



degree of protection



operating travel



tactile

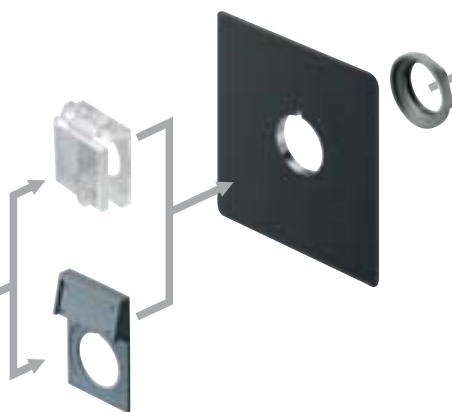


illuminating option




labelling option





- 

CT
CT...
Contact blocks
Faston terminals
page 502
- 

CZ
CZ...
Contact blocks
PCB-mount terminals
page 494
- 


CTP
CTP...
Contact blocks
PCB-mount terminals
page 480
- 

CTF
CTF...
Contact blocks
Faston terminals
page 486
- 

FRTP
FRTP...
Contact blocks
PCB-mount terminals
page 508
- 

FRTF
FRTF...
Contact blocks
Faston terminals
page 514
- 

B
BZ
B...
Contact blocks
Faston terminals
page 436
- 

B...x
BZ...x
B...
Contact blocks
screw connection
page 444
- 

ASI
ASI...
Contact blocks
for AS-Interface
page 554
- 

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

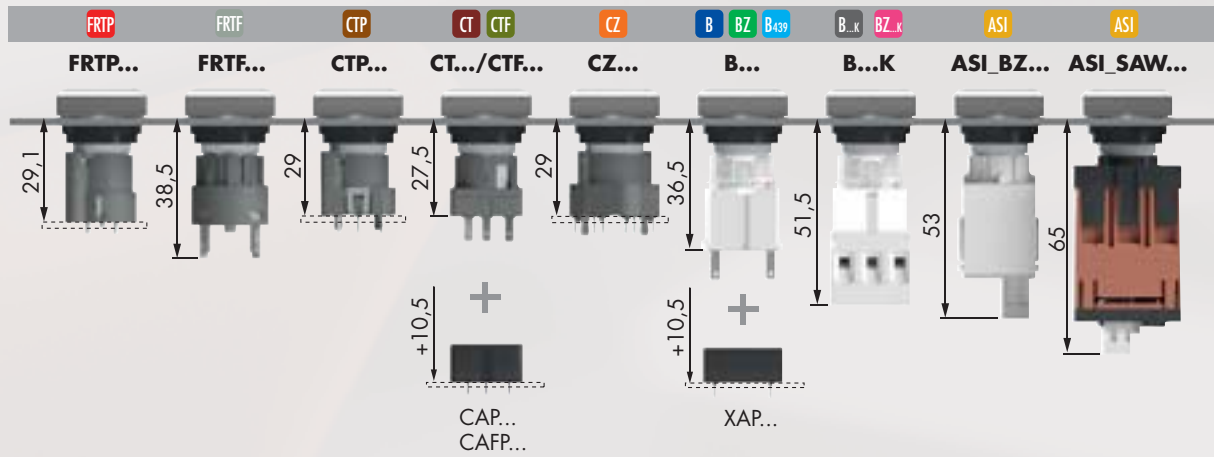
Enclosures

Pedal Switches

Terminal Blocks

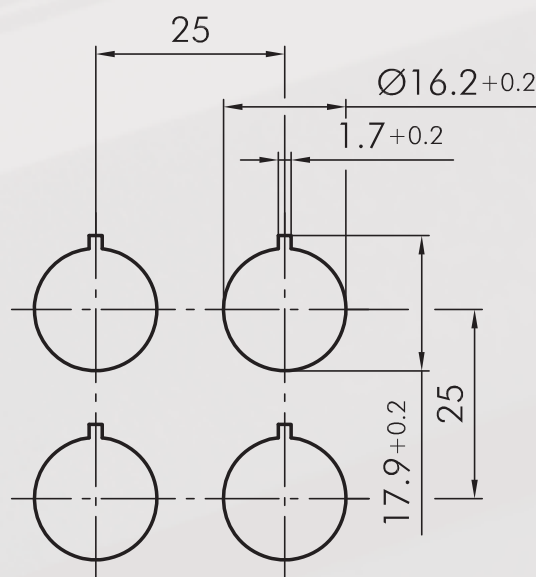
Type Index

Mounting depth dimensions

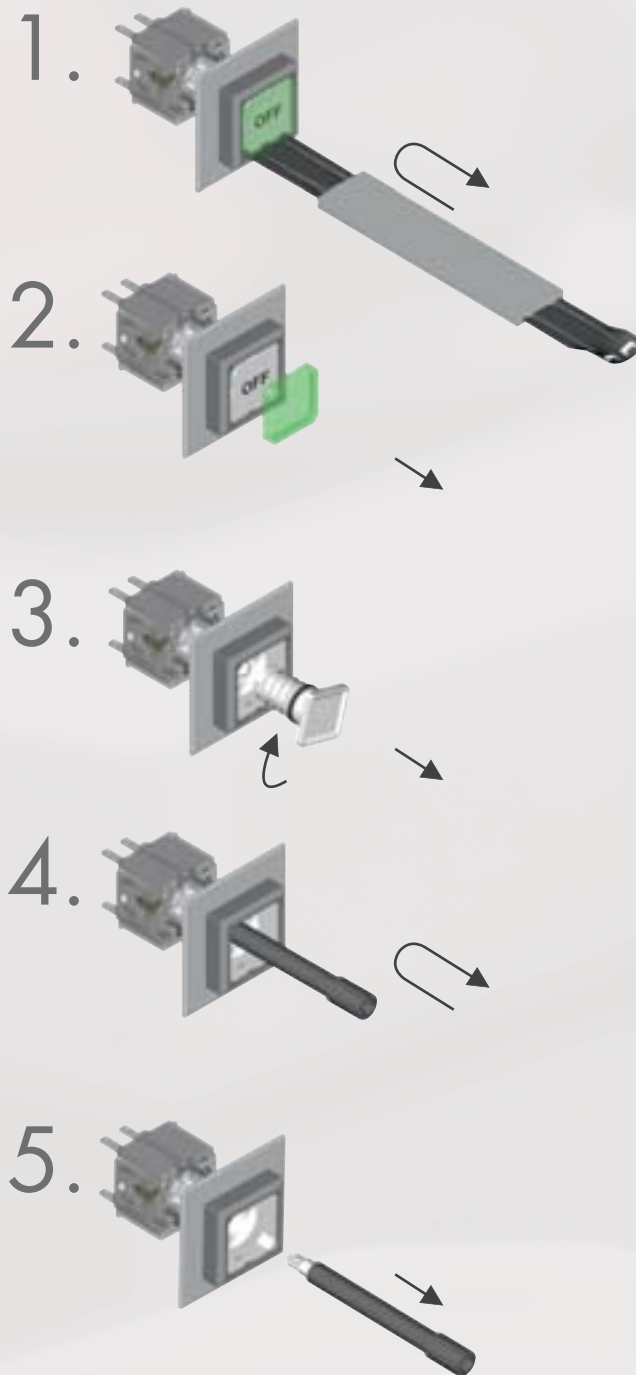


Cutout dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders.



Mounting and service instructions



Pushbuttons

lenses and nameplates to be ordered separately

Illustration

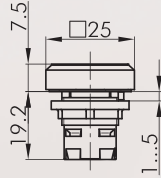
Dimensions

Description

Type

IP65

3 mm



Pushbutton head

suitable contact blocks:

BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel:

charcoal

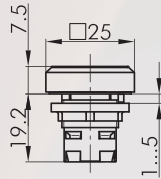
silver-coloured

OKT

OKTM

IP65

3 mm



Pushbutton head with window for illumination

the light is concentrated to the border of the lens

suitable contact blocks:

BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel:

charcoal

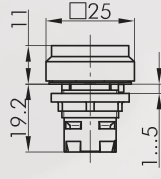
silver-coloured

OKTLL

OKTLLM

IP65

3 mm



Pushbutton head with high front bezel

suitable contact blocks:

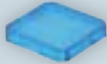
BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel:

charcoal

OKH

Accessories



Flat lens, transparent

colour:

blue

yellow

green

clear

red

opal white



TOKFBL

TOKFGB

TOKFGN

TOKFKL

TOKFRT

TOKFWS



Flat lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

charcoal

blue

yellow

green

black

red

white



TOKFGDG

TOKFGBL

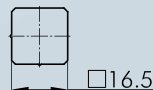
TOKFGGB

TOKFGGN

TOKFGSW

TOKFGRT

TOKFGWS




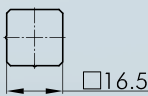

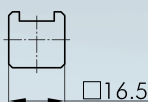




Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSOK...

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSOKB
		Blank nameplate	BSOKU
		Nameplate with standard imprint please specify index number(see nameplates from page 634)	BSOKLL...
		Blank nameplate	BSOKLLU

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Mushroom Pushbuttons

Illustration

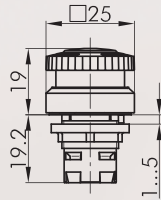
Dimensions

Description

Type

IP65
IP67

3 mm



Illuminated emergency-stop head

other mushroom colours on request

Foolproof: no
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP

front bezel: yellow



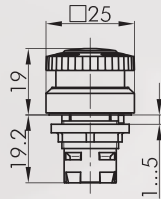
mushroom head: red



OKVGB

IP65

3 mm



Emergency-stop head with illuminating and labelling option

including blank nameplate (inscription on request)

Foolproof: no
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left

suitable contact blocks:

AZ BZ BZ.k

front bezel: yellow



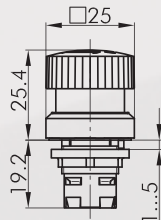
mushroom head: red



OKVLGB

IP65
IP67

3 mm



Emergency-stop head

Foolproof: yes
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP

front bezel: yellow



mushroom head: red



OKUVGB

Mushroom Pushbuttons

Illustration

Dimensions

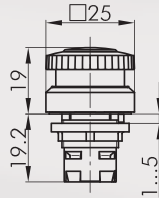
Description

Type



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.



Mushroom head, momentary

other mushroom colours on request

Switching position indicator: no

Permissive Contact: no

Anti-lock collar: no

suitable contact blocks:

BUS AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: charcoal

mushroom head: red

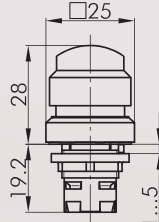
front bezel: silver-coloured

mushroom head: red



OKS

OKSM



Pushbutton head, latch-type

red knob, momentary function on the left, latching/switching function on the right, other mushroom colours on request

Switching position indicator: no

Permissive Contact: no

Anti-lock collar: no

suitable contact blocks:

BUS AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: red

mushroom head: red

front bezel: silver-coloured

mushroom head: red



OKTV

OKTVM

Potentiometers

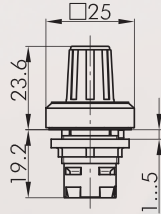
Illustration

Dimensions

Description

Type

IP65



Knob set for potentiometers

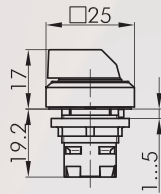
for potentiometers of 6 mm shaft dia. and thread M10x0.75
delivery without potentiometer
shaft length: approx. 32 mm

front bezel: charcoal silver-coloured



OKR
OKRM

IP65



Selector head, maintained

suitable contact blocks:

BUS ASI AZ B B...K BZ BZ.k B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



OKWA
OKWAM

suitable contact blocks:

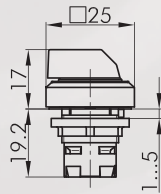
ASI AZ BZ BZ.k B439 CT CZ

front bezel: charcoal silver-coloured



OKWB
OKWBM

IP65



Selector head, momentary

suitable contact blocks:

BUS ASI AZ B B...K BZ BZ.k B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



OKSTA
OKSTAM

suitable contact blocks:

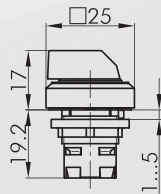
ASI AZ BZ BZ.k B439 CT CZ

front bezel: charcoal silver-coloured



OKSTB
OKSTBM

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: charcoal silver-coloured



OKWC
OKWCM

Selector Switches (momentary/maintained)

l = Switching position
> = Spring return

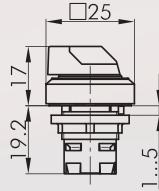
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, maintained

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKWAL_GN)

suitable contact blocks:

BUS ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



OKWAL...
OKWALM...

suitable contact blocks:

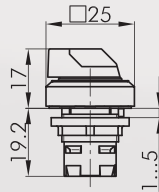
ASI AZ BZ BZ...x B439 CT CZ

front bezel: charcoal silver-coloured



OKWBL...
OKWBLM...

IP65



Illuminated selector head, momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKSTAL_GN)

suitable contact blocks:

BUS ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured

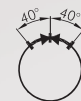


OKSTAL...
OKSTALM...

suitable contact blocks:

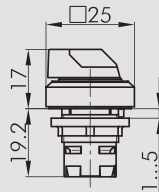
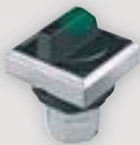
ASI AZ BZ BZ...x B439 CT CZ

front bezel: charcoal silver-coloured



OKSTBL...
OKSTBLM...

IP65



Illuminated selector head, left maintained, right momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKWCL_GN)

suitable contact blocks:

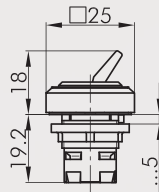
ASI AZ BZ BZ...x B439 CT CZ

front bezel: charcoal silver-coloured



OKWCL...
OKWCLM...

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

BUS AZ B B...x BZ BZ...x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured

OKK_RT
OKKM_RT

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

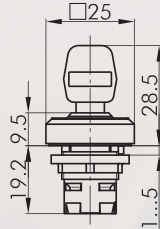
Illustration

Dimensions

Description

Type

IP65



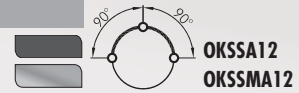
Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.x B439 CT CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ BZ BZ.x B439 CT CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

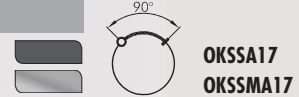
front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

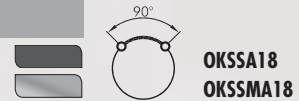
front bezel: charcoal silver-coloured



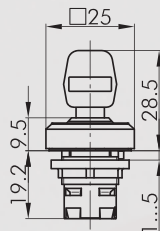
suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



IP65



Key actuator, maintained (3 different keys)

including three keys
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks:

ASI AZ BZ BZ.x B439 CT CZ

front bezel: charcoal silver-coloured



Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

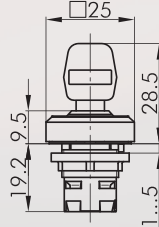
Illustration

Dimensions

Description

Type

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel:

charcoal
silver-coloured



OKSSA23
OKSSMA23

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

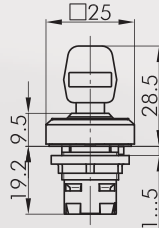
front bezel:

charcoal
silver-coloured



OKSSA28
OKSSMA28

IP65



Key actuator, left maintained, right momentary

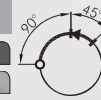
including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel:

charcoal
silver-coloured



OKSSA25
OKSSMA25

Accessories



Standard spare keys

standard spare key, specify key number for special locks

ESMIC482

About Us

→ Pushbuttons and Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Buzzers

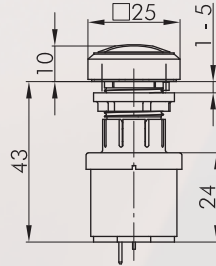
Illustration

Dimensions

Description



Type

IP65



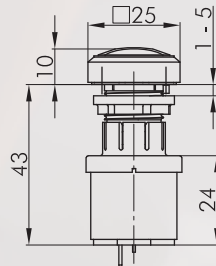
Buzzer

operating voltage: 12 ... 24V DC
 operating current: 5mA (12V DC)
 16mA (24V DC)
 signal frequency: 3.8 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 75 db (10 cm, 12V)
 operating temperature: -20°C ... 60°C
 connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal 
 silver-coloured 

OKNSG+SG-24V
OKNMSG+SG-24V

IP65



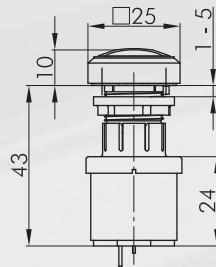
Interval buzzer

operating voltage: 12 ... 24V DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 75 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... 60°C
 connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal 
 silver-coloured 



OKNSG+SGL-24V
OKNMSG+SGL-24V

IP65



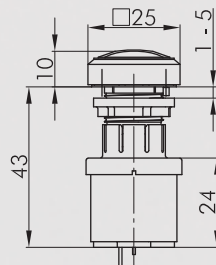
Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 75 db (10 cm, 12V)
 operating temperature: -20°C ... 60°C
 connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal 
 argenté 


OKNSGL+SGLR-24V
OKNMSG+SGLR-24V

IP65






Illuminated interval buzzer

operating voltage: 12 ... 24V DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 75 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... 60°C
 connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal 
 silver-coloured 

OKNSGL+SGLR-24V
OKNMSG+SGLR-24V

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
Accessories			
		Faston clamp 2.8 x 0.8 mm with snap-in pin cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
		Insulating case for Faston clamp FH2,8, slip on from the front	IH2,8
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pilot Lights

lenses and nameplates to be ordered separately

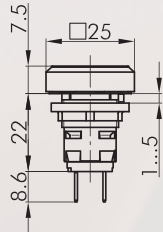
Illustration

Dimensions

Description

Type

IP65



Pilot light with Faston terminals 2.8x0.8 mm

W2x4.6d socket

Connection type:

Faston terminals 2.8x0.8 mm

front bezel

charcoal



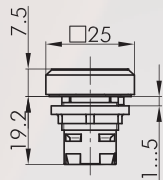
OKL4

silver-coloured



OKL4M

IP65



Pilot light head

suitable lampholders:

ASI B B...K CT CTF CTP CZ

front bezel:

charcoal



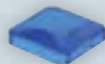
OKN

silver-coloured



OKNM

Accessories



Convex lens, transparent

colour:

blue



KOKFBL

yellow



KOKFGB

green



KOKFGN

clear



KOKFKL

red

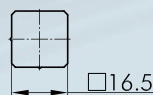


KOKFRT

white



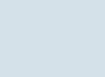
KOKFWS



Nameplate with standard imprint

BSOK...

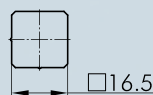
please specify index number (see nameplates from page 634)



Nameplate with special imprint

BSOKB

according to customer's specification



Blank nameplate

BSOKU

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Mounting tool 16 with torque limitation for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External nameplate holder for outside marking of the actuators of the QUARTRON and OKTRON series, accepts self-adhesive nameplates colour: charcoal  silver-coloured 	QXABT QXABT_M
		Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm	BZ16L...
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number (see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour: yellow 	NAS_16
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour: yellow 	NAS_16_548

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID






Enclosures

Pedal Switches

Terminal Blocks

Type Index

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Lead-sealable protective lid fits onto the pushbuttons of the OKTRON series colour: transparent 	KDOK
		Universal lens remover	USK
		Square dummy to close unused mounting apertures colour: charcoal 	Q16DG

IP65

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: \varnothing 25 mm
Panel cut-out: \varnothing 16.2 mm
Front bezel height: 7 mm
Travel: 3 mm



OKTRON-R

 Product configurator



Overview OKTRON-R series



01 Pushbutton heads	page 040	07 Key actuators	page 046
02 Emergency-stop heads	page 042	08 Buzzers	page 048
03 Mushroom heads	page 043	09 Pilot light heads / pilot lights	page 050
04 Knob set for potentiometers	page 043	Contact blocks/lampholders	page 414
05 Selector heads	page 044		
06 Toggle heads	page 045		

Housing colours



degree of protection



operating travel



tactile

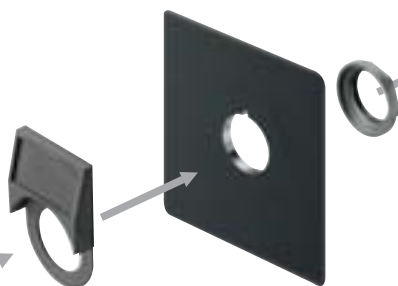


illuminating option



labelling option

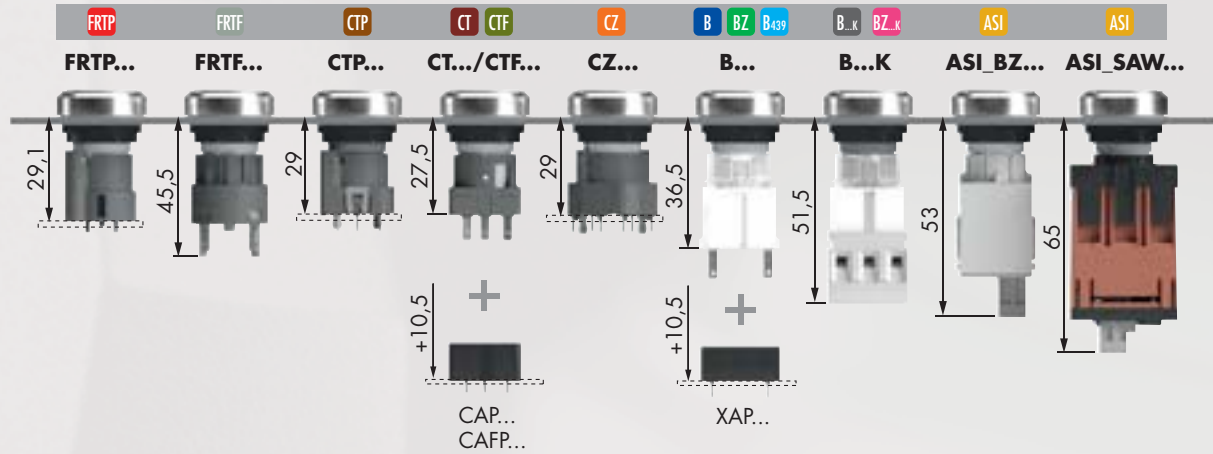




- 
CT...
 Contact blocks
 Faston terminals
page 502
- 
CZ...
 Contact blocks
 PCB-mount terminals
page 494
- 
CTP...
 Contact blocks
 PCB-mount terminals
page 480
- 
CTF...
 Contact blocks
 Faston terminals
page 486
- 
FRTP...
 Contact blocks
 PCB-mount terminals
page 508
- 
FRTF...
 Contact blocks
 Faston terminals
page 514
- 
B...
 Contact blocks
 Faston terminals
page 436
- 
BZ...
 Contact blocks
 screw connection
page 444
- 
B.k...

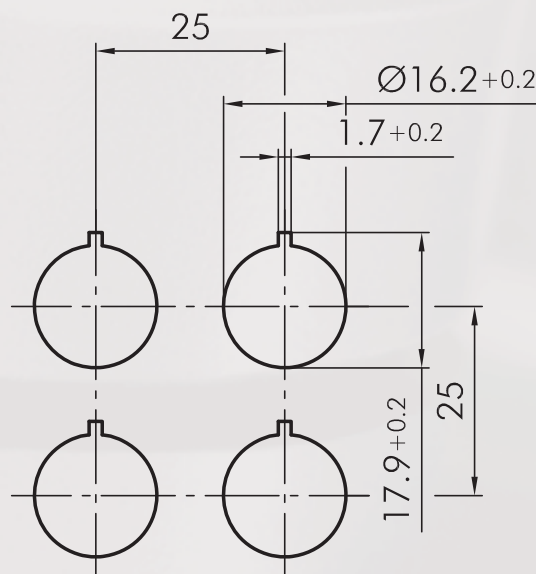
BZ.k...
 Contact blocks
 screw connection
page 444
- 
ASI...
 Contact blocks
 for AS-Interface
page 554
- 
ASI...
 Contact blocks
 for AS-Interface
 Safety @ Work
page 560

Mounting depth dimensions

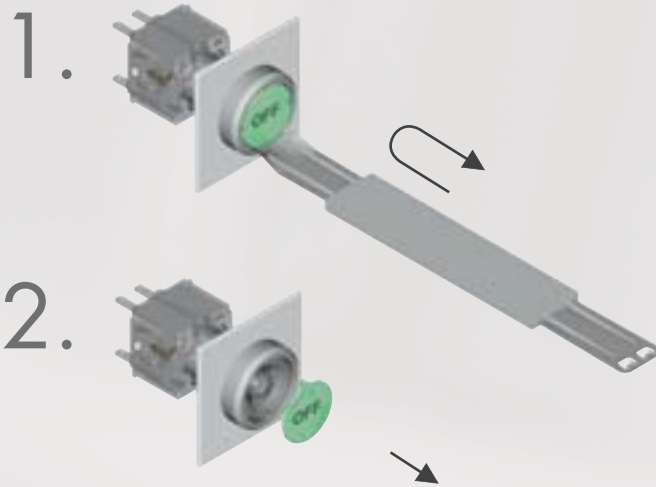


Cutout dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders


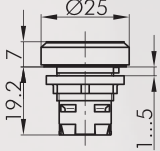



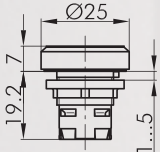





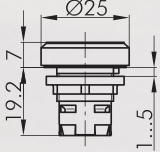



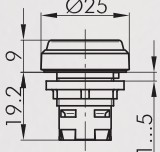


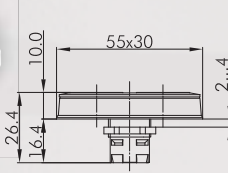



Mounting and service instructions



Pushbuttons

lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 3 mm Sun icon Triangle icon</p>		<p>Pushbutton head</p> <p>suitable contact blocks: BUS ASI AZ B B...K BZ BZ.k B439 CT CTF CTP CZ</p> <p>front bezel: charcoal  silver-coloured </p>	<p>RKT RKTM</p>
 <p>IP65 3 mm Sun icon</p>		<p>Pushbutton head with ring illumination</p> <p>incl. lens</p> <p>suitable contact blocks: BUS ASI AZ B B...K BZ BZ.k B439 CT CTF CTP CZ</p> <p>front bezel: silver-coloured  lens-cap: silver-coloured  front bezel: black  lens-cap: black </p>	<p>RKTMLR RKTSWLR</p>
 <p>IP65 3 mm Sun icon Triangle icon</p>		<p>Pushbutton head with ring illumination and laser printing</p> <p>incl. lens</p> <p>standard imprints see nameplates on page 634 (please specify index no.) special inscription on request</p> <p>suitable contact blocks: BUS ASI AZ B B...K BZ BZ.k B439 CT CTF CTP CZ</p> <p>front bezel: silver-coloured  lens-cap: silver-coloured </p>	<p>RKTMLRL...</p>
 <p>IP67 3 mm Sun icon Triangle icon</p>		<p>Membrane pushbutton head</p> <p>incl. white non-transparent lens (inscription on request)</p> <p>suitable contact blocks: BUS AZ B B...K BZ BZ.k B439 CT CTF CTP CZ</p> <p>front bezel: black </p>	<p>RKTME</p>
 <p>IP65 3 mm Sun icon</p>		<p>Double pushbutton with ring illumination for panel cut-out Ø 16 mm</p> <p>locating pin to be on the right in case of horizontal installation laser printing on request</p> <p>suitable contact blocks: BZ BZ.k CT CZ</p> <p>front bezel: silver-coloured </p>	<p>RRDTLR</p>

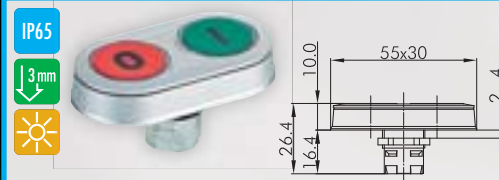
Pushbuttons

Illustration

Dimensions

Description

Type



Double pushbutton head with ring illumination for panel cut-out Ø 16 mm red/green

when mounted horizontally, the anti-rotation tab is on the right

suitable contact blocks:



front bezel: silver-coloured
lens-cap: red/green



RRDTLRGRBW_0003

IP65

3mm



Accessories



Flat lens, transparent

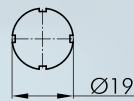
colour:	blue		T20FBL
	yellow		T20FGB
	green		T20FGN
	clear		T20FKL
	red		T20FRT
	opal white		T20FWS



Flat lens, non-transparent

used for pushbuttons without inscription and illumination

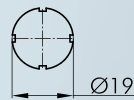
colour:	blue		T20FGBL
	yellow		T20FGGB
	green		T20FGGN
	black		T20FGSW
	red		T20FGRT
	white		T20FGWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

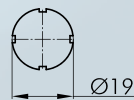
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank nameplate

BSRXU

IP67



Sealing cap

made of silicone rubber, down to -50°C

TK26S

Mushroom Pushbuttons

Illustration

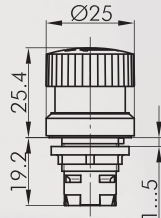
Dimensions

Description

Type

IP65
IP67

3 mm



Emergency-stop head

Foolproof: yes
 Switching position indicator: no
 Permissive contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP

front bezel: yellow

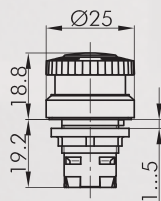
mushroom head: red



RKUVGB

IP65
IP67

3 mm



Illuminated emergency-stop head

other mushroom colours on request
 Foolproof: no
 Switching position indicator: no
 Permissive contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP

front bezel: yellow

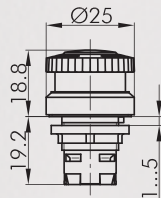
mushroom head: red



RKVGB

IP65

3 mm



Emergency-stop head with illuminating and labelling option

incl. blank nameplate (inscription on request)
 Foolproof: no
 Switching position indicator: no
 Permissive contact: no
 Anti-lock collar: no
 Release: twist right or left

suitable contact blocks:

AZ BZ BZ.k

front bezel: yellow

mushroom head: red



RKVLGB

Mushroom Pushbuttons

Illustration

Dimensions

Description

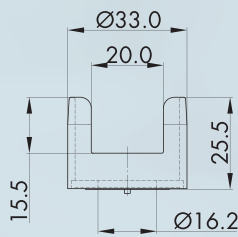
Type



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Accessories



Protective shroud



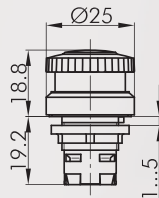
colour:

yellow



RKSK

IP65



Mushroom head, momentary

other mushroom colours on request

Switching position indicator: no

Permissive Contact: no

Anti-lock collar: no

suitable contact blocks:

BUS AZ B B..K BZ BZ..K B-439 CT CTF CTP CZ

front bezel: charcoal

Mushroom head: red

front bezel: silver-coloured

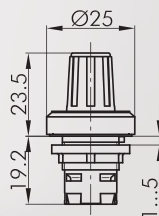
Mushroom head: red



RKS

RKSM

IP65



Knob set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10x0.75

delivery without potentiometer

shaft length: approx. 32 mm

front bezel: charcoal

silver-coloured


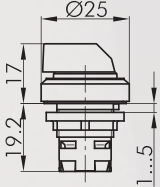



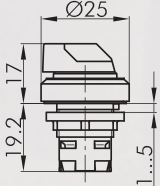



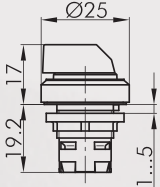

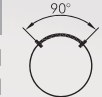

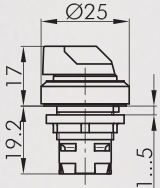




RKR

RKRM

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		Selector head, maintained suitable contact blocks: BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ front bezel: charcoal silver-coloured	 RKWA RKWAM
		suitable contact blocks: ASI AZ BZ BZ...K B439 CT CZ front bezel: charcoal silver-coloured	 RKWB RKWBM
		Selector head, momentary suitable contact blocks: BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ front bezel: charcoal silver-coloured	 RKSTA RKSTAM
		suitable contact blocks: ASI AZ BZ BZ...K B439 CT CZ front bezel: charcoal silver-coloured	 RKSTB RKSTBM
		Selector head, left maintained, right momentary suitable contact blocks: ASI AZ BZ BZ...K B439 CT CZ front bezel: charcoal silver-coloured	 RKWC RKWCM
		suitable contact blocks: BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ front bezel: charcoal silver-coloured	 RKWAL... RKWALM...
		Illuminated selector head, maintained knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKWAL_GN) suitable contact blocks: BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ front bezel: charcoal silver-coloured	 RKWAL... RKWALM...
		suitable contact blocks: ASI AZ BZ BZ...K B439 CT CZ front bezel: charcoal silver-coloured	 RKWBL... RKWBLM...

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

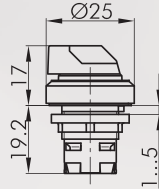
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKSTAL_GN)

suitable contact blocks:

BUS ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



RKSTAL...
RKSTALM...

suitable contact blocks:

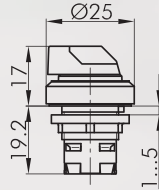
ASI AZ BZ BZ...x B439 CT CZ

front bezel: charcoal silver-coloured



RKSTBL...
RKSTBLM...

IP65



Illuminated selector head, left maintained, right momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKWCL_GN)

suitable contact blocks:

ASI AZ BZ BZ...x B439 CT CZ

front bezel: charcoal silver-coloured



RKWCL...
RKWCLM...

IP65



Selector head for desert application, maintained

tested with coarse Arizona dust

suitable contact blocks:

BUS ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ

front bezel: black
knob colour: black



RKWA_514

suitable contact blocks:

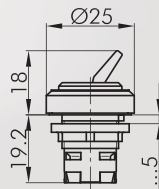
ASI AZ BZ BZ...x CT CZ

front bezel: black
knob colour: black



RKWB_514

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

BUS AZ B B...x BZ BZ...x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



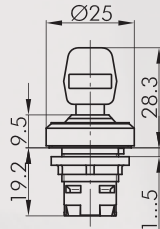
RKK_RT
RKKM_RT

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration Dimensions Description Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.x B439 CT CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ BZ BZ.x B439 CT CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

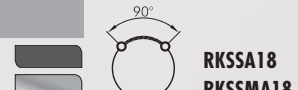
front bezel: charcoal silver-coloured



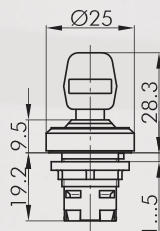
suitable contact blocks:

ASI AZ B B.x BZ BZ.x B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



IP65



Key actuator, maintained (3 different keys)

including three keys
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks:

ASI AZ BZ BZ.x B439 CT CZ

front bezel: charcoal silver-coloured



Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

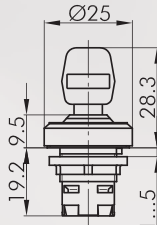
Illustration

Dimensions

Description

Type

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: charcoal silver-coloured



RKSSA23
RKSSMA23

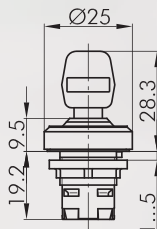
suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: charcoal silver-coloured



RKSSA28
RKSSMA28



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: charcoal silver-coloured



RKSSA25
RKSSMA25

Accessories



Standard spare keys

standard spare key, specify key number for special locks

ESMIC482

About Us

→ Pushbuttons and Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Buzzers

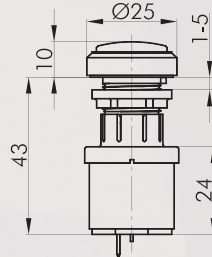
Illustration

Dimensions

Description

Type

IP65



Buzzer

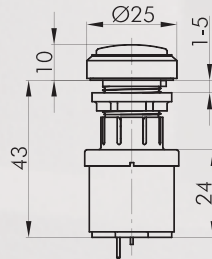
operating voltage: 12 ... 24V DC
 operating current: 5mA (12V DC)
 16mA (24V DC)
 signal frequency: 3.8 +/- 0.5 kHz
 volume: max. 90 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal
 silver-coloured



RKNSG+SG-24V
RKNMSG+SG-24V

IP65



Interval buzzer

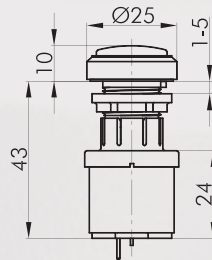
operating voltage: 12 ... 24V DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 90 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal
 silver-coloured



RKNSG+SGL-24V
RKNMSG+SGL-24V

IP65



Illuminated buzzer

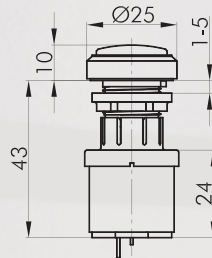
operating voltage: 12 ... 24V AC/DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 90 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal
 silver-coloured



RKNSGL+SGLR-24V
RKNMSG+SGLR-24V

IP65



Illuminated interval buzzer




operating voltage: 12 ... 24V DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 90 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal
 silver-coloured



RKNSGL+SGLR-24V
RKNMSG+SGLR-24V

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
Accessories			
		Faston clamp 2.8 x 0.8 mm with snap-in pin cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
		Insulating case for Faston clamp FH2,8, slip on from the front	IH2,8
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

Pilot Lights

lenses and nameplates to be ordered separately

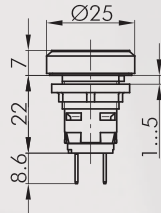
Illustration

Dimensions

Description

Type

IP65



Pilot light with Faston terminals 2.8x0.8 mm

W2x4.6d socket
connection type:

Faston terminals 2.8x0.8 mm

front bezel:

charcoal



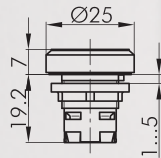
RKL4

silver-coloured



RKL4M

IP65



Pilot light head

suitable lampholders:

ASI B B...K CT CTF CTP CZ

front bezel:

charcoal



RKN

silver-coloured



RKNM

Accessories



Hemispherical lens

colour:

blue



KH20BL

yellow



KH20GB

green



KH20GN

clear



KH20KL

red



KH20RT

opal white



KH20WS



Flat lens, transparent

colour:

blue



T20FBL

yellow



T20FGB

green



T20FGN

clear



T20FKL

red

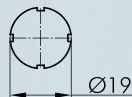


T20FRT

opal white



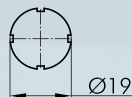
T20FWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

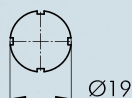
BSRX...



Nameplate with special imprint

according to customer's specification




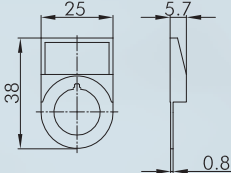



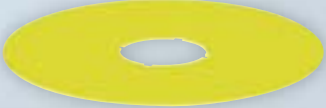

BSRXB



Blank nameplate

BSRXU

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
Accessories			
		Mounting tool 16 with torque limitation for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External nameplate holder for outside marking of the actuators of the OKTRON-R series, accepts self-adhesive nameplates colour: charcoal 	RKABT
		Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm	BZ16L...
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number (see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour: yellow 	NAS_16

Accessories OKTRON-R

Ø 16.2 mm

MADE IN GERMANY



About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD






Enclosures

Pedal Switches

Terminal Blocks

Type Index

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour: yellow	 NAS_16_548
		Universal lens remover	USK
	IP65	Round dummy to close unused mounting apertures colour: charcoal	 RX16

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

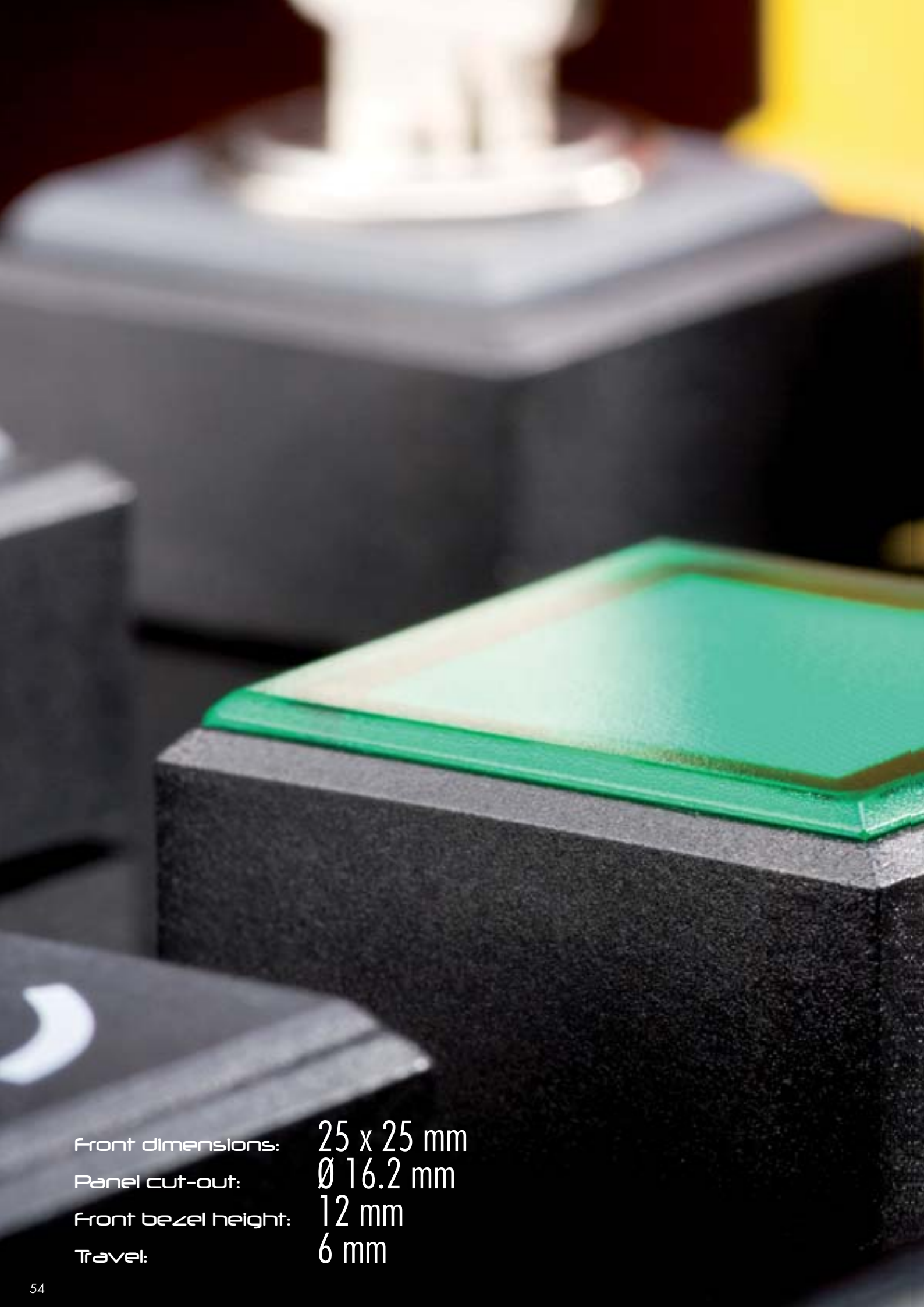
RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: 25 x 25 mm
Panel cut-out: Ø 16.2 mm
Front bezel height: 12 mm
Travel: 6 mm



QUARTRON

 Product configurator



Overview QUARTRON series



01 Pushbutton heads	page 060	07 Key actuators	page 065
02 Emergency-stop heads	page 062	08 Buzzers	page 069
03 Mushroom heads	page 062	09 Pilot light heads / pilot lights	page 070
04 Knob set for rotary switches/potentiometers	page 063	Contact blocks/lampholders	page 414
05 Selector heads	page 064		
06 Toggle heads	page 064		

Housing colours



degree of protection



operating travel



tactile

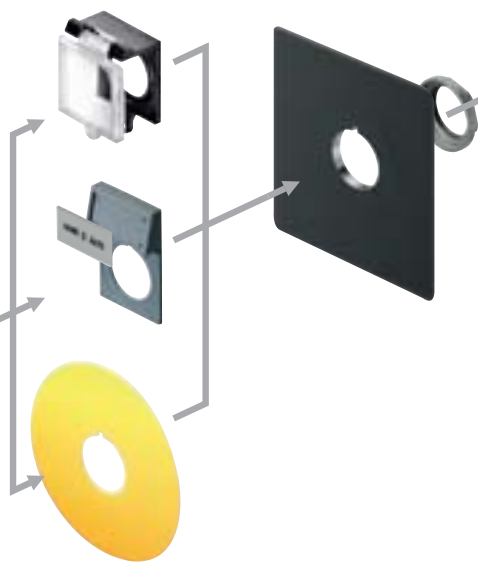
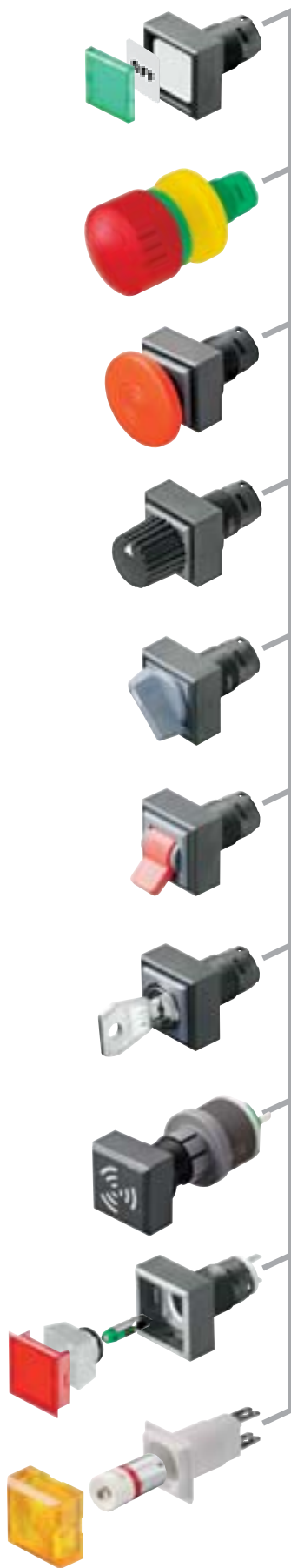



illuminating option





labelling option








- 


A
AZ
AT.../AF.../AZ...
Contact blocks
Faston terminals
page 416
- 


CT
CT...
Contact blocks
Faston terminals
page 502
- 

CTP
CTP...
Contact blocks
PCB-mount terminals
page 480
- 

CTF
CTF...
Contact blocks
Faston terminals
page 486
- 

FRTP
FRTP...
Contact blocks
PCB-mount terminals
page 508
- 

FRTF
FRTF...
Contact blocks
Faston terminals
page 514
- 

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560
- 

DFA
DFA...
Battery-free wireless
transmitter modules
page 566

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

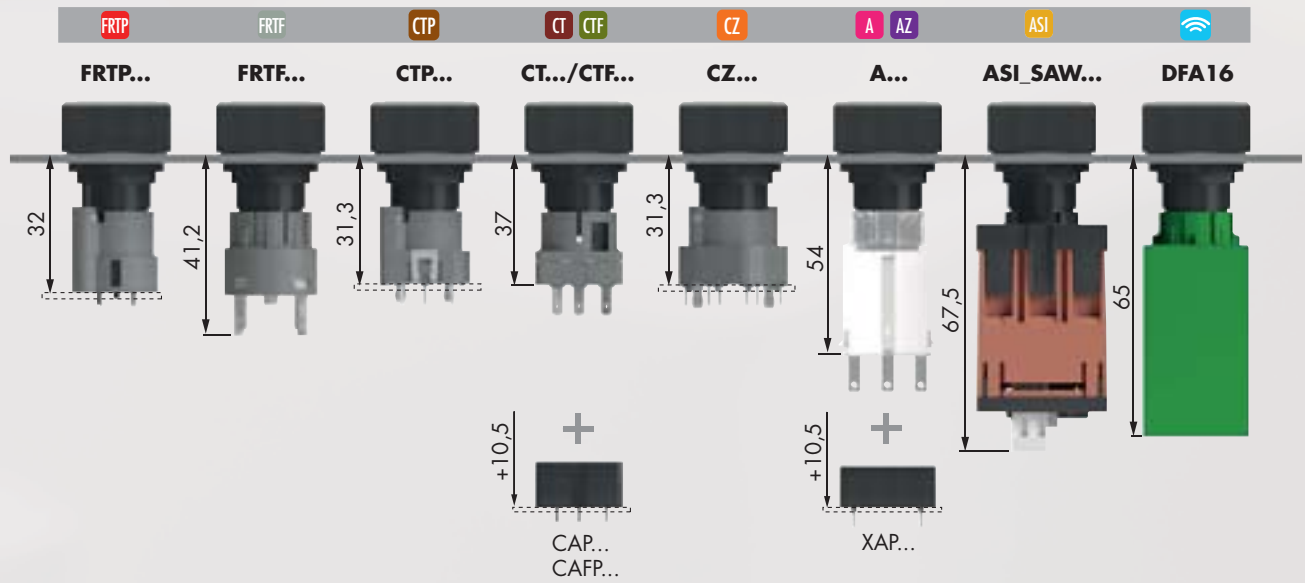
Enclosures

Pedal Switches

Terminal Blocks

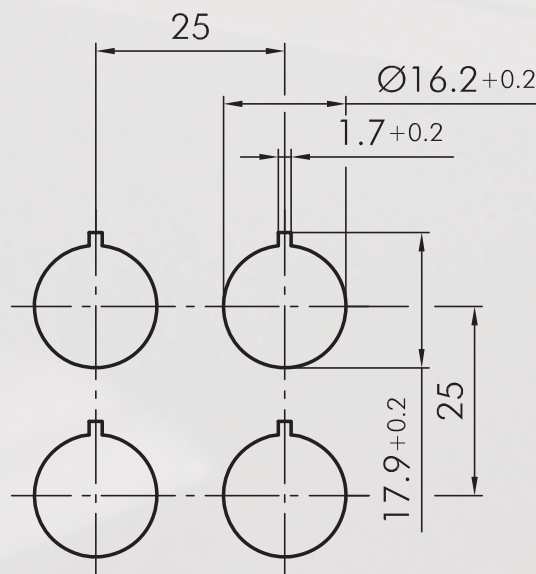
Type Index

Mounting depth dimensions

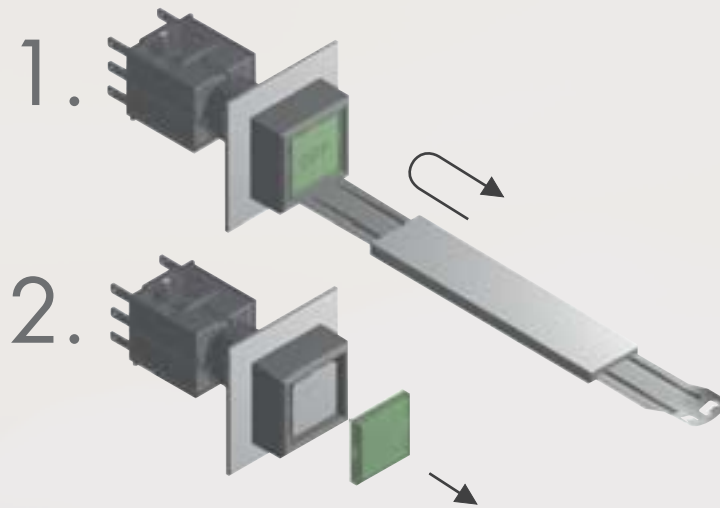


Cutout dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders


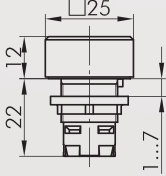




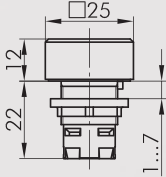


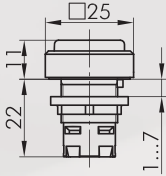



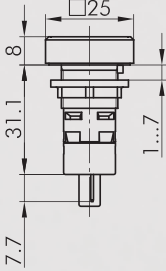





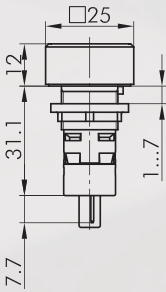






Mounting and service instructions



Pushbuttons

lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 6 mm Sun icon Triangle icon</p>	 <p>25 12 22 1...7</p>	<p>Pushbutton head</p> <p>suitable contact blocks: BUS A AZ CT CTF CTP CZ </p> <p>front bezel: black  charcoal </p>	<p>QXT QXTDG</p>
 <p>IP67 6 mm Sun icon Triangle icon</p>	 <p>25 12 22 1...7</p>	<p>Pushbutton head</p> <p>with transparent silicone cap</p> <p>suitable contact blocks: BUS A AZ CT CTF CTP CZ</p> <p>front bezel: black </p>	<p>QXP</p>
 <p>IP67 3 mm Sun icon Triangle icon</p>	 <p>25 12 22 1...7</p>	<p>Short-stroke membrane pushbutton head</p> <ul style="list-style-type: none"> - with transparent silicone cap, down to -50° C - with transparent, flat lens, add code letter to type number, e.g. QXDMRT (red-RT, green-GN, yellow-GB, blue-BL, clear-KL) - with illuminating option, blank nameplate included standard or special imprints on request <p>suitable contact blocks: BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ</p> <p>front bezel: black  charcoal </p>	<p>QXDM... QXDMDG...</p>
 <p>IP65 3 mm Triangle icon</p>	 <p>25 8 31.1 7.7 1...7</p>	<p>Short-stroke pushbutton 1 NO</p> <p>with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC</p> <p>Connection type: Faston terminals 2.8x0.8 mm</p> <p>Contact material: AgNi</p> <p>  </p> <p>front bezel: black </p>	<p>QXDI</p>
 <p>IP65 6 mm Triangle icon</p>	 <p>25 12 31.1 7.7 1...7</p>	<p>Pushbutton 1 NC</p> <p>with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC</p> <p>Connection type: Faston terminals 2.8x0.8 mm</p> <p>Contact material: AgNi</p> <p>  </p> <p>front bezel: black </p>	<p>QXTO</p>

Pushbuttons

lenses and nameplates to be ordered separately

Illustration

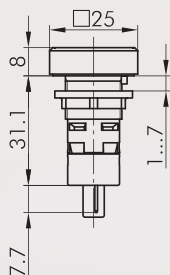
Dimensions

Description

Type

IP65

3mm



Short-stroke pushbutton 1 NC

with 2 Faston terminals 2.8x0.8 mm

250 V, 6(4) A, AC

Connection type:

Faston terminals 2.8x0.8 mm

Contact material:

AgNi



front bezel:

black



QXDO

Accessories

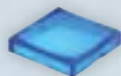
IP67



Sealing cap

made of silicone rubber, down to -50°C

TK25S



Concave lens, transparent

colour:

blue



T25DBL

yellow



T25DGB

green



T25DGN

clear



T25DKL

red

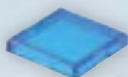


T25DRT

opal white



T25DWS



Flat lens, transparent

colour:

blue



T25FBL

yellow



T25FGB

green



T25FGN

clear



T25FKL

red

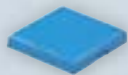


T25FRT

opal white



T25FWS



Flat lens, non-transparent

for pushbuttons without inscription and illumination

colour:

blue



T25FGBL

yellow



T25FGGB

green



T25FGGN

black



T25FGSW

red

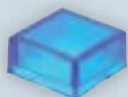


T25FGRT

white



T25FGWS



High lens, transparent

colour:

blue



T25HBL

yellow



T25HGB

green



T25HGN

clear









T25HKL

red



T25HRT

Mushroom Pushbuttons

Illustration	Dimensions	Description	Type
		Nameplate with standard imprint please specify index number (see nameplates from page 634)	BSQX...
		Nameplate with special imprint according to customer's specification	BSQXB
		Blank nameplate	BSQXU

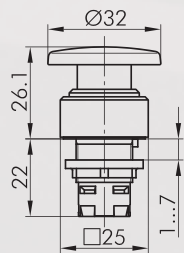


For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65

6 mm



Mushroom head, momentary

other mushroom colours on request
 Switching position indicator: no
 Permissive Contact: no
 Anti-lock collar: no

suitable contact blocks:



front bezel: black charcoal

QXS
QXSDG

Mushroom Pushbuttons

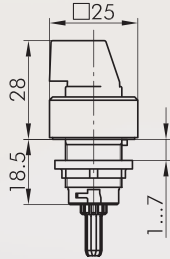
Illustration

Dimensions

Description

Type

IP65



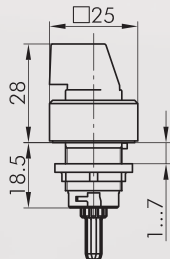
Knob set for rotary switches, without inscription
different versions on request

front bezel: black
 charcoal



QXDAU
QXDABDG

IP65



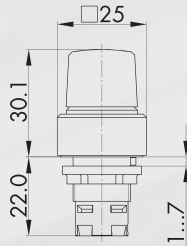
Knob set for rotary switches, with inscription
different versions on request

front bezel: black
 charcoal



QXDAB...
QXDABDG...

IP65



Knob set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10x0.75
delivery without potentiometer
shaft length: approx. 50 mm ± 4 mm


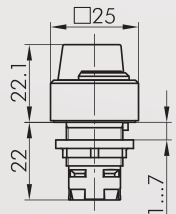


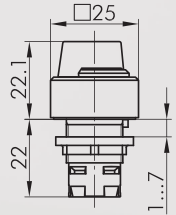


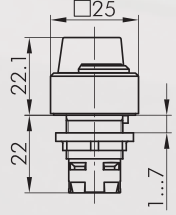


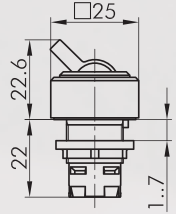
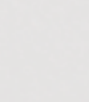
front bezel: black
 charcoal



QXR
QXRDC

Selector Switches (momentary/maintained)

| = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		Selector head, maintained suitable contact blocks: A AZ CT CTF CTP CZ	
		front bezel: black charcoal	
		Selector head, momentary suitable contact blocks: A AZ CT CTF CTP CZ	
		front bezel: black charcoal	
		Selector head, left maintained, right momentary suitable contact blocks: A AZ	
		front bezel: black charcoal	
		Toggle head other toggle colours on request suitable contact blocks: BUS A AZ CT CTF CTP CZ	
		front bezel: black charcoal	QXK QXKDG

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

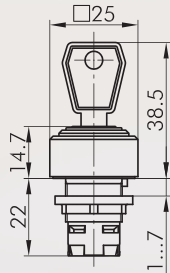
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black charcoal



QXSSA12E
QXSSDGA12E

suitable contact blocks:

A AZ

front bezel: black charcoal



QXSSA13E
QXSSDGA13E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



QXSSA14E
QXSSDGA14E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



QXSSA15E
QXSSDGA15E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



QXSSA17E
QXSSDGA17E

suitable contact blocks:

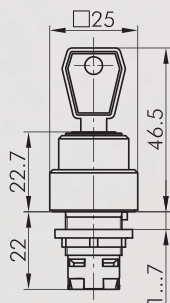
A AZ CT CTF CTP CZ

front bezel: black charcoal



QXSSA18E
QXSSDGA18E

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black charcoal



QXSSA23E
QXSSDGA23E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



QXSSA27E
QXSSDGA27E

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

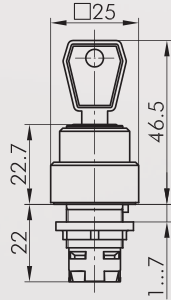
Illustration

Dimensions

Description

Type

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black charcoal

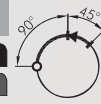


QXSSA24E
QXSSDGA24E

suitable contact blocks:

A AZ

front bezel: black charcoal



QXSSA25E
QXSSDGA25E

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

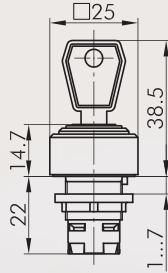
Illustration

Dimensions

Description

Type

IP65



Key actuator with protection cap, maintained

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black

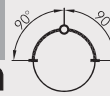


QXSSKA12E

suitable contact blocks:

A AZ

front bezel: black



QXSSKA13E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXSSKA14E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXSSKA15E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXSSKA17E

suitable contact blocks:

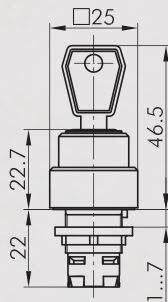
A AZ CT CTF CTP CZ

front bezel: black



QXSSKA18E

IP65



Key actuator with protection cap, maintained

including two keys
other lock types on request

suitable contact blocks:

A AZ

face avant: noir



QXSSKA23E

suitable contact blocks:

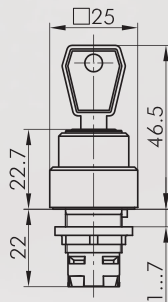
A AZ CT CTF CTP CZ

front bezel: black



QXSSKA27E

IP65



Key actuator with protection cap, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black



QXSSKA24E

suitable contact blocks:

A AZ

front bezel: black



QXSSKA25E

Accessories

Illustration

Dimensions

Description

Type

Accessories



Spare key (standard)

standard spare key, specify key number for special locks

ESE845

Buzzers

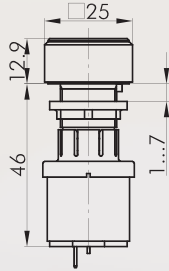
Illustration

Dimensions

Description

Type

IP65



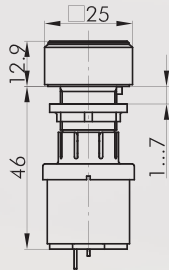
Buzzer

operating voltage: 12 ... 24V DC
operating current: 5mA (12V DC)
16mA (24V DC)
signal frequency: 3.8 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXNSG+SG-24V

IP65



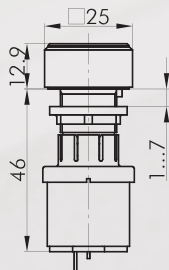
Interval buzzer

operating voltage: 12 ... 24V DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXNSG+SGL-24V

IP65



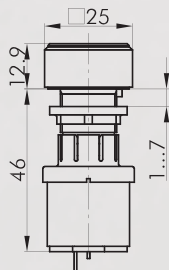
Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 Hz
volume: max. 85 db (10cm, 24V)
max. 80 db (10cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXNSGL+SGLR-24V

IP65



Illuminated interval buzzer

operating voltage: 12 ... 24V DC
operating current: abt. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXNSGL+SGLR-24V

Accessories








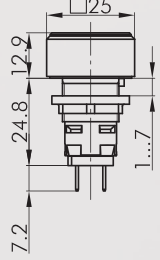




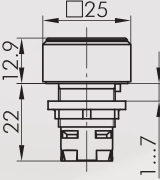



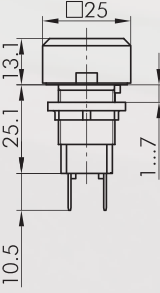


Faston clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

Pilot Lights

lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Insulating case for Faston clamp FH2,8, slip on from the front	IH2,8
   		Pilot light with Faston terminals 2.8x0.8 mm Connection type: Faston terminals 2.8x0.8 mm front bezel: black charcoal	QXL5 QXL5DG
   		Pilot light head suitable lampholders: A CT CTF CTP CZ front bezel: black charcoal	QXN QXNDG
  		Panoramic pilot light with Faston terminals 6.3/2.8x0.8 mm BA9s socket max. 250V 2W Connection type: Faston terminals A 6.3/2.8x0.8	QXL9
 		Lampholder Connection type: Faston terminals 2.8x0.8 mm X1 ⊗ X2	L5

Accessories

	Flat lens, depolished colour:	    	KF25BL KF25GB KF25GN KF25RT KF25WS
---	---	---	--

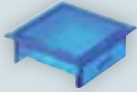
7-Segment-Displays

Illustration

Dimensions

Description

Type

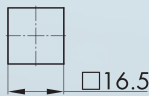


Flat lens, transparent

colour: blue
yellow
green
clear
red



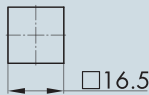
KF25KSBL
KF25KSGB
KF25KSGN
KF25KSCL
KF25KSRL



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

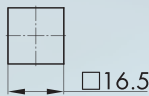
BSQX...



Nameplate with special imprint

according to customer's specification

BSQXB



Blank nameplate

BSQXU



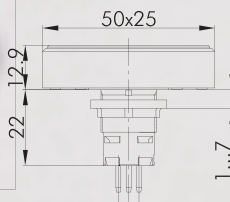
Panoramic lens

colour: blue
yellow
green
clear
red
opal white



KH25BL
KH25GB
KH25GN
KH25CL
KH25RL
KH25WS

IP65



4-digit 7-segment display with serial interface

operating temperature: -30 bis +70°C
operating voltage: 24V DC (18-28V)
current consumption: 70mA at 24V
inputs (enable, clock, data): 24V PLC level
clock pulse rate: 0...10kHz
data telegram: 20 bit, serial
available character set: 0...9, A, I, II, U, -, blank
connection: via integrated 6-pole diode plug acc. to DIN 45322
option: parallel control (8 bit) via additional module

front bezel: black



LXLASCE-SPS





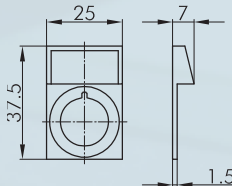







DIN female connector



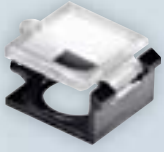



serves to connect the 7-segment displays in compliance with DIN 45322

MAK6

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
Accessories			
		Mounting tool 16 with torque limitation for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Threaded adapter Allows true-to-size mounting of pushbuttons and switches for 16 mm mounting dia. into 22.5 mm holes. Includes also a suitable sealing.	R16X1
		External nameplate holder for outside marking of the actuators of the QUARTRON and OKTRON series, accepts self-adhesive nameplates colour: charcoal 	QXABT
		Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm	BZ16L...
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number (see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour: yellow 	NAS_16

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour: yellow 	NAS_16_548
		Lead-sealable protective lid for pushbutton of the range QUARTRON (except for QXD...)	KDQ16
		Universal lens remover	USK
		Square dummy to close unused mounting apertures colour: black 	Q16

IP65

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 3 mm



DESIGNPREIS
2007

NOMINIERT



Designpreis
Deutschland
2011

NOMINIERT



Designpreis
Deutschland
2012

NOMINIERT



Focus Open
Silber 2010



reddot design award
winner 2010



product
design
award

2010



RONTRON-R-JUWEL

 Product configurator



Overview RONTRON-R-JUWEL series



- 01 Pushbutton heads
- 02 Emergency-stop heads
- 03 Knob set for potentiometers
- 04 Selector heads
- 05 Key actuators
- 06 Buzzers

- page 080
- page 083
- page 084
- page 085
- page 088
- page 090

- 07 Panel mount jacks
- 08 Pilot light heads / pilot lights
- Contact blocks/lampholders

- page 092
- page 098
- page 414

Housing colours



degree of protection



operating travel



tactile

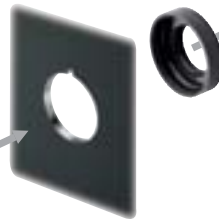


illuminating option



labelling option





- 
CT...
 Contact blocks
 Faston terminals
page 502
- 
CZ...
 Contact blocks
 PCB-mount terminals
page 494
- 
CTP...
 Contact blocks
 PCB-mount terminals
page 480
- 
CTF...
 Contact blocks
 Faston terminals
page 486
- 
FRTP...
 Contact blocks
 PCB-mount terminals
page 508
- 
FRTF...
 Contact blocks
 Faston terminals
page 514
- 
B...
 Contact blocks
 Faston terminals
page 436
- 
BZ...
 Contact blocks
 screw connection
page 444
- 
ASI...
 Contact blocks
 for AS-Interface
page 554
- 
ASI...
 Contact blocks
 for AS-Interface
 Safety @ Work
page 560

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

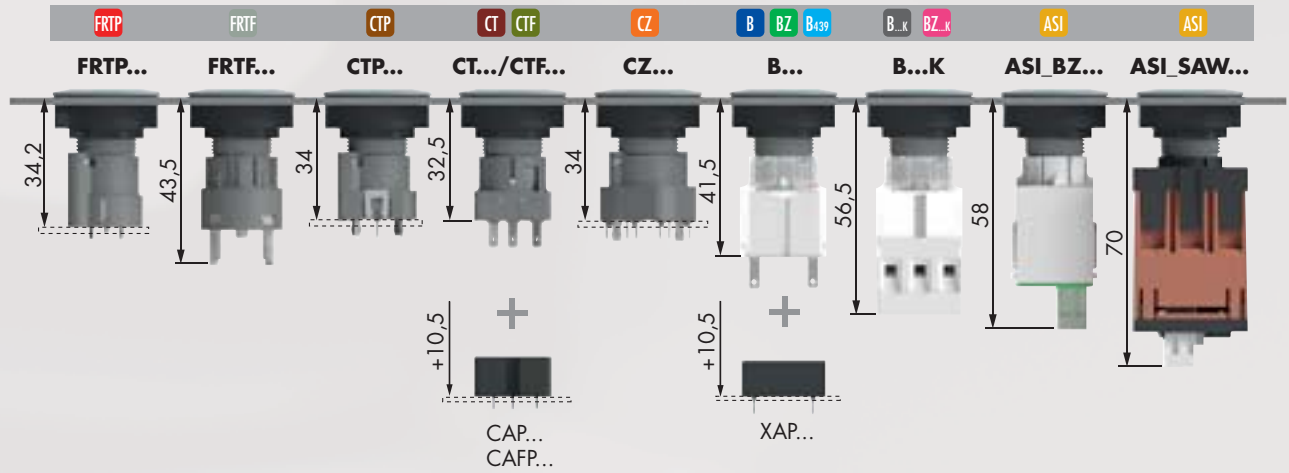
Enclosures

Pedal Switches

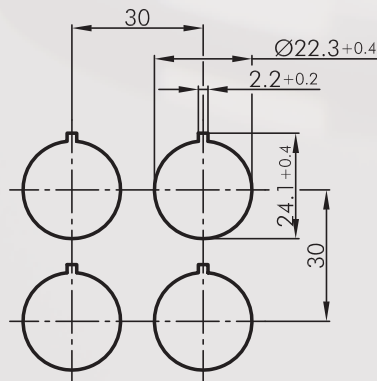
Terminal Blocks

Type Index

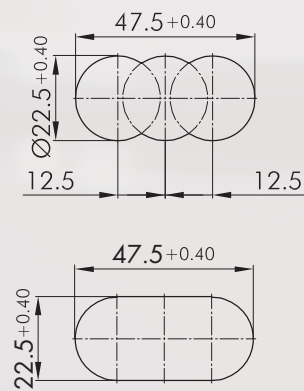
Mounting depth dimensions



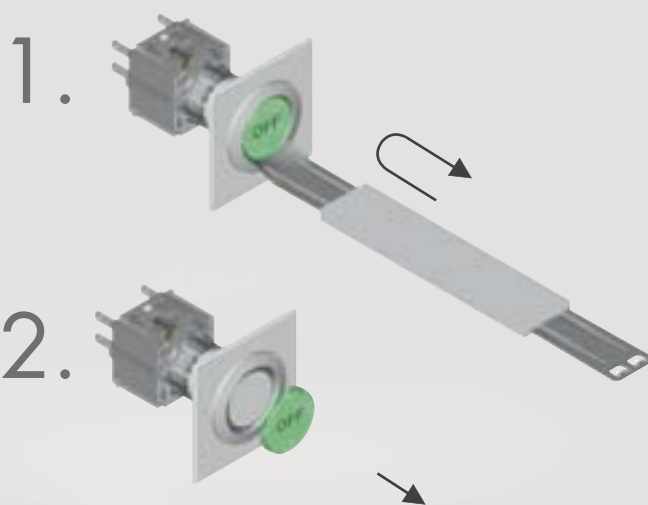
Cutout dimensions



RRJDTLR



Mounting and service instructions



RONTRON-R-JUWEL

Ø 22.3 mm

MADE IN GERMANY



About Us

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons

lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
<p>IP65 IP66 3 mm Sun icon Triangle icon</p>	<p>2.3 Ø28 24.3 1.5...5</p>	<p>Pushbutton head</p> <p>suitable contact blocks: ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ</p> <p>front bezel: silver-coloured stainless steel, polished black</p>	<p>RRJT RRJVAT RRJTSW</p>
<p>IP65 3 mm Triangle icon</p>	<p>2.3 Ø28 33.4 7.7 1.5...5 2.8x0.8</p>	<p>Pushbutton 1 NO</p> <p>with 2 Faston terminals 2.8x0.8 mm 250 V, 6(4) A, AC Connection type: Faston terminals 2.8x0.8 mm Contact material: AgNi</p> <p>CE</p> <p>front bezel: silver-coloured black</p>	<p>RRJT RRJTISW</p>
<p>IP65 IP66 3 mm Sun icon</p>	<p>2 Ø28 24.3 1.5...5</p>	<p>Pushbutton head with ring illumination</p> <p>incl. lens</p> <p>suitable contact blocks: ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ</p> <p>front bezel: silver-coloured stainless steel, polished black</p>	<p>RRJTLR RRJVATLR RRJTLRSW</p>
<p>IP65 IP66 3 mm Sun icon Triangle icon</p>	<p>2 Ø28 24.3 1.5...5</p>	<p>Pushbutton head with ring illumination and laser printing</p> <p>incl. lens</p> <p>with laser printing translucent standard imprints see nameplates from page 634 (please specify index number) special inscription on request</p> <p>suitable contact blocks: ASI AZ B B...x BZ BZ...x B439 CT CTF CTP CZ</p> <p>front bezel: silver-coloured stainless steel, polished black</p>	<p>RRJTLRL... RRJVATLRL... RRJTLRLSW...</p>
<p>IP65 3 mm Sun icon</p>	<p>1.6...5 53x28 2.0 24.3</p>	<p>Double pushbutton head with ring illumination silver-coloured</p> <p>laser printing on request</p> <p>suitable contact blocks: BZ BZ...x CT CZ</p> <p>front bezel: silver-coloured</p>	<p>RRJDTLR</p>

Pushbuttons

Illustration

Dimensions

Description

Type

IP65
3mm
Sun icon

Double pushbutton head with ring illumination silver-coloured, red/green

suitable contact blocks:
BZ BZ.x CT CZ

front bezel: silver-coloured
lens-cap: red/green

RRJDTLRGRBW_0003

IP65
3mm
Sun icon

Double pushbutton head with ring illumination and high, red lens, silver-coloured

suitable contact blocks:
BZ BZ.x CT CZ

front bezel: silver-coloured
lens-cap: red/green

RRJDTLRHGR

Accessories

Flat lens, transparent

colour:

blue		T22RRBL
yellow		T22RRGB
green		T22RRGN
clear		T22RRKL
red		T22RRRT
opal white		T22RRWS

Flat lens, non-transparent
for pushbuttons without inscription and illumination

colour:

blue		T22RRGBL
yellow		T22RRGGB
green		T22RRGGN
black		T22RRGSW
red		T22RRGRT
white		T22RRGWS
silver-coloured		T22RRGM

High lens, transparent

colour:

blue		T22HRRBL
yellow		T22HRRGB
green		T22HRRGN
clear		T22HRRKL
red		T22HRRRT
opal white		T22HRRWS

Blank nameplate

BSRRU

Ø18

RONTRON-R-JUWEL

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Membrane Pushbuttons

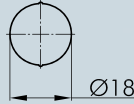
made of stainless steel V4A (1.4404)

Illustration

Dimensions

Description

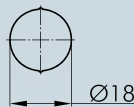
Type



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

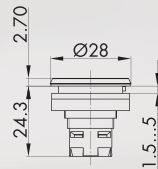
BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB



Membrane pushbutton head

combining the pushbuttons of a membrane keypad with the flexibility of conventional actuators, with blank nameplate, standard imprints (see from page 634) or special imprints on request

suitable contact blocks:



front bezel:	stainless steel, polished		
front ring:	black		RRJVAFT
front bezel:	stainless steel, polished		
front ring:	green		RRJVAFTGN
front bezel:	stainless steel, polished		
front ring:	red		RRJVAFTRT
front bezel:	black		
front ring:	black		RRJFTSW

Mushroom Pushbuttons

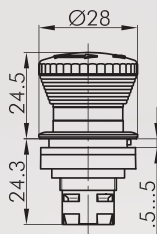
Illustration

Dimensions

Description

Type

IP65
IP67
3 mm





Emergency-stop head

Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



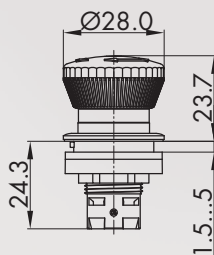
suitable contact blocks:

ASI AZ BZ BZ.k FRTP PTP

front bezel: yellow 
Mushroom head: red 

RRJUV



IP65
IP67
3 mm

Illuminated emergency-stop head

Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel: yellow 
Mushroom head: red 

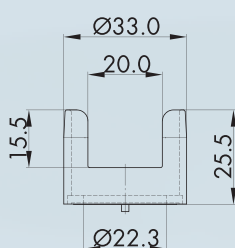
RRJVL



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594


The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Accessories



Protective shroud



colour: yellow 

RRSK

RONTRON-R-JUWEL

Ø 22.3 mm

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About Us

← Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Potentiometers

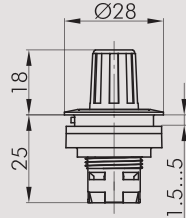
Illustration

Dimensions

Description

Type

IP65



Knob set for potentiometers

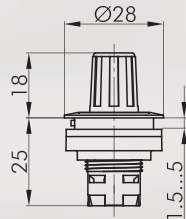
for potentiometers of 6 mm shaft dia. and thread M10 x 0.75
delivery without potentiometer
shaft length: approx. 32 mm

front bezel: silver-coloured
stainless steel, polished
black



RRJR
RRJVAR
RRJRSW

IP65



Knob set for incremental encoder

with rotary knob, but without encoder for encoders with 6 mm shaft dia. and thread M7x0,75
shaft length approx. 32mm

front bezel: silver-coloured



RRJE



Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

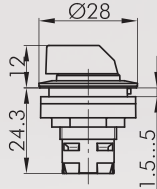
Illustration

Dimensions

Description

Type

IP65



Selector head, maintained

suitable contact blocks:

ASI AZ B B...k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished
black



RRJWA
RRJVAWA
RRJWASW

suitable contact blocks:

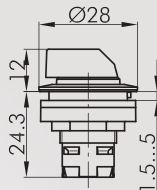
ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished
black



RRJWB
RRJVAWB
RRJWBSW

IP65



Selector head, momentary

suitable contact blocks:

ASI AZ BZ BZ.k CT CTF CTP CZ FRTF FRTF

front bezel: silver-coloured
stainless steel, polished



RRJSTA
RRJVASTA

suitable contact blocks:

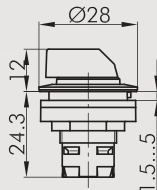
ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



RRJSTB
RRJVSTB

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

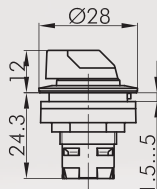
ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



RRJWC
RRJVAWC

IP65



Illuminated selector head, maintained

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJWAL_GN)

suitable contact blocks:

ASI AZ B B...k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished
black



RRJWAL...
RRJVWAL...
RRJWALSW...

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished
black



RRJWBL...
RRJVWBL...
RRJWBLSW...

RONTRON-R-JUWEL

Ø 22.3 mm

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About Us

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

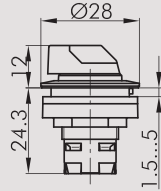
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJSTAL_GN)

suitable contact blocks:

ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished



RRJSTAL...
RRJVASTAL...

suitable contact blocks:

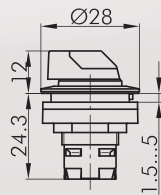
ASI AZ BZ BZ...K B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



RRJSTBL...
RRJVASTBL...

IP65



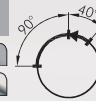
Illuminated selector head, left maintained, right momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJWCL_GN)

suitable contact blocks:

ASI AZ BZ BZ...K B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



RRJWCL...
RRJWVWCL...

Selector Switches (momentary/maintained)

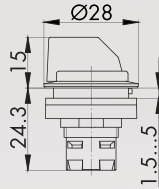
Illustration

Dimensions

Description

Type

IP65



Selector head for desert application, maintained silver-coloured

tested with coarse Arizona dust

suitable contact blocks:

ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: silver-coloured

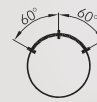


RRJWA_514

suitable contact blocks:

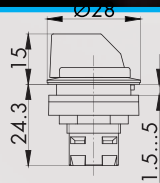
ASI AZ BZ BZ...K CT CZ

front bezel: silver-coloured



RRJWB_514

IP65



Selector head for desert application, momentary, silver-coloured

tested with coarse Arizona dust

suitable contact blocks:

ASI AZ BZ BZ...K CT CZ

front bezel: silver-coloured



RRJSTB_514

RONTRON-R-JUWEL

Ø 22.3 mm

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About Us

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

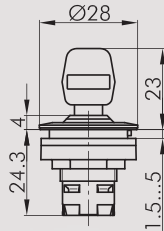
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished
black



suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished
black



suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished



suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished
black



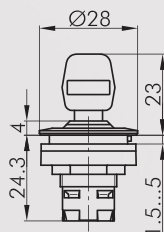
suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished
black



IP65



Key actuator, maintained (3 different keys)

including three keys
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons
and Switches

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

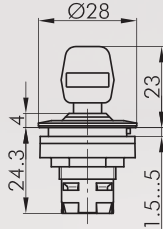
Illustration

Dimensions

Description

Type

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



RRJSSA23
RRJVASSA23

suitable contact blocks:

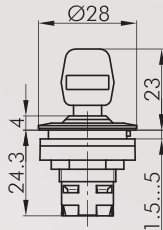
ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured
stainless steel, polished



RRJSSA28
RRJVASSA28

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured
stainless steel, polished



RRJSSA25
RRJVASSA25

Accessories



Standard spare keys

standard spare key, specify key number for special locks

ESMIC482

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Buzzers

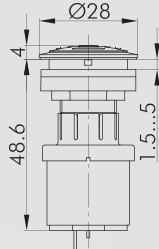
Illustration

Dimensions

Description



Type

IP65



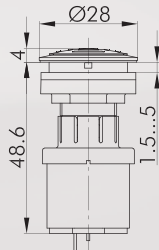
Buzzer

operating voltage: 12 ... 24V AC/DC
operating current: 5mA (12V DC)
16mA (24V DC)
signal frequency: 3.8 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
stainless steel, polished 



RRJNSG+SG-24V
RRJVANSG+SG-24V

IP65



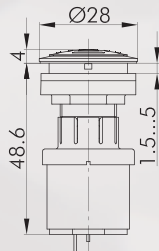
Interval buzzer

operating voltage: 12 ... 24V DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
stainless steel, polished 



RRJNSG+SGL-24V
RRJVANSG+SGL-24V

IP65



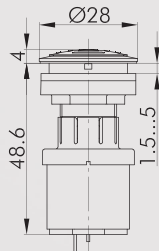
Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
operating current: abt. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
operating temperature: -20°C ... +60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
stainless steel, polished 



RRJNSGL+SGLR-24V
RRJVANSGL+SGLR-24V

IP65





Illuminated interval buzzer

operating voltage: 12 ... 24V DC
operating current: abt. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... +60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
stainless steel, polished 

RRJNSGL+SGLR-24V
RRJVANSGL+SGLR-24V

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
Accessories			
		Faston clamp 2.8 x 0.8 mm with snap-in pin cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
		Insulating case for Faston clamp FH2,8, slip on from the front	IH2,8

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Panel Mount Jacks

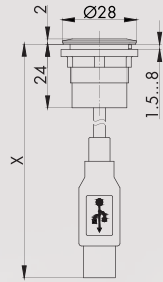
other cable lengths on request

Illustration

Dimensions




Description

Type

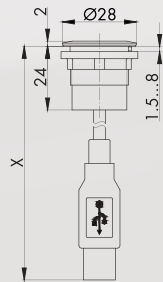


USB2.0 jack A/connector A (60 cm)

front:
USB2.0 jack type A
rear:
USB2.0 cable (length X=600 mm) with plug type A
Attention: Mounting position of the USB jack does not comply with the USB2.0 specification




front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB
RRJVA_USB
RRJ_USB_SW

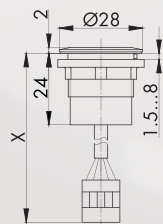


USB3.0 jack A/connector A (60 cm)

front:
USB3.0 jack type A
rear:
USB3.0 cable (length X=600 mm) with plug type A


front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB3
RRJVA_USB3
RRJ_USB3_SW

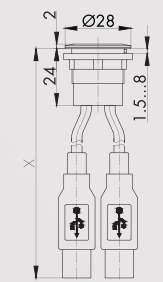


USB2.0 jack A/connector socket housing (100 cm)

front:
USB2.0 jack type A
rear:
USB2.0 cable (length X =1000 mm) with 5-pole socket housing (grid dimension 2.54 mm) for direct connection to a motherboard




front bezel: silver-coloured 

RRJ_USB100CM_673



Double USB2.0 jack A/connector A (60 cm)

front:
2x USB2.0 jack type A
rear:
2x USB2.0 cable (length X=600 mm) with plug type A

front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_2USB
RRJVA_2USB
RRJ_2USB_SW

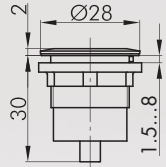
Panel Mount Jacks

Illustration

Dimensions




Description

Type

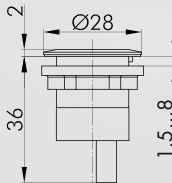


USB2.0 jack A/jack A

front:
USB2.0 jack type A
rear:
USB2.0 jack type A




front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB_AA
RRJVA_USB_AA
RRJ_USB_SW_AA

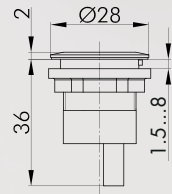


USB3.0 jack A/jack A

pinout 1:1
front:
USB3.0 jack type A
rear:
USB3.0 jack type A



front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB3_AA
RRJVA_USB3_AA
RRJ_USB3_SW_AA

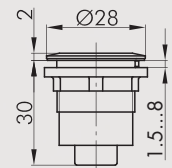


USB3.0 jack A/jack A (twisted data line)

pinout: twisted data line
front:
USB3.0 jack type A
rear:
USB3.0 jack type A




front bezel: silver-coloured 
 stainless steel, polished 

RRJ_USB3_AA_633
RRJVA_USB3_AA633

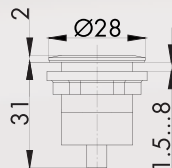


USB2.0 jack A/jack B

front:
USB2.0 jack type A
rear:
USB2.0 jack type B




front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB_AB
RRJVA_USB_AB
RRJ_USB_SW_AB



USB2.0 jack B/jack A

front:
USB2.0 jack type B
rear:
USB2.0 jack type A

front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB_BA
RRJVA_USB_BA
RRJ_USB_SW_BA

RONTRON-R-JUWEL

Ø 22.3 mm

MADE IN GERMANY



About Us

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Panel Mount Jacks

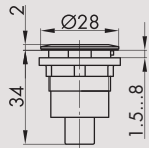
made of stainless steel V4A (1.4404)

Illustration

Dimensions

Description

Type



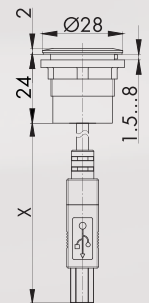
USB2.0 jack B/jack B

front:
USB2.0 jack type B
rear:
USB2.0 jack type B

front bezel: silver-coloured
stainless steel, polished



RRJ_USB_BB
RRJVA_USB_BB



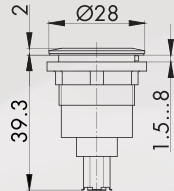
USB2.0 jack B/connector B (50 cm)

front:
USB2.0 jack type B
rear:
USB2.0 cable (length X = 500 mm) with plug type B

front bezel: silver-coloured



RRJ_USB_BB_50CM



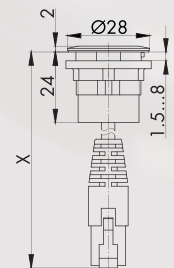
Fire wire jack/jack

front:
Fire Wire jack
rear:
Fire Wire jack

front bezel: silver-coloured
stainless steel, polished



RRJ_FW6_STB
RRJVA_FW6_STB



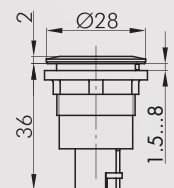
RJ45 jack/connector (60 cm)

front:
RJ45 jack with screen
rear:
cable (length X=600 mm) with RJ45 plug with screen

front bezel: silver-coloured
stainless steel, polished
black



RRJ_RJ45
RRJVA_RJ45
RRJ_RJ45_SW



RJ45 jack/jack

front:
RJ45 jack with screen
rear:
RJ45 jack with screen

front bezel: silver-coloured
stainless steel, polished
black



RRJ_RJ45_STB
RRJVA_RJ45_STB
RRJ_RJ45_STB_SW

Panel Mount Jacks

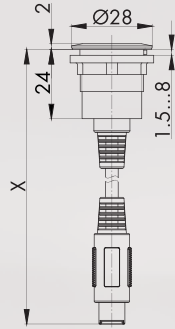
other cable lengths on request

Illustration

Dimensions

Description

Type



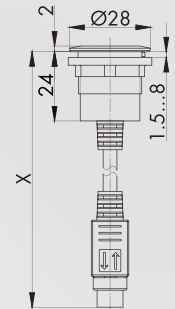
PS2 jack/connector (200 cm)

front:
PS2 jack
rear:
cable (length X=2000 mm) with PS2 plug

front bezel: silver-coloured



RRJ_PS2_200CM



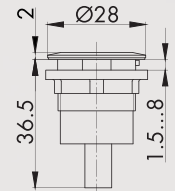
SVHS jack/connector (200 cm)

front:
SVHS jack
rear:
cable (length X=2000 mm) with SVHS plug

front bezel: silver-coloured



RRJ_SVHS_200CM



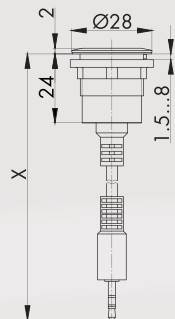
HDMI jack/jack

front:
HDMI jack
rear:
HDMI jack

front bezel: silver-coloured
stainless steel, polished
black



RRJ_HDMI_STB
RRJVA_HDMI_STB
RRJ_HDMI_STB_SW



2.5 mm plug jack/connector (200 cm)

front:
2.5 mm jack socket (3-pole)
rear:
cable (length X=2000 mm) with 2.5 mm jack plug

front bezel: silver-coloured
stainless steel, polished



RRJ_KL2,5_200CM
RRJVA_KL2,5_200

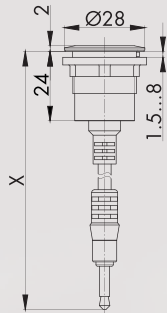
Panel Mount Jacks

Illustration

Dimensions



Description

Type

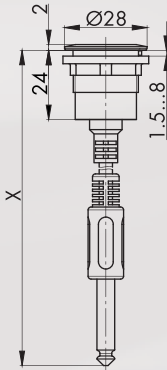


3.5 mm plug jack/connector

front:
3.5 mm jack socket (3-pole)
rear:
cable (length X=2000 mm) with 3.5 mm jack plug



front bezel: silver-coloured 
 stainless steel, polished 

RRJ_KL3,5_200CM
RRJVA_KL3,5_200



6.3 mm plug jack/connector (200 cm)

front:
6.3 mm jack socket (3-pole)
rear:
cable (length X=2000 mm) with 6.3 mm jack plug

front bezel: silver-coloured 
 acier inox poli 

RRJ_KL6,3_200CM
RRJVA_KL6,3_200



For panel mount jacks, please refer to page 572

Industry 4.0 - Components

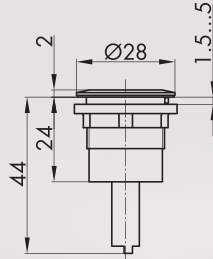
Illustration

Dimensions

Description

Type

IP65



Capacitive microphone

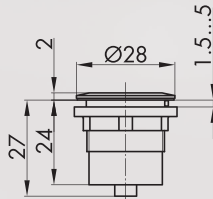
frequency response: 20-16000 Hz
impedance: 2.2 kOhm

colour: silver-coloured
black



RRJ_MIC_01
RRJSW_MIC_01

IP65



WiFi antenna

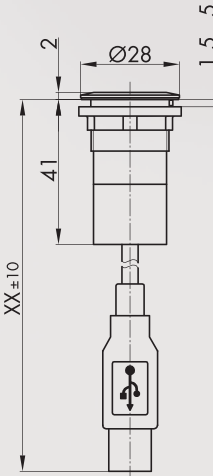
standard: IEEE 802.11 ac/a/b/g/n
connection: MCX jack

colour: silver-coloured
black



RRJ_WLA_01
RRJSW_WLA_01

IP65



WiFi adapter to USB

specification: IEEE 802.11n conform downward compatible to IEEE 802.11 g/b supports 64/128-bit WEP, WPA and WPA2 encoding

system requirement: Windows XP, Vista, 7, 8, 8.1, 10, Mac OS X and Linux

connection: USB 2.0 cable (length XX=1500 mm)

colour: silver-coloured
black



RRJ_WLU_01
RRJSW_WLU_01

RONTRON-R-JUWEL

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pilot Lights

lenses and nameplates to be ordered separately

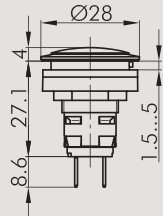
Illustration

Dimensions

Description

Type

IP65



Pilot Light with Faston terminals 2.8x0.8 mm

W2x4.6d socket

Connection type:

Faston terminals 2.8x0.8 mm

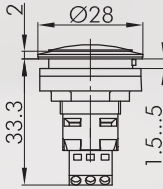
front bezel:

silver-coloured
stainless steel, polished
black



RRJL4
RRJVAL4
RRJL4SW

IP65



Two-colour LED pilot light 24V

operating temperature: -25°C ... 60°C

rated voltage: 24V DC

rated current: max. 10mA per LED

insulating voltage: 0.5kV

insulating resistance: ≥ 2MΩ

connection type: screw connection 3x1 mm²

pin assignment

pin 1: red

pin 2: GND

pin 3: green

other colours on request
incl. lens and nameplate

front bezel:

silver-coloured



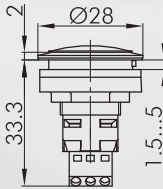
LED colour:

red/green



RRJL_24R_G

IP65



Two-colour LED pilot light 230V

operating temperature: -25°C ... 55°C

rated voltage: 230V AC / 50 ... 60Hz

rated current: max. 4mA per LED

insulating voltage: 2.5kV

insulating resistance: ≥ 2MΩ

connection: screw connection 3x1 mm²

pin assignment

pin 1: red

pin 2: GND

pin 3: green

other colours on request
incl. lens and nameplate

front bezel:

silver-coloured



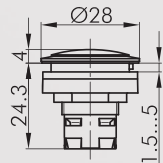
LED colour:

red/green



RRJL_230R_G

IP65



Pilot light head

suitable lampholders:











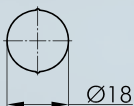

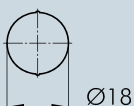
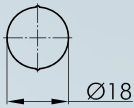



front bezel:

silver-coloured
stainless steel, polished
black


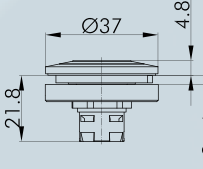
















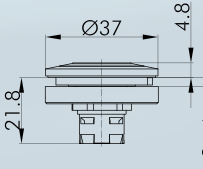


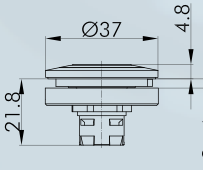



RRJN
RRJVAN
RRJNSW


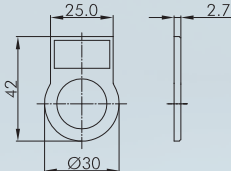



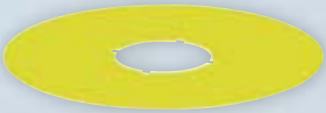





Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
Accessories			
		<p>Lens</p> <p>colour:</p> <ul style="list-style-type: none"> blue  yellow  green  clear  red  opal white  	<p>K22RRBL</p> <p>K22RRGB</p> <p>K22RRGN</p> <p>K22RRKL</p> <p>K22RRRT</p> <p>K22RRWS</p>
		Blank nameplate	BSRRU
		<p>Nameplate with standard imprint</p> <p>please specify index number (see nameplates from page 634)</p>	BSRR...
		<p>Nameplate with special imprint</p> <p>according to customer's specification</p>	BSRRB
		<p>Mounting tool 16</p> <p>with torque limitation for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL</p>	S16
		<p>Mounting tool 22</p> <p>with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL</p>	S22
		<p>Mounting tool adapter with 1/4" connections</p> <p>for mounting tools S16 and S22</p>	SRA








Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type															
		<p>LED light ring for status indication or additional illumination</p> <ul style="list-style-type: none"> - for an additional light signal - rated voltage: 24V AC/DC - rated current: 25 ... 35 mA (DC) - panel cut-out Ø 30.5 mm - connection for JST plug ZHR-3 - tightening torque mounting nut max. 0.3 Nm delivery without actuator <p>LED colour:</p> <table border="0"> <tr> <td>blue</td> <td></td> <td>LR22K_24B</td> </tr> <tr> <td>white</td> <td></td> <td>LR22K_24W</td> </tr> <tr> <td>red</td> <td></td> <td>LR22K_24R</td> </tr> <tr> <td>green</td> <td></td> <td>LR22K_24G</td> </tr> <tr> <td>yellow</td> <td></td> <td>LR22K_24Y</td> </tr> </table>	blue		LR22K_24B	white		LR22K_24W	red		LR22K_24R	green		LR22K_24G	yellow		LR22K_24Y	
blue		LR22K_24B																
white		LR22K_24W																
red		LR22K_24R																
green		LR22K_24G																
yellow		LR22K_24Y																
		<p>Two-coloured alternate LED-illuminated ring for status indication</p> <ul style="list-style-type: none"> - for two additional light signals - rated voltage: 24V AC/DC - rated current: green 12 mA (DC) / red 17 mA (DC) - panel cut-out Ø 30.5 mm - connection for JST plug ZHR-3 - tightening torque mounting nut max. 0.3 Nm delivery without actuator <p>LED colour: red/green</p>	LR22K_24R_G															
		<p>Connection cable for LED light ring</p> <p>with open end, to connect the LED light rings to a voltage supply source length approx. 80 cm, cross section 0.14 mm²</p>	VK_JST3_014															
		<p>RGB LED light ring for status indication or illumination</p> <ul style="list-style-type: none"> - for an additional light signal - one-piece ring (360°) - rated voltage 24V AC (half-wave rectifier)/DC - 1 up to 16.7 million colours can be displayed (colour mixing via PWM signal) - tightening torque mounting nut max. 0.3 Nm <p>LED colour: red/green/blue</p>	LR22K_24RGB															
		<p>Connection cable for RGB-LED light ring</p> <p>with open end, to connect the RGB-LED light rings to a voltage supply source length: approx. 60 cm, cross section 0.14 mm²</p>	VK_LRR22_RGB															

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
 		<p>External nameplate holder for self-adhesive outside marking of the actuators of the RONTRON-RJUWEL, SHORTRON series (except selector and key switches) to snap on from the front</p> <p>colour: transparent</p>	 RRJABT
		<p>Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm</p>	BZ16L...
		<p>Self-adhesive nameplate blank dimensions: 22 x 11 mm</p>	BZ16U
		<p>Self-adhesive nameplate with standard imprint please specify index number (see nameplates from page 634) dimensions: 22 x 11 mm</p>	BZ16B...
		<p>Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm</p> <p>colour: yellow</p>	 NAS_22
		<p>Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm</p> <p>colour: yellow</p>	 NAS_22_548
<p>IP40</p> 		<p>Lead-sealable protective lid</p> <p>colour: transparent</p>	 KDP22RR

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Lead-sealable, robust, tight protective lid colour: transparent / black	K DPR22RR K DPR22RR_SW
		Protective lid made of TPE colour: black	AK22RRSW
		Robust tight protection cap - captive lid, threadable - suitable for the series Rontron-R-Juwel, Rondex-Juwel and Shortron colour: aluminum / stainless steel, polished	SDAL22RR SDVA22RR
		Universal lens remover	USK
		Dummy, silver-coloured to close unused mounting apertures front bezel: silver-coloured	BVRRJ
		Dummy, stainless steel to close unused mounting apertures front bezel: stainless steel, polished	BVRRJVA
		Dummy, completely made of stainless steel made of stainless steel 1.4404 to close unused mounting apertures colour: stainless steel, polished	BVSV A

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks


Type Index

Front dimensions: 28 x 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 3 mm





RONTRON-Q-JUWEL

 Product configurator



RONTRON-Q-JUWEL

Ø 22.3 mm

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About Us

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RHD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Overview RONTRON-Q-JUWEL series



01 Pushbutton heads

02 Emergency-stop heads

03 Knob set for potentiometers

04 Selector heads

05 Key actuators

06 Buzzers

page 110

page 111

page 112

page 112

page 114

page 116

07 Panel mount jacks

08 Pilot light heads / pilot lights

Contact blocks/lampholders

page 118

page 120

page 414

Housing colour



degree of protection



operating travel



tactile

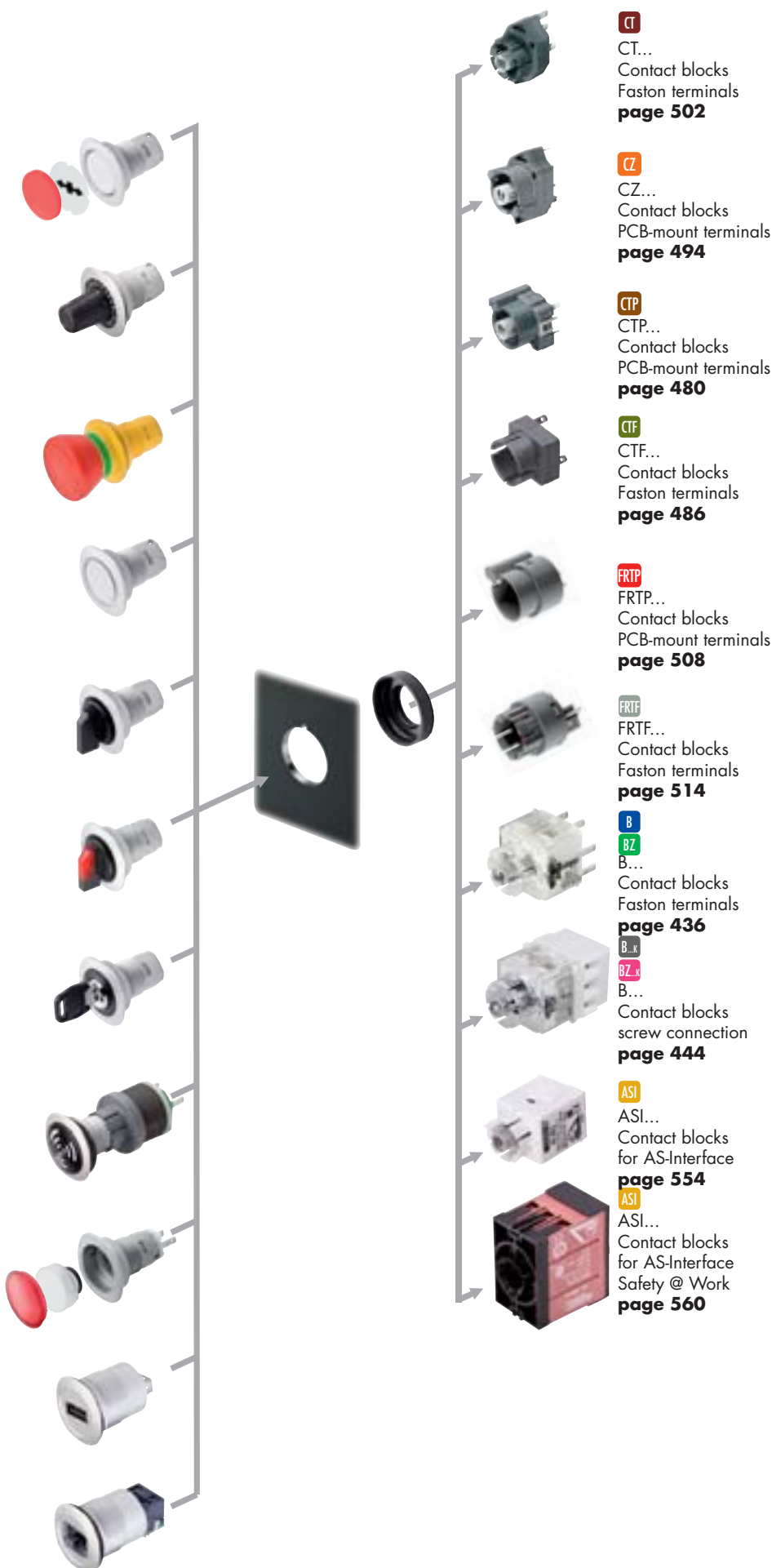


illuminating option



labelling option





CT

CT...
Contact blocks
Faston terminals
page 502

CZ

CZ...
Contact blocks
PCB-mount terminals
page 494

CTP

CTP...
Contact blocks
PCB-mount terminals
page 480

CTF

CTF...
Contact blocks
Faston terminals
page 486

F RTP

F RTP...
Contact blocks
PCB-mount terminals
page 508

F RTF

F RTF...
Contact blocks
Faston terminals
page 514

B

BZ
B...
Contact blocks
Faston terminals
page 436

B...K

BZ...K
B...
Contact blocks
screw connection
page 444

ASI

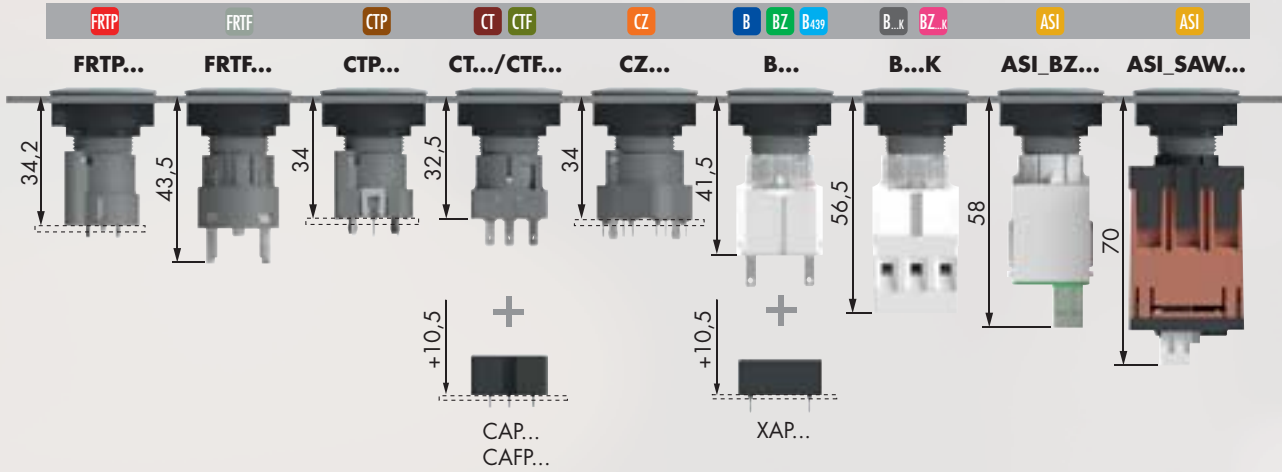
ASI...
Contact blocks
for AS-Interface
page 554

ASI

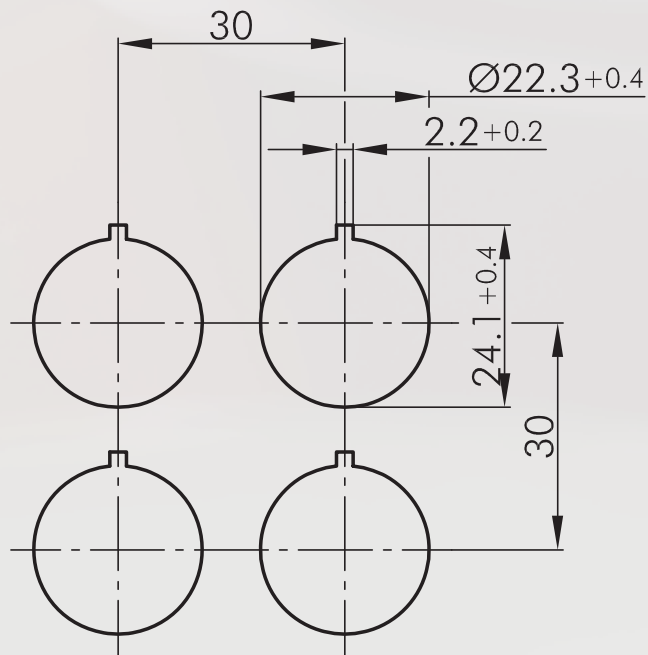
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

Ø 22.3 mm

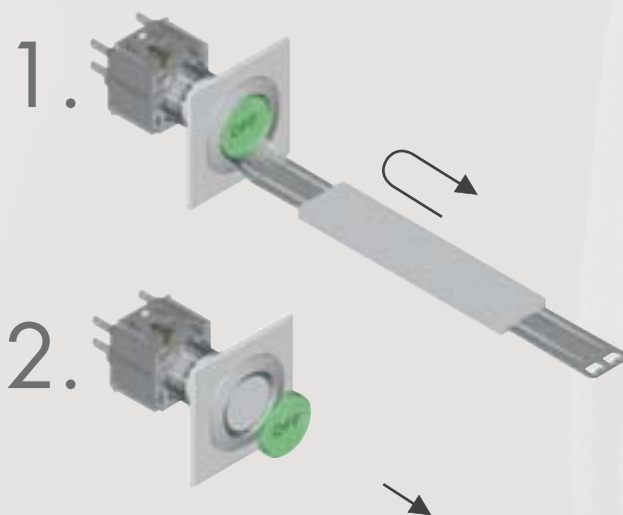
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

RONTRON-Q-JUWEL

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons

lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
<p>IP65 3 mm Sun icon Hand icon</p>	<p>28 2.3 24.3 1.5...5</p>	Pushbutton head suitable contact blocks ASI AZ B B...k BZ BZ...k B439 CT CTF CTP CZ front bezel: silver-coloured	RQJT
<p>IP65 3 mm Sun icon</p>	<p>28 2 24.3 1.5...5</p>	Pushbutton head with ring illumination incl. lens, inscription on request suitable contact blocks ASI AZ B B...k BZ BZ...k B439 CT CTF CTP CZ front bezel: silver-coloured, black	RQJTLR RQJTLRSW
<p>IP65 3 mm Sun icon Hand icon</p>	<p>28 2 24.3 1.5...5</p>	Pushbutton head with ring illumination and laser printing with push-cap standard imprint, see nameplates from page 634 (please specify index number) special inscription on request ASI AZ B B...k BZ BZ...k B439 CT CTF CTP CZ front bezel: silver-coloured	RQJTLRL...
<p>IP65 3 mm Sun icon</p>	<p>28 2.3 24.3 1.5...5</p>	Pushbutton head with ring illumination, white coated incl. lens suitable contact blocks ASI AZ B B...k BZ BZ...k B439 CT CTF CTP CZ front bezel: white	RQJTLREWS
<p>IP65 3 mm Sun icon</p>	<p>28 2 24.3 1.5...5</p>	Pushbutton head with ring illumination and burl wood decor incl. lens suitable contact blocks ASI AZ B B...k BZ BZ...k B439 CT CTF CTP CZ front bezel: burl wood decor	RQJTLRE01
<p>IP65 3 mm Sun icon</p>	<p>28 2 24.3 1.5...5</p>	Pushbutton head with ring illumination and carbon decor incl. lens suitable contact blocks ASI AZ B B...k BZ BZ...k B439 CT CTF CTP CZ front bezel: carbon decor	RQJTLRE02

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Description

Type

Accessories



Flat lens, transparent

colour:	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opal white		T22RRWS



Flat lens, non-transparent

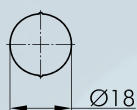
for pushbuttons without inscription and illumination

colour:	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS
	silver-coloured		T22RRGM



High lens, transparent

colour:	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opal white		T22HRRWS



Blank nameplate

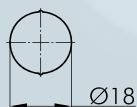
BSRRU



Nameplate with standard imprint

BSRR...

please specify index number (see nameplates from page 634)



Nameplate with special imprint

BSRRB

according to customer's specification



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

RONTRON-Q-JUWEL

Ø 22.3 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Potentiometers

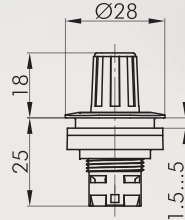
Illustration

Dimensions

Description

Type

IP65



Knob set for potentiometers

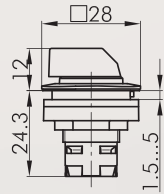
for potentiometers of 6 mm shaft dia. and thread M10 x 0.75
delivery without potentiometer
shaft length: approx. 32 mm

front bezel: silver-coloured



RQJR

IP65



Selector head, maintained

suitable contact blocks:

ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJWA



suitable contact blocks:

ASI AZ BZ BZ... B439 CT CZ

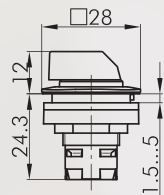
front bezel: silver-coloured



RQJWB



IP65



Selector head, momentary

suitable contact blocks:

ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSTA



suitable contact blocks:

ASI AZ BZ BZ... B439 CT CZ

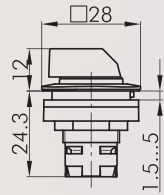
front bezel: silver-coloured



RQJSTB



IP65



Selector head, left maintained, right momentary

suitable contact blocks:

ASI AZ BZ BZ... B439 CT CZ

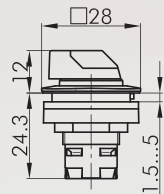
front bezel: silver-coloured



RQJWC



IP65



Illuminated selector head, maintained

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT
(e.g. RQJWAL_GN)

suitable contact blocks:

ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJWAL...



suitable contact blocks:

ASI AZ BZ BZ... B439 CT CZ

front bezel: silver-coloured



RQJWBL...



Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

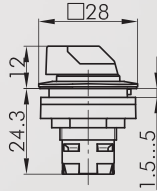
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RQJSTAL_GN)

suitable contact blocks:

ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSTAL...

suitable contact blocks:

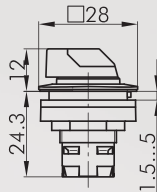
ASI AZ BZ BZ...K B439 CT CZ

front bezel: silver-coloured



RQJSTBL...

IP65



Illuminated selector head, left maintained, right momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RQJWCL_GN)

suitable contact blocks:

ASI AZ BZ BZ...K B439 CT CZ

front bezel: silver-coloured



RQJWCL...

RONTRON-Q-JUWEL

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

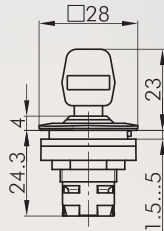
Type Index

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration Dimensions Description Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured

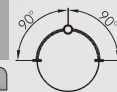


RQJSSA12

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured



RQJSSA13

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSSA14

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSSA15

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSSA16

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSSA17

suitable contact blocks:

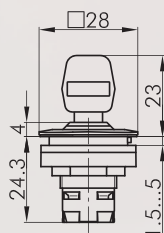
ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSSA18

IP65



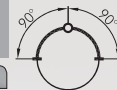
Key actuator, maintained (3 different keys)

including three keys
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks:

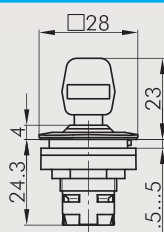
ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured



RQJSSA31

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: silver-coloured



RQJSSA23

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: silver-coloured



RQJSSA28

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

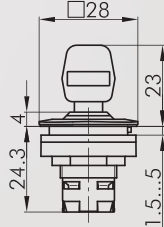
Illustration

Dimensions

Description

Type

IP65



Key actuator, left maintained, right momentary

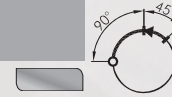
including two keys
other lock types on request

suitable contact blocks:



front bezel:

silver-coloured



RQJSSA25

Accessories



Standard spare keys

standard spare key, specify key number for special locks

ESMIC482

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Buzzers

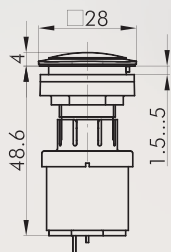
Illustration

Dimensions

Description

Type

IP65



Buzzer

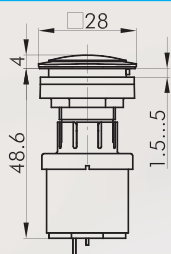
operating voltage: 12 ... 24V DC
operating current: 5mA (12V DC)
16mA (24V DC)
signal frequency: 3.8 +/- 0.5 kHz
volume: max. 90 db (10 cm, 24V)
max. 85 db (10 cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured



RQJNSG+SG-24V

IP65



Interval buzzer

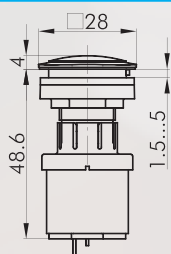
operating voltage: 12 ... 24V DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 90 db (10 cm, 24V)
max. 85 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured



RQJNSG+SGL-24V

IP65



Illuminated buzzer

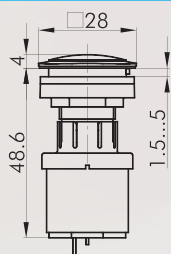
operating voltage: 12 ... 24V AC/DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 Hz
volume: max. 90 db (10cm, 24V)
max. 85 db (10cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured



RQJNSGL+SGLR-24V

IP65



Illuminated interval buzzer

operating voltage: 12 ... 24V DC
operating current: abt. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 90 db (10 cm, 24V)
max. 85 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured



RQJNSGL+SGLR-24V

Accessories



Faston clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Description

Type



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

RONTRON-Q-JUWEL

Ø 22.3 mm

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About Us

← Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB2.0 jack A/connector A (60 cm)</p> <p>front: USB2.0 jack type A</p> <p>rear: USB2.0 cable (length X=600 mm) with plug type A</p> <p>Attention: Mounting position of the USB jack does not comply with the USB2.0 specification</p>	<p>front bezel: silver-coloured </p> <p>RQJ_USB</p>
		<p>USB2.0 jack A/jack A</p> <p>front: USB2.0 jack type A</p> <p>rear: USB2.0 jack type A</p>	<p>front bezel: silver-coloured </p> <p>RQJ_USB_AA</p>
		<p>USB2.0 jack A/jack B</p> <p>front: USB2.0 jack type A</p> <p>rear: USB2.0 jack type B</p>	<p>front bezel: silver-coloured </p> <p>RQJ_USB_AB</p>
		<p>USB2.0 jack B/jack A</p> <p>front: USB2.0 jack type B</p> <p>rear: USB2.0 jack type A</p>	<p>front bezel: silver-coloured </p> <p>RQJ_USB_BA</p>
		<p>USB2.0 jack B/jack B</p> <p>front: USB2.0 jack type B</p> <p>rear: USB2.0 jack type B</p>	<p>front bezel: silver-coloured </p> <p>RQJ_USB_BB</p>
		<p>USB3.0 jack A/jack A</p> <p>front: USB3.0 jack type A</p> <p>rear: USB3.0 jack type A</p>	<p>front bezel: silver-coloured </p> <p>RQJ_USB3_AA</p>

Panel Mount Jacks

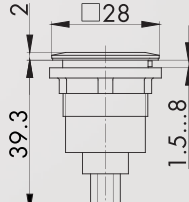
other cable lengths on request

Illustration

Dimensions

Description

Type

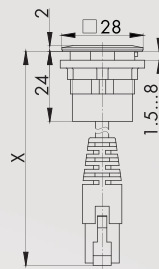


front bezel:

silver-coloured



RQJ_FW6_STB



RJ45 jack/connector (60 cm)

front:

RJ45 jack with screen

rear:

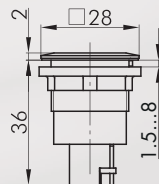
cable (length X=600 mm) with RJ45 plug with screen

front bezel:

silver-coloured



RQJ_RJ45



RJ45 jack/jack

front:

RJ45 jack with screen

rear:

RJ45 jack with screen

front bezel:

silver-coloured



RQJ_RJ45_STB

For panel mount jacks, please refer to page 572



RONTRON-Q-JUWEL

Ø 22.3 mm

MADE IN GERMANY



About Us

Pilot Lights

lenses and nameplates to be ordered separately

← Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

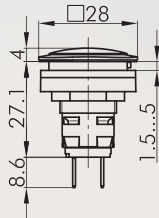
Illustration

Dimensions

Description

Type

IP65



Pilot light with Faston terminals 2.8x0.8 mm

W2x4.6d socket

Connection type:

Faston terminals 2.8x0.8 mm

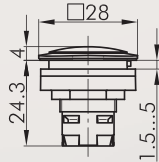
front bezel:

silver-coloured



RQJL4

IP65



Pilot light head

suitable lampholders:

ASI B B...K CT CTF CTP CZ

front bezel:

silver-coloured



RQJN

Accessories



Lens

colour:

blue



K22RRBL

yellow



K22RRGB

green



K22RRGN

clear



K22RRKL

red

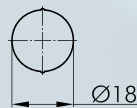


K22RRRT

opal white



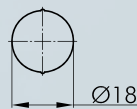
K22RRWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

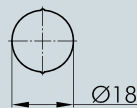
BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB



Blank nameplate

BSRRU
















Mounting tool 16

with torque limitation

for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL

S16

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Mounting tool 22 with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL	S22
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow	 NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow	 NAS_22_548
	IP40	Lead-sealable protective lid colour: transparent	 KDP22RR
	IP65 IP67	Lead-sealable, robust, tight protective lid colour: transparent black	 KDP22RR KDP22RR_SW
		Universal lens remover	USK
	IP65	Dummy to close unused mounting apertures front bezel: silver-coloured	 BVRQJ

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks


Type Index



Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm / 1.8 mm

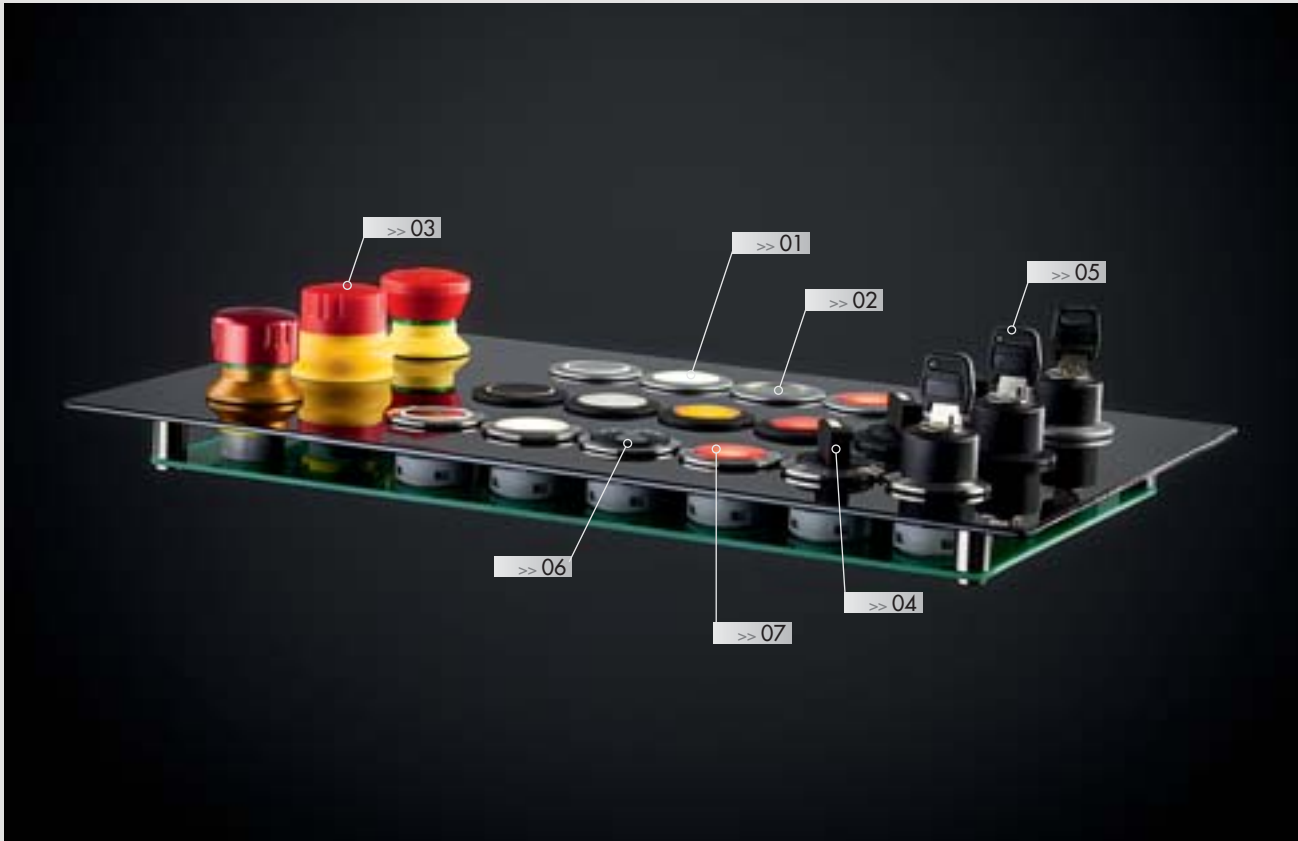


SHORTRON

 Product configurator



Overview - SHORTRON series



01 Pushbuttons	page 134	06 Pilot lights	page 155
Tactile pushbuttons	page 135		
02 Emergency-stop buttons	page 141		
03 Selector switches	page 147		
04 Key switches	page 152		
05 Buzzers	page 155		

Housing colours (silver-coloured, black, polished stainless steel)



degree of protection



operating travel



tactile

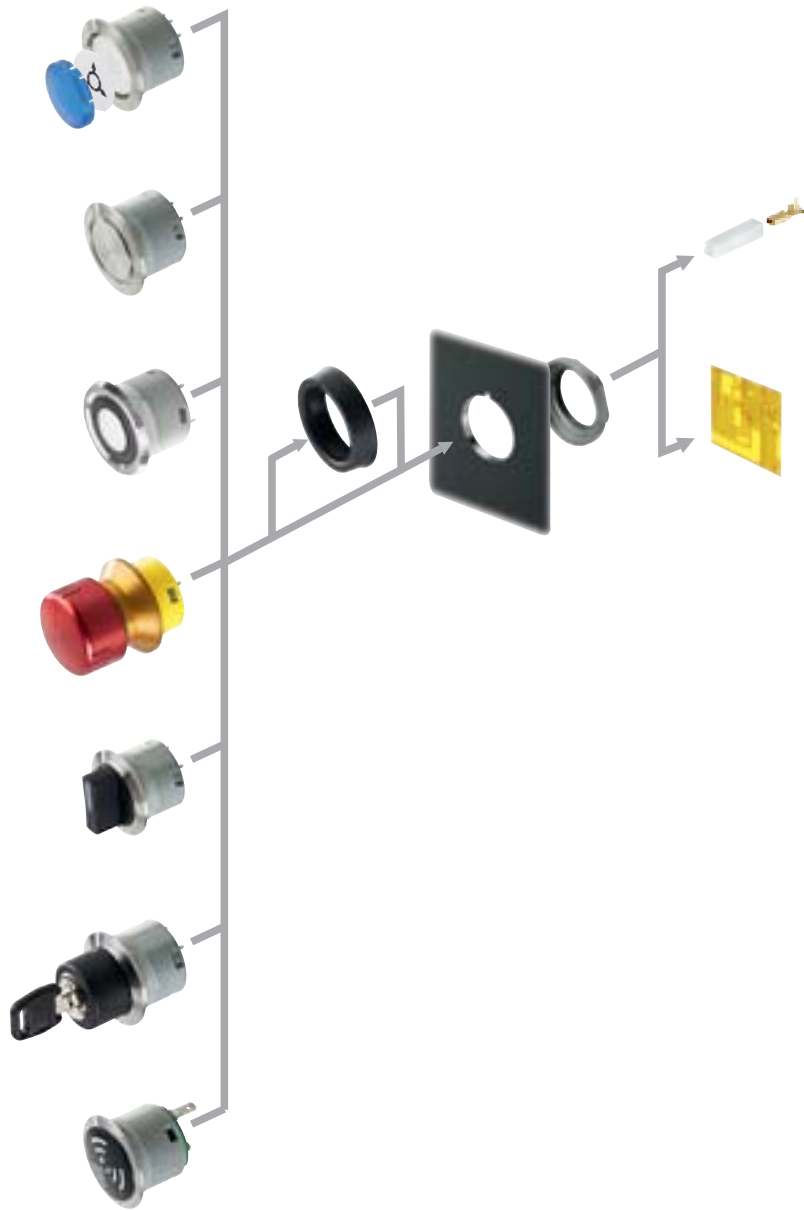


illuminating option



labelling option

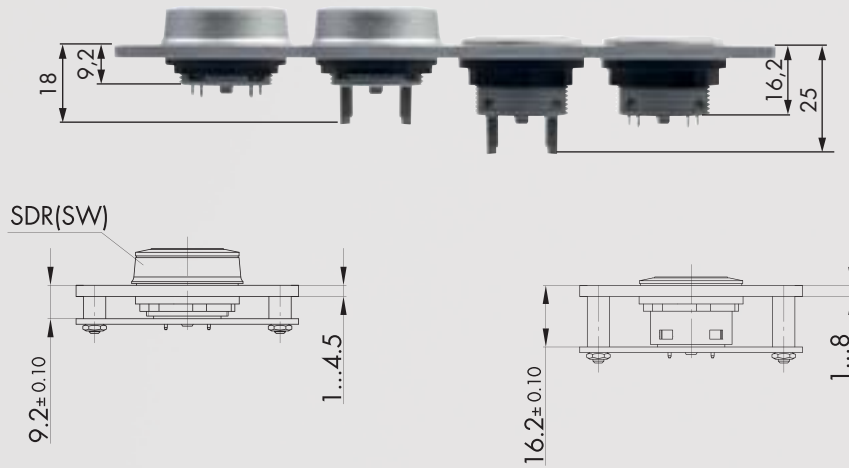




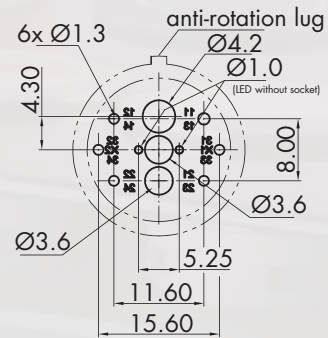
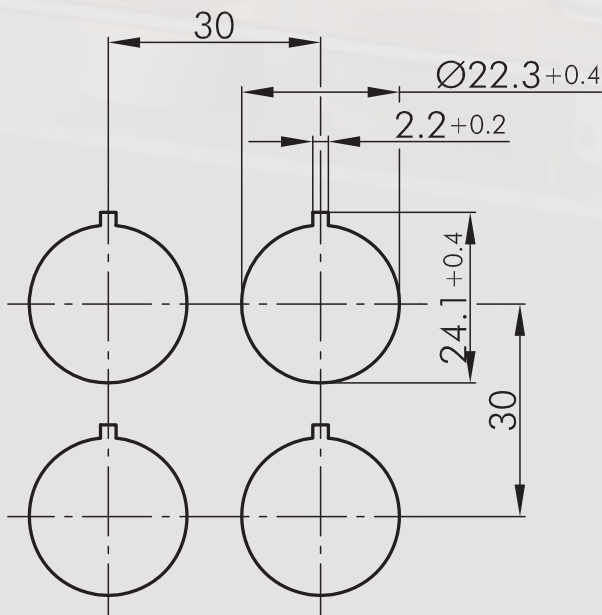
Mounting Faston Clamp 2.8x0.8mm



Mounting depth dimensions



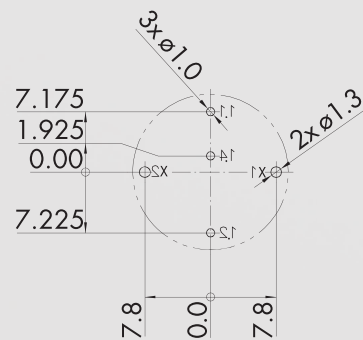
Cutout dimensions



Component side view

Contact assignment: see wiring scheme of the relevant types

PCT...



General Data

Type reference: FR(P)VK(Y1)(P)(L)(R)(O)(OO)(OI)(S)(OOO)(OOI)(OII)(Z)(LZ)(P)(L)AU(L)RO
 Description: Emergency-stop head, foolproof
 Approvals: CCC, CE, cURus, DGUV_Test, TÜV_Süd
 Contact type: 1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
 Degree of protection: IP65 / IP67
 Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
 Contact material: AgNi / AgNi, gold-plated 5µm (L)AU
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 50.000
 Electrical life (rated load): 50.000 at rated load
 Contact resistance NO: < 50 mOhm (new state)
 Contact resistance NC: < 50 mOhm (new state)
 Bouncing time NC: < 10ms
 Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage Ui:	AC15 B300	DC13 Q300
Rated operating voltage Ue:	250 V	250 V
Rated operating current Ie:	240 V / 120 V	250 V / 125 V / 60 V / 24 V
Breaking capacity:	1.5 A / 3 A	0.27 A / 0.55 A / 1 A / 2 A
Continuous thermal current:	10Ie	1, 1Ie
	5 A	

Technical Data - Lamp

Lamp socket: none, with integrated 3 mm LED
 Max. lamp voltage: 30 V AC/DC
 Max. lamp output: 4 mA at 24 V DC)
 Definition: X1...anode, X2...cathode

Additional data

Mounting aperture: 22.3 mm
 Tightening torque (mounting nut): 1.3 ... 1.9 Nm
 Release: twist release, left or right
 Mounting position: any
 Standards: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Ld: 20% (NC)
 B10d: 250.000
 Pollution degree : 3

Note

O = NC contact; I = NO contact
 With switching position indicator

Electrical features for 5µm gold-plating, type addition ...AU

Switching voltage: 20mV ... 42V AC/DC
 Switching current: 1mA ... 250mA
 Versions with Faston terminals: use partially or all-insulated Faston clamps

Overtoltage category II (2.5kV), pollution degree 2 for:

- illuminated versions (24 V LED)
- versions with 3rd contact
- versions with NO contacts (I, II, OI)

FRVKP... emergency-stop for hygienic areas
 Tightening torque (fixing nut): 1.0 ... 1.7 Nm
 Degree of protection: IP66/IP67/IP69k* 1)
 Approvals: CE, DGUV-Test
 Mechanical life: 20.000 (20°C)
 >6050 (-25°C)
 >6050 (+70°C)
 B10d/Ld: 150.000
 * 1) Limitation: nozzle distance > 250 mm. Standard requirement acc. to ISO 20653:2013-02 (IPX9K) 100 - 150 mm

Use in hygienic areas:

- Permanently suitable from -30°C to +50°C and with food contact temporarily up to +70°C
 - Migration testing (OML) according to EU regulation no.10/2011 using ethanol (50%) and acetic acid (3%) at 40°C/1h, ethanol (95%) at 40°C/0.5h
 - The emergency stop should be installed in a way to exclude a deposit of residues in its active and non-active state
- FRVK...Z ...emergency-stop for base-plate mounting
 FRVK...LZ ...emergency-stop for base-plate mounting with height compensation for Shortron

Approvals: CE

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Ø 22.3 mm

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

The relating contact block (PTS...) is being plugged into the neck of the actuator head. Spacer sleeves ensure the correct distance between PCB and mounting plate. The screws must be secured against loosening.

FRVK...R... ...red LED
FRVK...RO ...0 ohm series resistor, with protective diode (series-connected)
Attention: The LED must not be operated without series resistor.
(Do not connect terminals X1-X2 directly to voltage)

Observe LED data!
LED cut-off voltage: max. 70 V (with protective diode)
If LED, max: 30 mA
Uf LED, typical: white: 3.2V (20mA) red: 2.0 V (20mA)
FRPVK... FRPVK(Z), FRPVK(O)(OO)(OI)(LOO) FRPVK(OO)(OO)P
Release: pull to release
Max. traction: 160N
Life time: 30.000
B10d/Ld: 170.000/20%
Data acc. to UL
Rating contact block: Silver: B300, 24V DC/3A Gold: 42V DC/100mA
Lamp rating: LED: 30 Vac/Dc (4 mA at 24 V)
NEMA TYPE: 4x indoor (front face)
Operating temperature: 10°C...40°C

General Data

Type reference: FRVKAL(O)(OO)(OOO)(OI)(OOI)(OII)(P)(Z)(LZ)(_AU)(_RO)
Description: Emergency-stop head, aluminium version, foolproof
Approvals: CCC, CE, cURus, TÜV_Süd
Contact type: 1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
Degree of protection: IP65 / IP67
Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material: AgNi / AgNi, gold-plated 5µm (_AU)
Max. storage temperature: -40°C ... 80°C
Max. operating temperature: -25°C ... 70°C
Mechanical life: 50.000
Electrical life (rated load): 50.000 at rated load
Contact resistance NO: < 50 mOhm (new state)
Contact resistance NC: < 50 mOhm (new state)
Bouncing time NC: < 10ms
Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240 V / 120 V	250 V / 125 V / 60 V / 24 V
Rated operating current Ie:	1.5 A / 3 A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5 A	

Additional data

Mounting aperture: 22.3 mm
Tightening torque (mounting nut): 1.3 ... 1.9 Nm
Release: twist release, left or right
Mounting position: any
Standards: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Pollution degree : 3

Reliability data

Ld: 20% (NC)
B10d: 250.000

Note

O = NC contact; I = NO contact
With switching position indicator

Electrical features for 5µm gold-plating, type addition ...AU

Switching voltage: 20mV ... 42V AC/DC
Switching current: 1mA ... 250mA
Versions with Faston terminals: use partially or all-insulated Faston clamps
Versions with 3 contacts: overvoltage category II (2.5kV), pollution degree 2

Data acc. to UL
Rating contact block: Silver: B300, 24V DC/3A Gold: 42V DC/100mA
Lamp rating: LED: 30 Vac/Dc (4 mA at 24 V)
NEMA TYPE: 4x indoor (front face)

General Data

Type reference:	S(VA)(SW)(T)(TLR _x)(WA)(WB)(SSA...)(N)(STA)(STB)(L)(x)(I)(II)(O)(OO)(OI)(P)(L)AU
Description:	Pushbuttons and switches, flat/raised version, with faston/PCB connection
Approvals:	CCC, CE, cURus, DNVGL, ENEC10, VDE, CE
Contact type:	2NC / 1NC+1NO / 2 NO / 1NO / 1NC
Degree of protection:	IP65 / IP67 (T, TLR, N) IP65 (SSA, STA, STB, WA, WB)
Operation travel:	2.3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 million sw.-cycl. (T,TLR) 30.000(WA,WB,STA,SSA)
Electrical life (rated load):	1 million switching cycles (T,TLR) 30.000(WA,WB,STA,SSA)
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current AC15 B300	direct current DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240 V / 120 V	250 V / 125 V / 60 V / 24 V
Rated operating current Ie:	1.5 A / 3 A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED white
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14 mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional data

Mounting aperture:	22.3 mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 60947-5-1, EN 61058-1

Electrical features - 5µm gold-plating, type addition ...AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 100mA
Contact resistance (new state):	< 50 mOhm

Note

- O = NC contact; I= NO contact
- T...pushbutton
- TLR(x)...pushbutton with LED ring (x=colour: W,R,Y,G,B)*2
- N...pilot light
- SSA...key actuator
- STA, STB...selector switch momentary
- WA, WB...selector switch maintained
- Basic version with Faston terminals 2.8x0.8mm
- (P) = type with PCB-mount terminals
- DC13: > 100.000 switching cycles
- Versions with Faston terminals: use partially or all-insulated Faston clamps

Overvoltage category II (2.5kV), pollution degree 2 for:

- illuminated versions (24 V LED)
- versions with 3rd contact
- versions with NO contacts (I, II, OI)

This data sheet is not applicable for the types "S..C.." (tactile versions of the Shortron range)

*2 with ring illumination

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

General Data

Type reference:	FRVKD(O)(OO)(OI)(P)(L)AU
Description:	Emergency-stop, active/inactive (without diagnostic device)
Approvals:	CE, cURus, TÜV_Süd
Contact type:	1NC/2NC/1NC+1NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm (L)AU
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50.000
Electrical life (rated load):	50.000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5 A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5 A	2.5 A

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Definition:	X1...anode, X2...cathode

Additional data

Mounting aperture:	22.3 mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
Ld:	20% (NC)
B10d:	250.000
Overvoltage category:	II
Pollution degree :	2
Material group:	I

Note

- = NC contact; I = NO contact
- with switching position indicator
- a diagnostic unit is not included

Electrical features - 5µm gold-plating (type addition ...AU)

Switching voltage	20mV ... 35V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals, use partially or fully insulated Faston clamps.

Illuminated version, status indication active/inactive: acc. to ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05

Mushroom "grey": "inactive", no emergency-stop

Mushroom "red": "active" emergency-stop

Technical Data of LED:

Type: Opto Devices

Typical data at IF=20mA:

Luminous intensity:	min. 10,000 mcd, typical 13,000 mcd
Beam angle:	typical 15°
Dominant wavelength:	618...624 nm, typical 621 nm
Rated voltage:	24 V DC ± 10%
Rated current:	17.8 mA (15.6...19.95mA)
Typical luminous intensity at IF=18mA:	min. 9000 mcd, typical 11700 mcd
LED cut-off voltage:	max. 70V
Average life:	approx. 80,000...100,000h

Safety Instructions:

- The emergency stop must only be used when lighting conditions ensure clear and distinct visibility of the red illuminated (active) mushroom, e.g. in interiors or roofed places without direct sunlight (normal industrial environment);
- Before using the emergency stop, a systematic safety review of the overall system is required.
- Depending on the designer's risk assessment, the emergency stop lighting must be monitored by means of a "diagnostic unit", and in case of error one has to react in accordance with the risk evaluation.
- The emergency stop lighting must be checked at regular intervals to ensure its clear and distinct visibility.
- The emergency stop must be replaced if the clear visibility is no longer guaranteed.
- Please observe the operation manual

Standard compliant applications:

- pluggable operator stations
- wireless operator stations
- pluggable system components (fixed system components which are only temporarily in operation)

Data acc. to UL

Rating:

Category:

Pilot duty B300; 24Vdc/3A; Au: 42Vdc/100mA
NISD2/8

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

General Data

Type reference:	SVACFT(L)(X)(F)(P)
Description:	Single membrane pushbutton with integrated contact block, with Faston or PCB-mount terminals
Approvals:	CE, cURus, DGUV_Test, DNVGL, ENEC10, VDE, CE
Contact type:	1 inverter
Degree of protection:	IP66 / IP67 / IP69K
Operation travel:	1.8 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 million switching cycles (20°C)
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED white
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14 mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional data

Mounting aperture:	22.3 mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 61058-1

Electrical features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

Kind of contact 1W=1 inverter	
SVACFT(L)(X)(F)(P) ()...optional	
(L) = illumination option	
(X) = colour membrane ring, standard=black (W=white, R=red, Y=yellow, G=green, B=blue)	
(F) = with Faston terminals 2.8x0.8 mm	
(P) = with PCB-mount terminals	
Data acc. to UL508	
Rating:	20mV...48V AC/DC, 0.01mA...100mA , max. 250mW

General Data

Type reference: S(VA)(SW)C(T)(TLR){...}(L){x}(F)
 Description: Tactile Short-stroke Pushbutton with integrated contact block, flat/high version, with Faston or PCB-mount terminals
 Approvals: CCC, CE, cURus, DNVGL, ENEC10, VDE, CE
 Contact type: 1 inverter
 Degree of protection: IP65 / IP67
 Operation travel: 2.3 mm
 Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 1 million switching cycles
 Electrical life (rated load): 1 million operations
 Contact resistance NO: < 50 mOhm (new state)
 Contact resistance NC: < 100 mOhm (new state)
 Bouncing time NC: < 10ms

Technical Data - Lamp

Lamp socket: none, with integrated 3 mm LED white
 Max. lamp voltage: 30 V AC/DC
 Max. lamp output: 14 mA (at 24 V DC)
 Definition: X1...anode, X2...cathode

Additional data

Mounting aperture: 22.3 mm
 Tightening torque (mounting nut): 1.5 ... 1.9 Nm
 Mounting position: any
 Standards: EN 61058-1

Electrical features

Rated voltage: 20mV ... 48V AC/DC
 Rated current: 0.01mA ... 100mA

Note

Kind of contact 1W=1 inverter
 Basic version with PCB-mount terminals
 T(L) ...pushbutton (illumination option)
 TLR(x) ...pushbutton with LED ring (x=colour: W,R,Y,G,B)*2
 (F) ...type with Faston terminals 2.8x0.8mm
 *2 with ring illumination

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48 V	48 V
Rated operating current Ie:	0.1 A	0.1 A
Continuous thermal current:	100 mA	100 mA

Note

GB14048.5-2008 (IEC60947-5-1)
 Data acc. to UL508
 Rating: 20mV...48V AC/DC, 0.01mA...100mA , max. 250mW

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

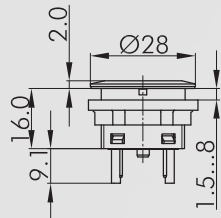
Pushbuttons

Illustration

Dimensions

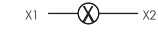
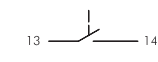
IP65
IP67

2.3mm

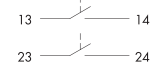


Illuminated pushbutton

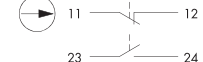
incl. white LED
Faston terminals 2.8x0.8 mm



0 1 2



0 1 2



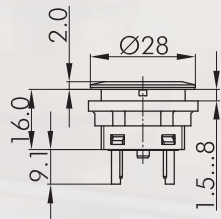
0 1 2



front bezel	1NO	2NO	1NC + 1NO
silver-coloured	STLI	STLII	STLOI
black	SSWTLI	SSWTLII	SSWTLOI
stainless steel, polish	SVATLI	SVATLII	SVATLOI

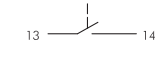
IP65
IP67

2.3mm



Pushbutton

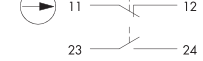
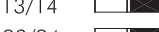
Faston terminals 2.8x0.8 mm



0 1 2



0 1 2



0 1 2

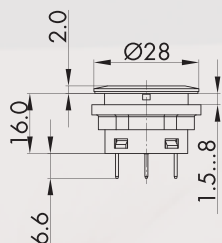


front bezel	1NO	2NO	1NC + 1NO
silver-coloured	STI	STII	STOI
black	SSWTI	SSWTII	SSWTOI
stainless steel, polish	SVATI	SVATII	SVATOI

Pushbuttons

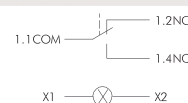
Illustration

Dimensions

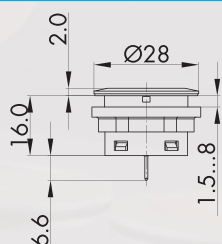


Tactile pushbutton, illuminated

incl. white LED
with gold-plated contacts
Faston terminals 2.8x0.8 mm



front bezel		1 inverter
silver-coloured		SCTLF
black		SSWCTLF
stainless steel, polish		SVACTLF



Tactile pushbutton

with gold-plated contacts
Faston terminals 2.8 mm



front bezel		1 inverter
silver-coloured		SCTF
black		SSWCTF
stainless steel, polish		SVACTF

Accessories



Flat lens, transparent

colour:	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opal white		T22RRWS

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index






Accessories for Pushbuttons and Switches

Illustration

Dimensions



High lens, transparent

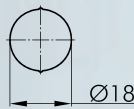
colour:	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opal white		T22HRRWS



Flat lens, non-transparent

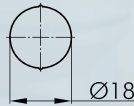
for pushbuttons without inscription and illumination

colour:	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS
	silver-coloured		T22RRGM



Blank nameplate

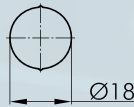
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB

IP67



Sealing cap

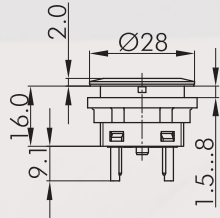
made of silicone rubber, down to -50°C

TK28S

Pushbuttons

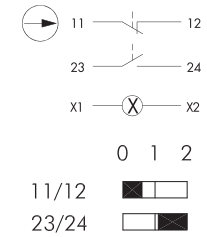
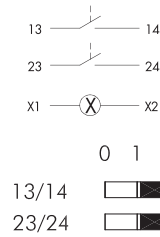
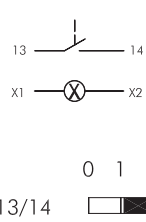
Illustration

Dimensions



Pushbutton with ring illumination

incl. lens and white LED
Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	1NO	2NO	1NC + 1NO
silver-coloured	white	STLRWI	STLRWII	STLRWOI
silver-coloured	red	STLRRI	STLRRII	STLRROI
silver-coloured	green	STLRGI	STLRGII	STLRGOI
silver-coloured	yellow	STLRYI	STLRYII	STLRYOI
silver-coloured	blue	STLRBI	STLRBII	STLRBOI
black	white	SSWTLRWI	SSWTLRWII	SSWTLRWOI
black	red	SSWTLRRI	SSWTLRRII	SSWTLRROI
black	green	SSWTLRGI	SSWTLRGII	SSWTLRGOI
black	yellow	SSWTLRYI	SSWTLRYII	SSWTLRYOI
black	blue	SSWTLRBI	SSWTLRBII	SSWTLRBOI
stainless steel, polished	white	SVATLRWI	SVATLRWII	SVATLRWOI
stainless steel, polished	red	SVATLRRI	SVATLRRII	SVATLRROI
stainless steel, polished	green	SVATLRGI	SVATLRGII	SVATLRGOI
stainless steel, polished	yellow	SVATLRYI	SVATLRYII	SVATLRYOI
stainless steel, polished	blue	SVATLRBI	SVATLRBII	SVATLRBOI

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

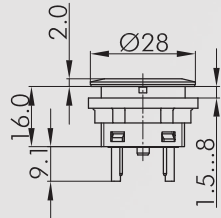
Pushbuttons

Illustration

Dimensions

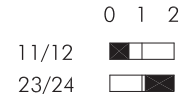
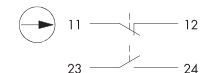
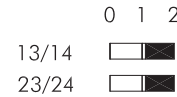
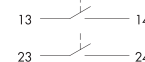
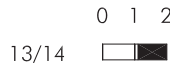
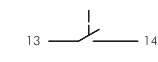
IP65
IP67

2,3mm



Pushbutton with ring illumination and inscription

incl. lens and white LED
standard imprints see nameplates from page 634 (please specify index no.)
special inscription on request
Faston terminals 2.8x0.8 mm

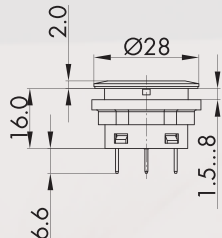


front bezel	illuminated ring	1NO	2NO	1NC + 1NO
silver-coloured	white	STLRWI...	STLRWII...	STLRWOI...
silver-coloured	red	STLRRI...	STLRRII...	STLRROI...
silver-coloured	green	STLRGI...	STLRGII...	STLRGOI...
silver-coloured	yellow	STLRYI...	STLRYII...	STLRYOI...
silver-coloured	blue	STLRBI...	STLRBII...	STLRBOI...
stainless steel, polished	white	SVATLRWI...	SVATLRWII...	SVATLRWOI...
stainless steel, polished	red	SVATLRRI...	SVATLRRII...	SVATLRROI...
stainless steel, polished	green	SVATLRGI...	SVATLRGII...	SVATLRGOI...
stainless steel, polished	yellow	SVATLRYI...	SVATLRYII...	SVATLRYOI...
stainless steel, polished	blue	SVATLRBI...	SVATLRBII...	SVATLRBOI...

Pushbuttons

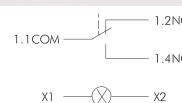
Illustration

Dimensions



Tactile pushbutton with ring illumination

incl. white LED
with gold-plated contacts
Faston terminals 2.8x0.8 mm



front bezel		illuminated ring		1 inverter
silver-coloured		white		SCTLRWF
silver-coloured		red		SCTLRRF
silver-coloured		green		SCTLRGF
silver-coloured		yellow		SCTLRYF
silver-coloured		blue		SCTLRBF
black		white		SSWCTLRWF
black		red		SSWCTLRRF
black		green		SSWCTLRGF
black		yellow		SSWCTLRYF
black		blue		SSWCTLRBF
stainless steel, polished		white		SVACTLRWF
stainless steel, polished		red		SVACTLRRF
stainless steel, polished		green		SVACTLRGF
stainless steel, polished		yellow		SVACTLRYF
stainless steel, polished		blue		SVACTLRBF

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

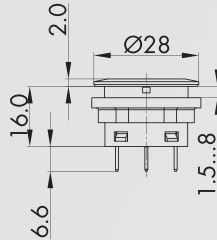
Type Index

Pushbuttons

Illustration

Dimensions

IP65
IP67



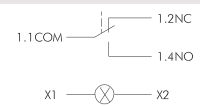
Illuminated tactile pushbutton with ring illumination and laser printing

incl. lens and white LED

standard imprints see nameplates from page 634 (please specify index no.)

special inscription on request

Faston terminals 2.8x0.8 mm

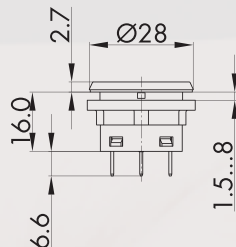


front bezel	illuminated ring	1 inverter
silver-coloured	white	SCTLRWF...
silver-coloured	red	SCTLRRF...
silver-coloured	green	SCTLRGF...
silver-coloured	yellow	SCTLRYF...
silver-coloured	blue	SCTLRBF...
stainless steel, polished	white	SVACTLRWF...
stainless steel, polished	red	SVACTLRRF...
stainless steel, polished	green	SVACTLRGF...
stainless steel, polished	yellow	SVACTLRYF...
stainless steel, polished	blue	SVACTLRBF...

Membrane Pushbuttons

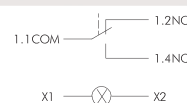
Illustration

Dimensions

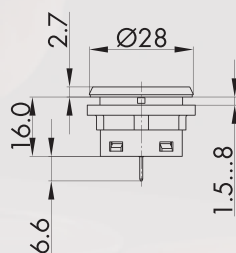


Illuminated tactile membrane pushbutton made of stainless steel V4A

combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate standard inscription (see from page 634) or special imprints on request incl. white LED with gold-plated contacts Faston terminals 2.8x0.8 mm



front bezel		front ring		1 inverter
black		black		SSWCFTLF
stainless steel, polished		black		SVACFTLF

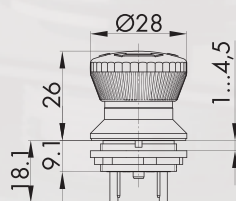


Tactile membrane pushbutton made of stainless steel V4A

combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate standard inscription (see from page 634) or special imprints on request with gold-plated contacts Faston terminals 2.8x0.8 mm

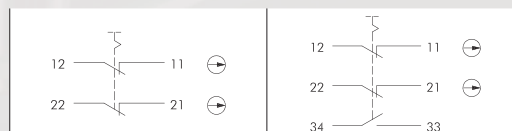


front bezel		front ring		1 inverter
black		black		SSWCFTF
stainless steel, polished		black		SVACFTF



Emergency-stop 2NC+1NO

Foolproof: yes
Switching position indicator: yes



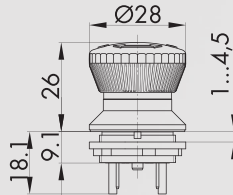
front bezel		mushroom head		2NC	2NC + 1NO
yellow		red		FRVKOO	FRVKOOI

Emergency-Stops

Illustration

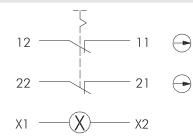
Dimensions

IP65
IP67



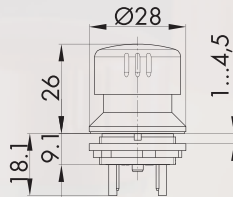
Illuminated emergency-stop

Foolproof: yes



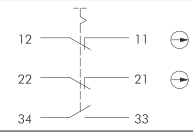
front bezel	mushroom head	2NC
yellow	red	FRVKLOO

IP65
IP67



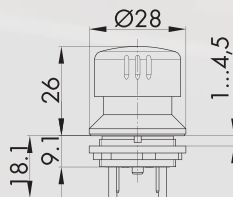
Emergency-stop made of aluminium for robust applications

Foolproof: yes



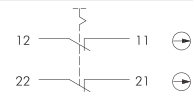
front bezel	mushroom head	2NC + 1NO
yellow	red	FRVKALOOI

IP65
IP67



Emergency-stop made of aluminium for robust applications

Foolproof: yes

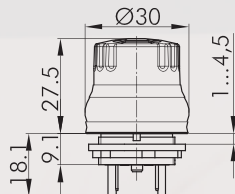


front bezel	mushroom head	2NC
yellow	red	FRVKALOO

Emergency-Stops

Abbildung

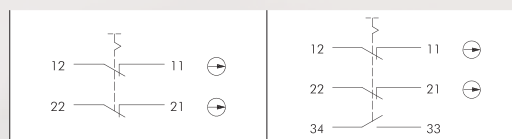
Abmessungen



Emergency-stop for hygienic applications 2NC+1O

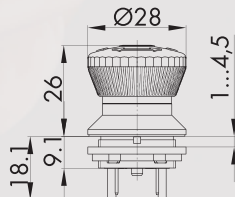
hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 6

Foolproof: yes
Switching position indicator: no



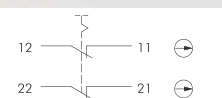
front bezel	mushroom head	2NC	2NC + 1NO
yellow	red	FRVKPOO	FRVKPOOL

IP65
IP67



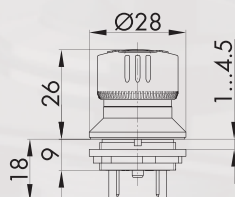
Not-Halt-Taster mit Zug- und Drehentriegelung

Foolproof: yes



front bezel	mushroom head	2O
yellow	red	FRZVKOO

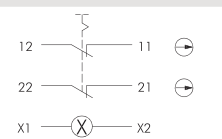
IP65
IP67



Active illuminated safety emergency-stop with position indication active/inactive

delivery without diagnostic unit for LED monitoring
LED: 24V DC/18mA

Foolproof: yes



front bezel	Mushroom head	2NC
yellow	red/grey	FRVKDOO

Über uns

Befehlsgeräte

→ Betätiger

Einbaubuchsen

Not-Halt-Fasten

Bussysteme

RTID

Gehäuse

Fußschalter

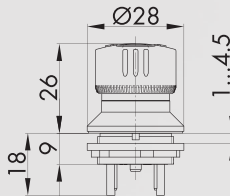
Reihenklappen

Typenindex

Accessories for Pushbuttons and Switches

Illustration

Dimensions



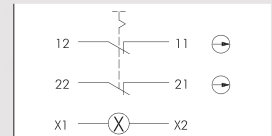
Active illuminated emergency-stop with status indication active (illuminated) / inactive (non-illuminated)

- red illuminated emergency-stop (active) acc. to EN ISO 13850:2015
- LED with 0-ohm resistor
- delivery without external LED monitoring
- less mounting depth
- 2 NC

Possible applications, e.g.:

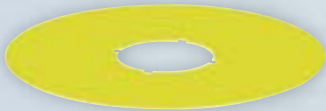
- pluggable or wireless operator stations
- pluggable system components which are stationary available but only temporarily in operation

Foolproof: yes



front bezel	Mushroom head	2NC
yellow	red/grey	FRVKDOO_R0

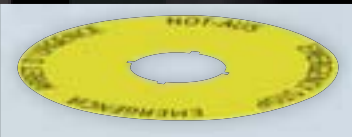
Accessories



Yellow nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22.3 mm

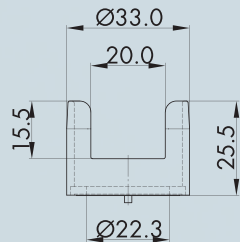
colour: yellow NAS_22



Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow NAS_22_548



Protective shroud



colour: yellow RRSK

Potentiometers

Illustration

Dimensions



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8

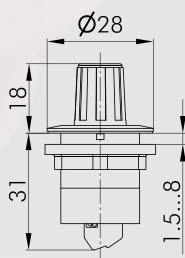


Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

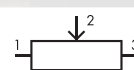
FH2,8

IP66
IP69K



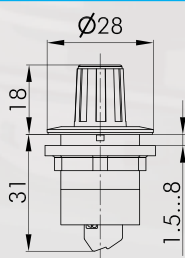
Potentiometer 1 kOhm

- with 1 kOhm potentiometer
- rotation angle 260°
- with integrated scale
- 100.000 cycles
- operating temperature -20°C ... 70°C
- screw connection



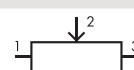
front bezel		
silver-coloured		SR1K
black		SSWR1K
stainless steel, polished		SVAR1K

IP66
IP69K



Potentiometer 5 kOhm

- with 5 kOhm potentiometer
- rotation angle 260°
- with integrated scale
- 100.000 cycles
- operating temperature -20°C ... 70°C
- screw connection



front bezel		
silver-coloured		SR5K
black		SSWR5K
stainless steel, polished		SVAR5K

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

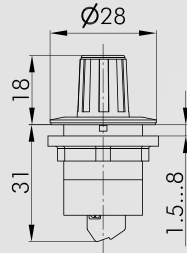
Type Index

Potentiometers

Illustration

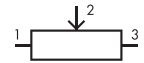
Dimensions

IP66
IP69K



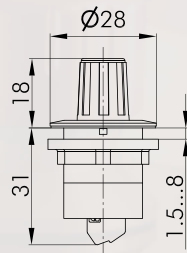
Potentiometer 10 kOhm

- with 10 kOhm potentiometer
 - rotation angle 260°
 - with integrated scale
 - 100.000 cycles
 - operating temperature -20°C ... 70°C
- screw connection



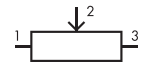
front bezel		
silver-coloured		SR10K
black		SSWR10K
stainless steel, polished		SVAR10K

IP66
IP69K



Potentiometer 50 kOhm

- with 50 kOhm potentiometer
 - rotation angle 260°
 - with integrated scale
 - 100.000 cycles
 - operating temperature -20°C ... 70°C
- screw connection



front bezel		
silver-coloured		SR50K
black		SSWR50K
stainless steel, polished		SVAR50K

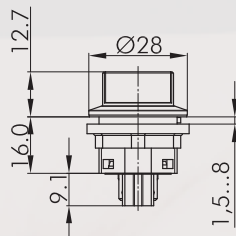
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

Dimensions

IP65



Selector switch, maintained

Faston terminals 2.8x0.8 mm



 L M R 	 L M R
2NO	1NC + 1NO
front bezel	
silver-coloured	SWBII
black	SSWWBII
stainless steel, polished	SVAWBII



 L R 	 L R 	 L R
1NO	2NO	1NC + 1NO
front bezel		
silver-coloured	SWAI	SWAOI
black	SSWWAI	SSWWAOI
stainless steel, polished	SVAWAI	SVAWAOI

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

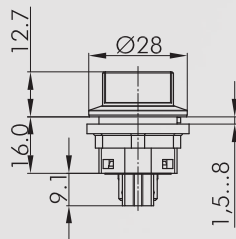
Selector Switches (momentary/maintained)

| = Switching position
> = Spring return

Illustration

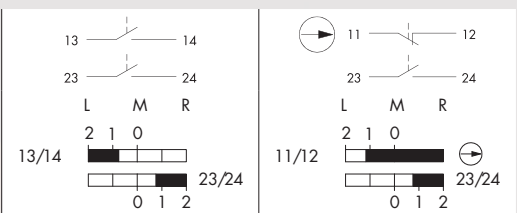
Dimensions

IP65

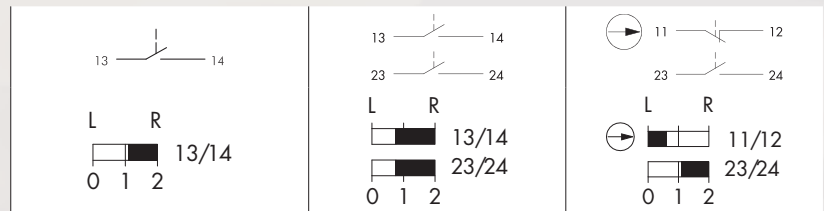


Selector switch, momentary

Faston terminals 2.8x0.8 mm

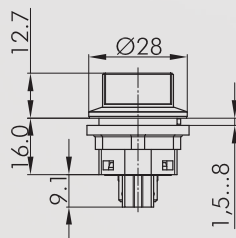


front bezel		2NO	1NC + 1NO
silver-coloured		SSTBII	SSTBOI
black		SSWSTBII	SSWSTBOI
stainless steel, polished		SVASTBII	SVASTBOI



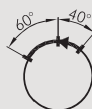
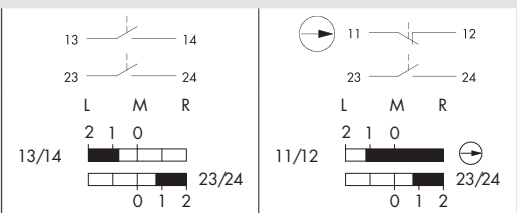
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSTAI	SSTAI	SSTAOI
black		SSWSTAI	SSWSTAI	SSWSTAOI
stainless steel, polished		SVASTAI	SVASTAI	SVASTAOI

IP65



Selector switch, left maintained, right momentary

Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SWCII	SWCOI
black		SSWWCII	SSWWCOI
stainless steel, polished		SVAWCII	SVAWCOI

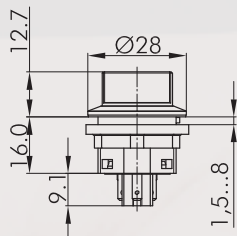
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

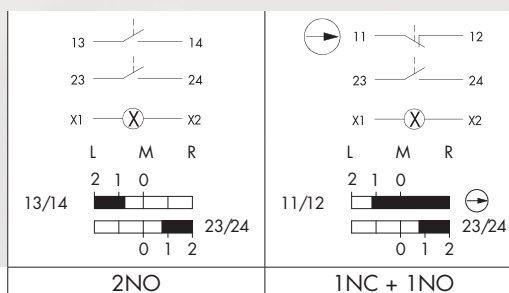
Dimensions

IP65

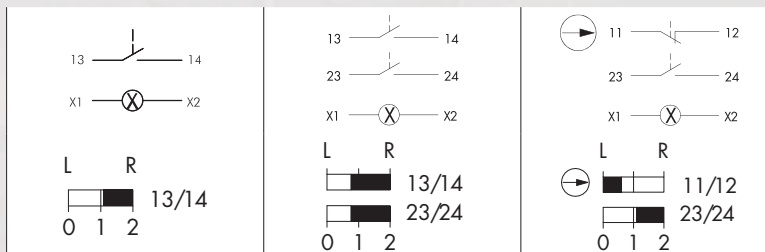


Illuminated selector switch, maintained

Faston terminals 2.8x0.8 mm



<i>front bezel</i>			
silver-coloured		SWBLII	SWBLOI
black		SSWWBLII	SSWWBLOI
stainless steel, polished		SVAWBLII	SVAWBLOI



<i>front bezel</i>			
silver-coloured		SWALI	SWALOI
black		SSWWALI	SSWWALOI
stainless steel, polished		SVAWALI	SVAWALOI

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

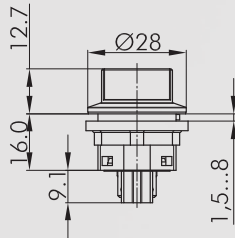
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

Dimensions

IP65

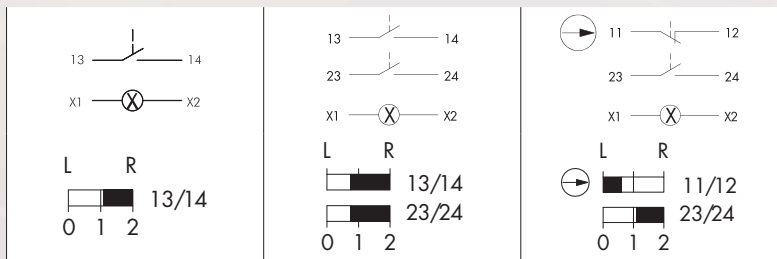
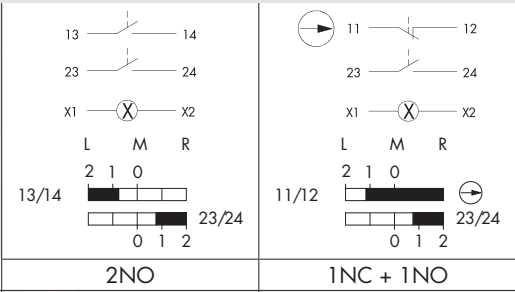


Illuminated selector switch, momentary

Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SSTBLII	SSTBLOI
black		SSWSTBLII	SSWSTBLOI
stainless steel, polished		SVASTBLII	SVASTBLOI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSTALI	SSTALII	SSTALOI
schwarz		SSWSTALI	SSWSTALII	SSWSTALOI
stainless steel, polished		SVASTALI	SVASTALII	SVASTALOI

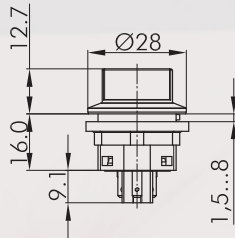
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

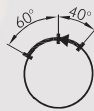
Dimensions

IP65



Illuminated selector switch, left maintained, right momentary

Faston terminals 2.8x0.8 mm



front bezel

silver-coloured		SWCLII
black		SSWWCLII
stainless steel, polished		SVAWCLII

2NO	1NC + 1NO

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

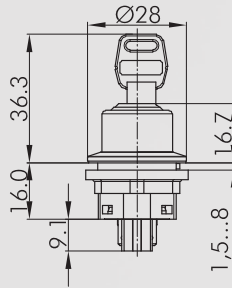
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

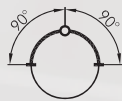
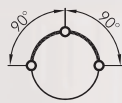
Dimensions

IP65



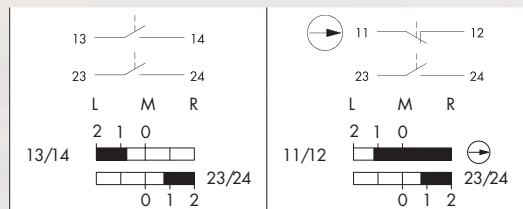
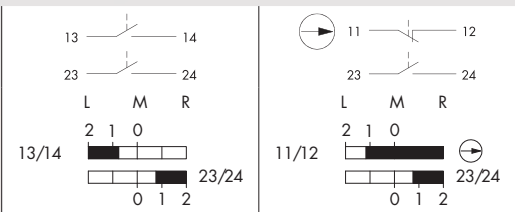
Key-operated switch, maintained

including two keys
other lock types on request
Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SSSA12II	SSSA12OI
black		SSWSSA12II	SSWSSA12OI
stainless steel, polished		SVASSA12II	SVASSA12OI

front bezel		2NO	1NC + 1NO
silver-coloured		SSSA13II	SSSA13OI
black		SSWSSA13II	SSWSSA13OI
stainless steel, polished		SVASSA13II	SVASSA13OI



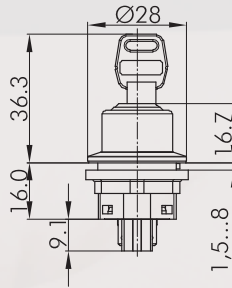
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

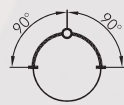
Dimensions

IP65

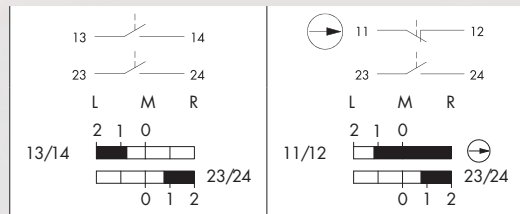


Key-operated switch, maintained (3 different keys)

including three keys
1st key: two-way operation
2nd key: operation only to the left
3rd key: operation only to the right
Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SSSA31II	SSSA31OI
black		SSWSSA31II	SSWSSA31OI
stainless steel, polished		SVASSA31II	SVASSA31OI



About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

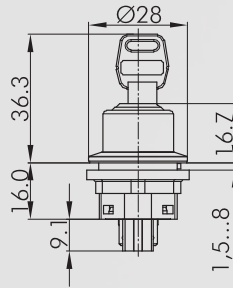
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

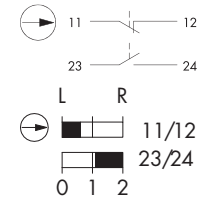
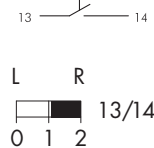
Dimensions

IP65



Key-operated switch, maintained

including two keys
other lock types on request
Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA14I	SSSA14II	SSSA14OI
black		SSWSSA14I	SSWSSA14II	SSWSSA14OI
stainless steel, polished		SVASSA14I	SVASSA14II	SVASSA14OI



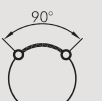
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA15I	SSSA15II	SSSA15OI
black		SSWSSA15I	SSWSSA15II	SSWSSA15OI
stainless steel, polished		SVASSA15I	SVASSA15II	SVASSA15OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA16I	SSSA16II	SSSA16OI
schwarz		SSWSSA16I	SSWSSA16II	SSWSSA16OI
stainless steel, polished		SVASSA16I	SVASSA16II	SVASSA16OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA17I	SSSA17II	SSSA17OI
black		SSWSSA17I	SSWSSA17II	SSWSSA17OI
stainless steel, polished		SVASSA17I	SVASSA17II	SVASSA17OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA18I	SSSA18II	SSSA18OI
black		SSWSSA18I	SSWSSA18II	SSWSSA18OI
stainless steel, polished		SVASSA18I	SVASSA18II	SVASSA18OI

Accessories



Spare keys
please specify key number

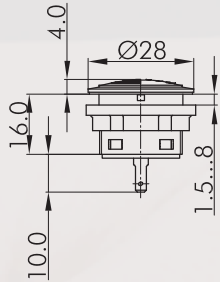
ESMIC...

Buzzers/Pilot Lights

Illustration

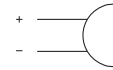
Dimensions

IP65



Buzzer

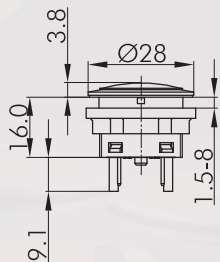
operating voltage: 24V DC
 operating current: 10mA
 signal frequency: 4.1 +/- 0.5 kHz
 volume: max. 83 db (10cm)
 operating temperature: -20°C ... 70°C
 Faston terminals 2.8x0.8 mm



front bezel		
silver-coloured		SNSG+SG-24V
black		SSWNSG+SG-24V
stainless steel, polished		SVANSG+SG-24V

IP65

IP67



Pilot light

incl. white LED
 Faston terminals 2.8 mm



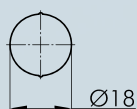
front bezel		
silver-coloured		SNL
black		SSWNL
stainless steel, polished		SVANL

Accessories



Lens

colour:	blue		K22RRBL
	yellow		K22RRGB
	green		K22RRGN
	clear		K22RRKL
	red		K22RRRT
	opal white		K22RRWS



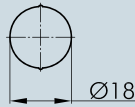
Blank nameplate

BSRRU

Accessories for Contact Blocks

Illustration

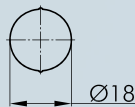
Dimensions



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB



Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

FH2,8



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8



Spacer ring

suitable for the Shortron series
for panel thickness from 0.5 to 2.5 mm

colour: silver-coloured
black



SDR
SDRSW



Mounting tool 22

with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-QJUWEL

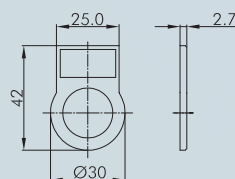
S22



Mounting tool adapter with 1/4" connections

for mounting tools S16 and S22

SRA



External nameplate holder

for self-adhesive outside marking of the actuators of the RONTRON-RJUWEL, SHORTRON series (except selector and key switches) to snap on from the front

colour: transparent



RRJABT

Self-adhesive nameplate laser-printed

inscription according to customer's specification
dimensions: 22 x 11 mm

BZ16L...

Accessories for Contact Blocks

Illustration

Dimensions



Self-adhesive nameplate blank

BZ16U

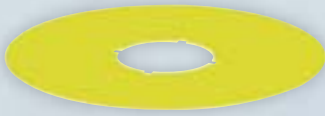
dimensions: 22 x 11 mm



Self-adhesive nameplate with standard imprint

BZ16B...

please specify index number(see nameplates from page 634)
dimensions: 22 x 11 mm



Yellow nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22



Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22_548



Universal lens remover

USK

IP40



Lead-sealable protective lid

colour: transparent



KDP22RR

IP65
IP67



Lead-sealable, robust, tight protective lid

colour: transparent
black



**KDPR22RR
KDPR22RR_SW**

IP67



Protective lid made of TPE

colour: black



AK22RRSW



Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm/1.8 mm



SHORTTRON-Zwischenbau

 Product configurator



Shortron® base-plate mounting

MADE IN GERMANY



Ø 22.3 mm

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

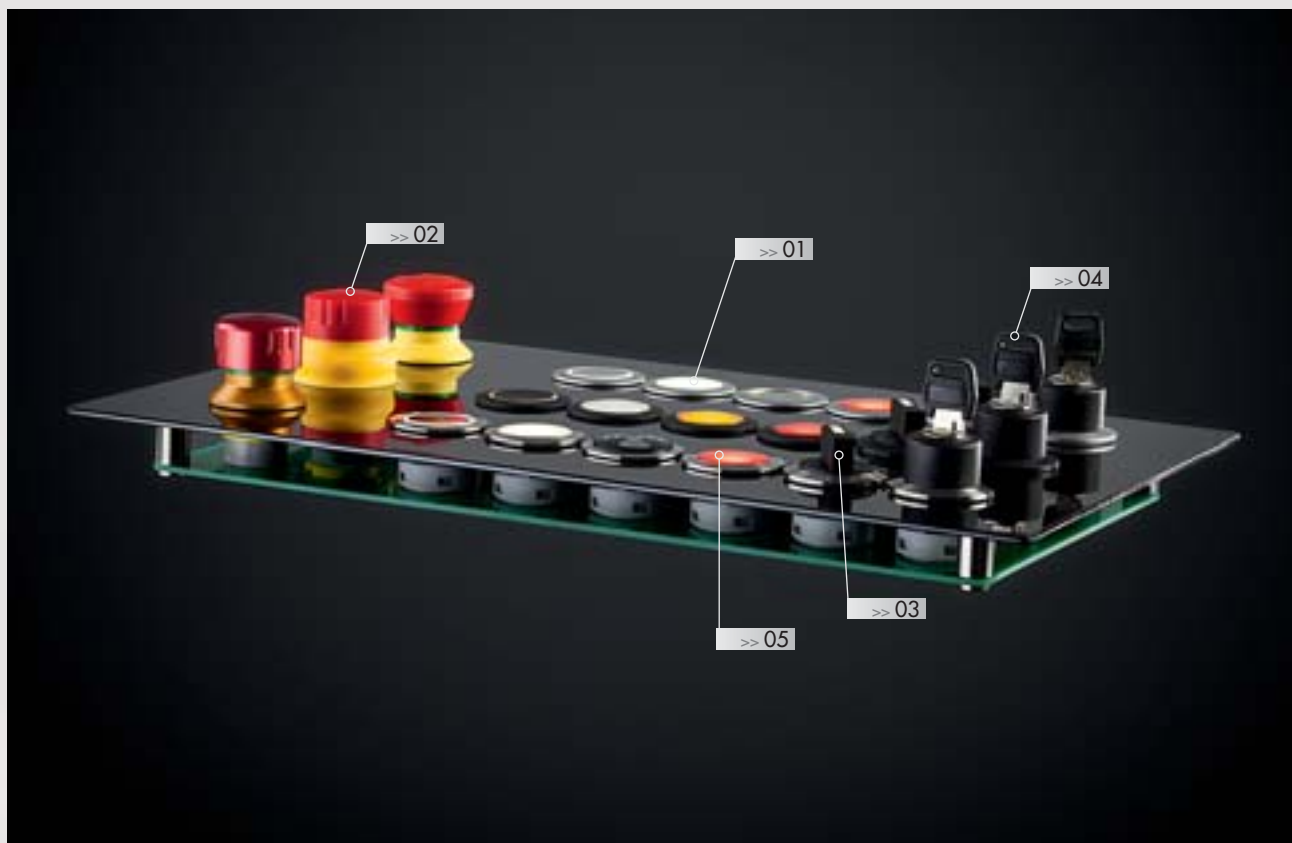
Enclosures

Pedal Switches

Terminal Blocks

Type Index

Overview - SHORTRON series for base-plate mounting



- | | |
|----------------------------|----------|
| 01 Pushbutton heads | page 163 |
| 02 Emergency-stop heads | page 166 |
| 03 Selector heads | page 170 |
| 04 Key actuators | page 171 |
| 05 Pilot light heads | page 173 |
| Contact blocks/lampholders | page 520 |

Housing colours (silver-coloured, black, polished stainless steel)



degree of protection



operating travel



tactile

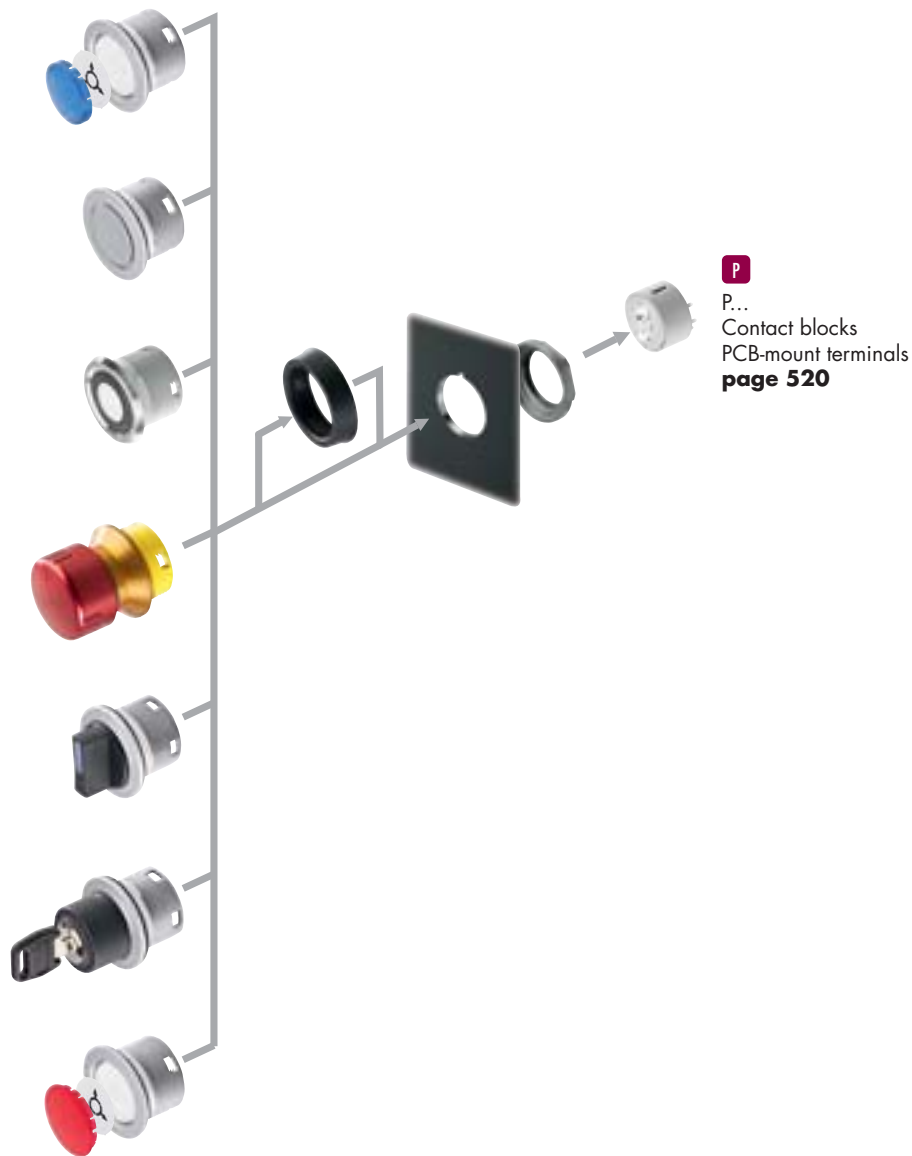


illuminating option

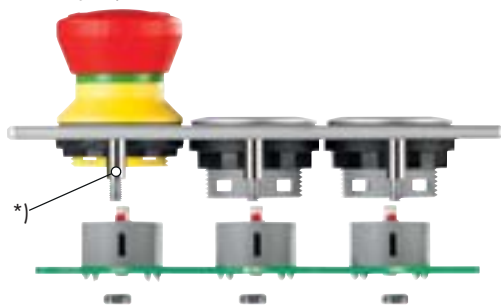


labelling option



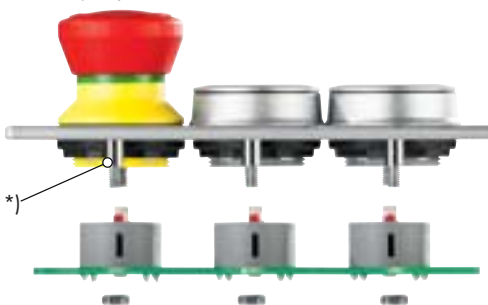


base-plate mounting
mounting depth 16.2 mm



*) spacer sleeves required (length see mounting depth dimensions)

base-plate mounting using a spacer ring SDR/SDRSW
mounting depth 9.2 mm



Shortron® base-plate mounting

MADE IN GERMANY



Ø 22.3 mm

About Us

← Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

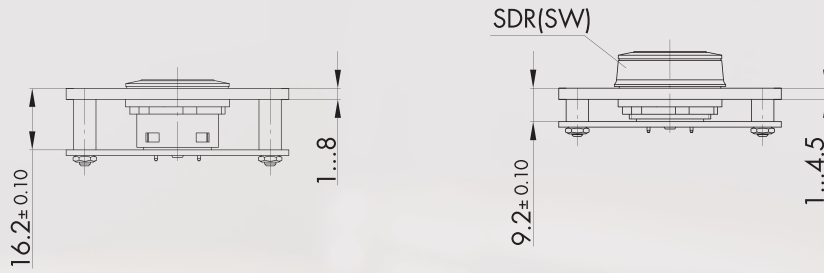
Enclosures

Pedal Switches

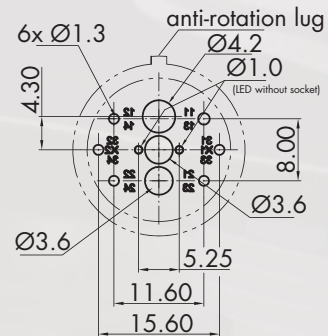
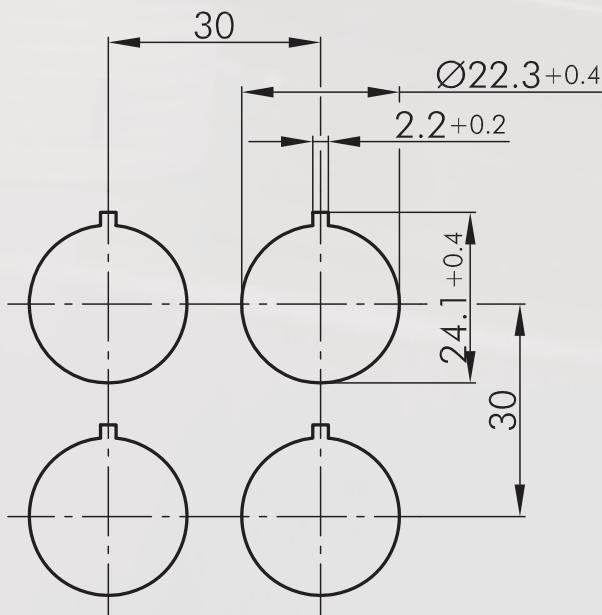
Terminal Blocks

Type Index

Mounting depth dimensions



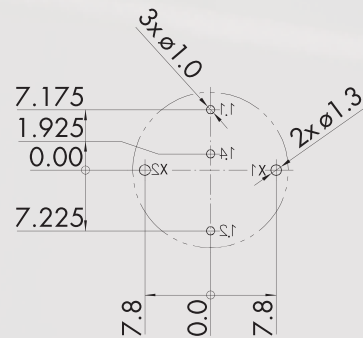
Cutout dimensions



Component side view

Contact assignment: see wiring scheme of the relevant types

PCT...



Pushbuttons

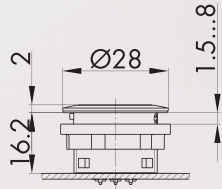
lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton head

suitable contact blocks:

P		
front bezel:	silver-coloured	
	black	
	stainless steel, polished	

ST
SSWT
SVAT

Accessories



Flat lens, transparent

colour:	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opal white		T22RRWS



High lens, transparent

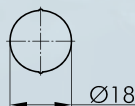
colour:	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opal white		T22HRRWS



Flat lens, non-transparent

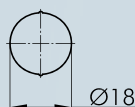
for pushbuttons without inscription and illumination

colour:	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS



Blank nameplate

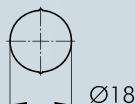
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB

Shortron® base-plate mounting

Ø 22.3 mm

About Us

← Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons

Illustration

Dimensions

Description

Type

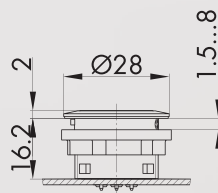
IP67



Sealing cap

made of silicone rubber, down to -50°C

TK28S



Pushbutton head with ring illumination

incl. lens

suitable contact blocks:

P

front bezel:	black		
illuminated ring:	white		SSWTLRW
illuminated ring:	red		SSWTLRR
illuminated ring:	green		SSWTLRG
illuminated ring:	yellow		SSWTLRY
illuminated ring:	blue		SSWTLRB
front bezel:	silver-coloured		
illuminated ring:	white		STLRW
illuminated ring:	red		STLRR
illuminated ring:	green		STLRG
illuminated ring:	yellow		STLRY
illuminated ring:	blue		STLRB
front bezel:	stainless steel, polished		
illuminated ring:	white		SVATLRW
illuminated ring:	red		SVATLRR
illuminated ring:	green		SVATLRG
illuminated ring:	yellow		SVATLRY
illuminated ring:	blue		SVATLRB

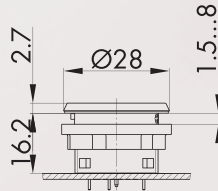
Membrane Pushbuttons

Illustration

Dimensions

Description

Type




Membrane pushbutton head

combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate standard inscription (see from page 634) or special imprints on request

only to be combined with PCT... contact blocks

suitable contact blocks:

P

front bezel: stainless steel, polished 

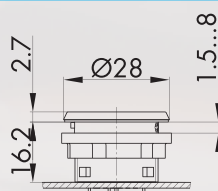
Front ring: black 

SVACFT

IP66

IP67

IP69K



Membrane pushbutton head, black


combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate standard inscription (see from page 634) or special imprints on request

only to be combined with PCT... contact blocks

suitable contact blocks:

P

front bezel: black 

Front ring: black 

SSWCFT

Emergency-Stops

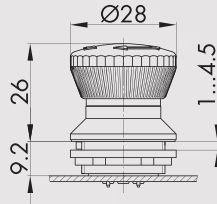
Illustration

Dimensions

Description

Type

IP65
IP67



Emergency-stop head for 9.2 mm mounting depth

ATTENTION: may not be used for illuminated contact blocks

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

P

front bezel: yellow

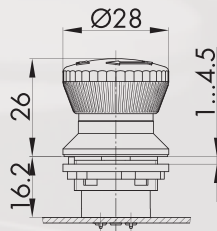


Mushroom head: red



FRVK

IP65
IP67



Emergency-stop head for 16.2 mm mounting depth

ATTENTION: not suitable for illuminated contact units!

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

P

front bezel: yellow

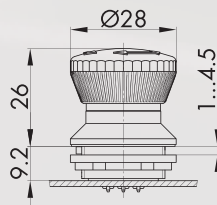


Mushroom head: red



FRVKZ

IP65
IP67



Illuminated emergency-stop head for 9.2mm mounting depth

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

P

front bezel: yellow



Mushroom head: red



FRVKL

Emergency-Stops

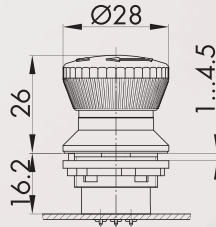
Illustration

Dimensions

Description

Type

IP65
IP67



Illuminated emergency-stop head for 16.2 mm mounting depth

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



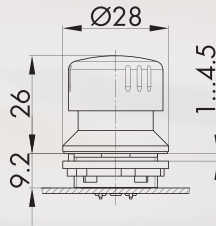
suitable contact blocks:

P

front bezel: yellow
Mushroom head: red

FRVKZL

IP65
IP67



Emergency-stop head made of aluminium for robust applications for 9.2 mm mounting depth

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



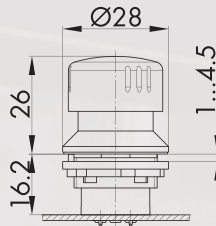
suitable contact blocks:

P

front bezel: yellow
Mushroom head: red

FRVKAL

IP65
IP67



Emergency-stop head made of aluminium for robust applications for 16.2 mm mounting depth

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

P

front bezel: yellow
Mushroom head: red

FRVKZAL

Ø 22.3 mm

About Us

← Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Emergency-Stops

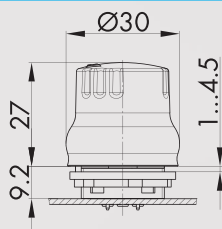
Illustration

Dimensions

Description

Type

IP66



Emergency-stop head for hygienic applications for 9.2 mm mounting depth

hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 6

Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

P

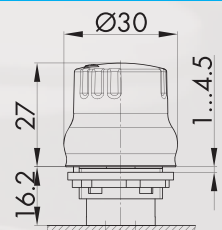
front bezel: yellow

Mushroom head: red



FRVKP

IP66



Emergency-stop head for hygienic applications for 16.2 mm mounting depth

Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

P

front bezel: yellow

Mushroom head: red



FRVKZP

Potentiometers

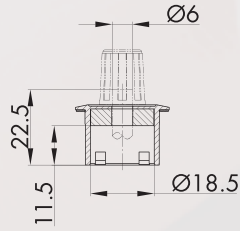
Illustration

Dimensions

Description

Type

IP65



Knob set for potentiometers, silver-coloured

with rotary handle, however without potentiometer for potentiometers of 6 mm shaft diameter (without thread)

shaft length: approx. 22.5 mm

Switching position yes

indicator:

front bezel:

silver-coloured

black


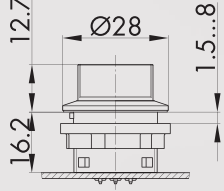


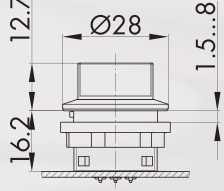
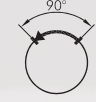

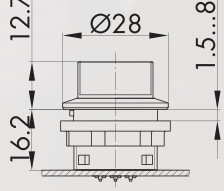



SRZ

SSWRZ

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		Illuminated selector head, maintained suitable contact blocks: P	 SWA SSWWA SVAWA
		front bezel: silver-coloured, black, stainless steel, polished	
		Illuminated selector head, momentary suitable contact blocks: P	 SSTA SSWSTA SVASTA
		front bezel: silver-coloured, black, stainless steel, polished	
		Illuminated selector head, left maintained, right momentary suitable contact blocks: P	 SWC SSWWC SVAWC
		front bezel: silver-coloured, black, stainless steel, polished	

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

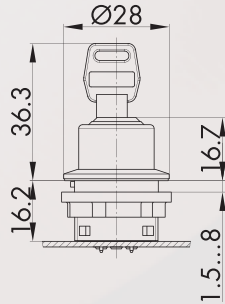
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA12
SSWSSA12
SVASSA12

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA13
SSWSSA13
SVASSA13

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA14
SSWSSA14
SVASSA14

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA15
SSWSSA15
SVASSA15

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA16
SSWSSA16
SVASSA16

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA17
SSWSSA17
SVASSA17

suitable contact blocks:

P

front bezel: silver-coloured
black
stainless steel, polished



SSSA18
SSWSSA18
SVASSA18

Shortron® base-plate mounting

MADE IN GERMANY



Ø 22.3 mm

About Us

Pushbuttons and Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Key Switches (momentary/maintained)

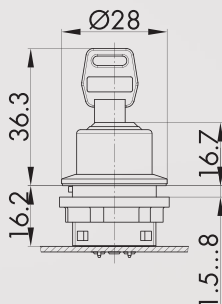
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained (3 different keys)

including three keys

1st key: two-way operation

2nd key: operation only to the left

3rd key: operation only to the right

suitable contact blocks:

P

front bezel:

silver-coloured

black

stainless steel, polished



SSSA31

SSWSSA31

SVASSA31

Accessories



Standard spare keys

ESMIC482

standard spare key, specify key number for special locks

Pilot Lights

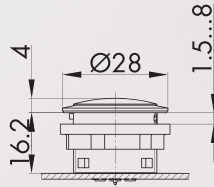
Illustration

Dimensions

Description

Type

IP65
IP67



Pilot light head

suitable lamp elements:

P

front bezel:

silver-coloured

black

stainless steel, polished



SN

SSWN

SVAN

Accessories



Lens

colour:

blue

yellow

green

clear

red

opal white



K22RRBL

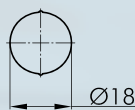
K22RRGB

K22RRGN

K22RRKL

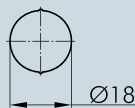
K22RRRT

K22RRWS



Blank nameplate

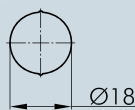
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB

Ø 22.3 mm

About Us

Pilot Lights

← Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

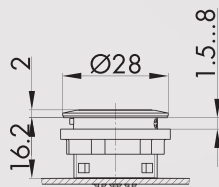
Illustration

Dimensions

Description

Type

IP65
IP67



Pilot light head with ring illumination

suitable lamp elements:

P

front bezel:	silver-coloured		
Illuminated ring:	blue		SNLRB
Illuminated ring:	green		SNLRG
Illuminated ring:	yellow		SNLRY
Illuminated ring:	clear		SNLRW
Illuminated ring:	red		SNLRR
front bezel	black		
Illuminated ring:	blue		SSWNLRB
Illuminated ring:	green		SSWNLRG
Illuminated ring:	yellow		SSWNLRY
Illuminated ring:	clear		SSWNLRW
Illuminated ring:	red		SSWNLRR
front bezel	stainless steel, polished		
Illuminated ring:	blue		SVANLRB
Illuminated ring:	green		SVANLRG
Illuminated ring:	yellow		SVANLRY
Leuchtring:	clear		SVANLRW
Illuminated ring:	red		SVANLRR

Accessories



Spacer ring

suitable for the Shortron series
for panel thickness from 0.5 to 2.5 mm

colour:	silver-coloured		SDR
	black		SDRSW



Mounting tool 22

S22

with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL,
RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic,
SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL



Mounting tool adapter with 1/4" connections

SRA

for mounting tools S16 and S22

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		External nameplate holder for self-adhesive outside marking of the actuators of the RONTRON-RJUWEL, SHORTRON series (except selector and key switches) to snap on from the front colour: transparent	 RRJABT
		Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm	BZ16L...
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number (see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow	 NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow	 NAS_22_548
		Universal lens remover	USK



Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm



SHORTTRON[®] connect

 Product configurator



SHORTRON® connect - small, quick, efficient

→ Simplicity

Quick and easy installation with M12 connector.



→ Efficiency

No enclosure necessary, low cabling effort, time-saving installation, also possible without technical staff.



→ Safety

High degree of protection IP65/IP67 in the front and on the rear. Anti-rotation/reverse polarity protection thanks to the M12 connector.



→ Flexibility

There are pushbuttons, selector and key switches, pilot light and emergency-stops in various contact type combinations available. The nameplates of the pushbuttons which can be exchanged can be printed in one or more colours.



→ Compactness

Low space requirement thanks to the compact construction with less mounting depth.



→ Harmony

Colour design of the pushbuttons and switches with black, silver-coloured or stainless steel front ring. Pleasant illumination on the variants with illumination option.



→ Functionality

High mechanical and electrical lifetime, pleasant and perceptible switching characteristic.



Overview SHORTRON® connect series



- | | |
|---------------------------|----------|
| 01 Pushbuttons | page 184 |
| 02 Emergency-stop buttons | page 188 |
| 03 Selector switches | page 189 |
| 04 Key switches | page 193 |
| 05 Pilot lights | page 196 |
| 06 Mounting brackets | page 198 |

Housing colours (silver-coloured, black, stainless steel glossy)



degree of protection



operating travel



tactile



illuminating option



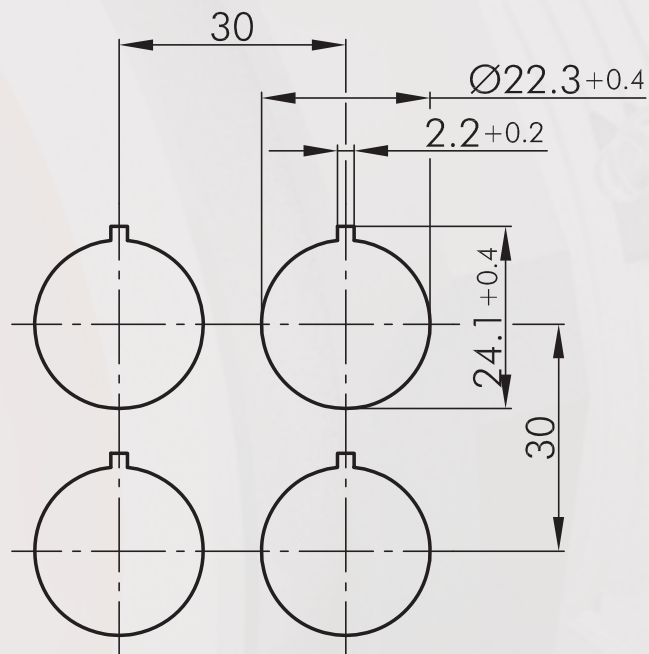
labelling option



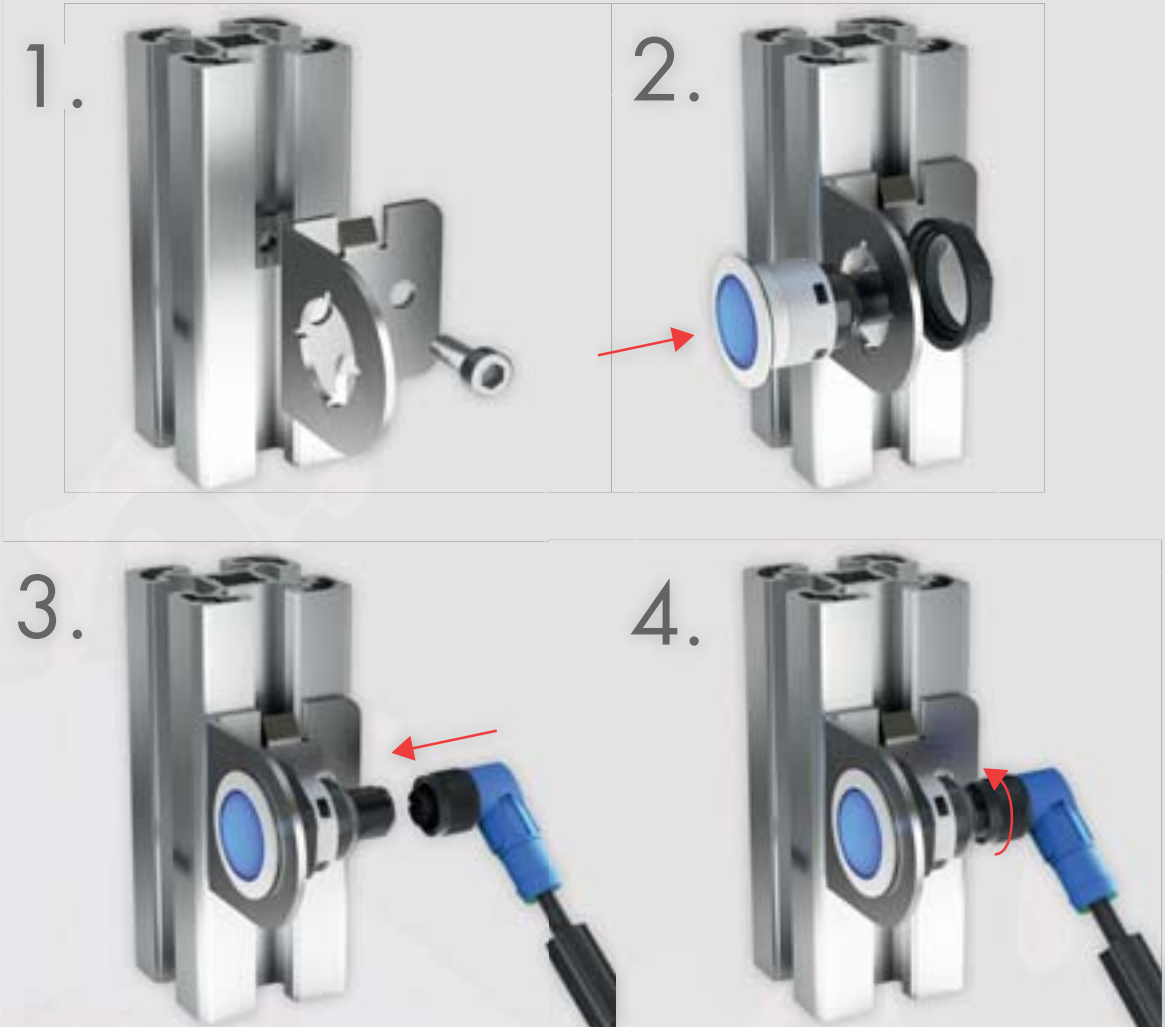
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Ø 22.3 mm

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

General Data

Type reference:	S(VA)(SW)(T)(N)(TLR(L))(f)(WA)(WB)(WC)(L)(SSA...)(I)(OI)(II)_Cyxx
Description:	Short-stroke pushbutton with integrated M12 connector
Approvals:	CE, cURus
Contact type:	2NO / 1NC + 1NO / 1NC + L / 1NO + L / 1NC / L
Protection class:	II (protective insulation)
Degree of protection:	IP65/67 (T,TLR,N, in the front); IP65 (SSA,STA,STB,WA,WB,WC, in the front); IP65
Operation travel:	2.3 mm (pushbutton)
Connection type:	M12 connector (integrated), 4 poles, A coded
Contact material:	AgNi / AgNi, gold-plated 5µm (LAU)
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 million (T, TL) 30.000 (WA, WAL, WB, WC, SSA)
Electrical life (rated load):	1 million (T, TL), DC13:max. 100.000 30.000 (WA, WAL, WB, WC, SSA)
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	50 V	50 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	4 A	2 A
Continuous thermal current:	4 A	

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED white
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14 mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional data

Mounting aperture:	22.3 mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 60947-5-1, EN 61058-1
Material group:	I
Overvoltage category:	II
Pollution degree :	2

Electrical features gold-plated contacts

Operational voltage:	20 mV...35 V AC/DC
Switching current:	1mA ... 100mA
Breaking capacity (ohmic load):	250 mW
Contact resistance (new state):	< 50 mOhm

Note

O / I	...NC contact / NO contact
...Cyxx	version
"y"	0 = 4-pole connector, silver contact 3 = 4-pole connector, gold-plated contact

"xx"

pin assignment					
xx	Pin 1	Pin 2	Pin 3	Pin 4	Type
01	-	-	-	-	-
02	NO (1)	NO (1)	NO (2)	NO (2)	2 NO
03	NC	NC	NO	NO	1 NC 1 NO
04	NC	NC	LED -	LED +	1 NC + LED
05	NO	NO	LED -	LED +	1 NO + LED
06	NC	NC	-	-	1 NC
07	NO	NO	-	-	1 NO
08	COM	NC	-	NO	1 NC 1 NO
09	COM	NO (1)	-	NO (2)	2 NO
10	-	-	LED -	LED +	LED

Safety instructions / mounting instructions

- the connector must not be connected or disconnected under load
- the single connector pin may be loaded with max. 4A
- selector / key switches with bridged connection ("COM", pin assignment 08,09) a max. of 1A is allowed

General Data

Type reference:	FRVKOO_Cyxx (y...variant, xx...pin assignment, 4 poles)
Description:	Emergency-stop, foolproof with integrated M12 connector
Approvals:	CE, TÜV_Süd
Contact type:	2NC
Degree of protection:	IP65 / IP67 (in the front); IP65 / IP67 (on the rear with plugged-in M12 connector)
Connection type:	M12 connector (integrated), 4 poles, A coded
Contact material:	AgNi / AgNi, gold-plated 5µm (_AU)
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50.000
Electrical life (rated load):	50.000 at rated load
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	4 A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	4 A	4 A

Additional data

Mounting aperture:	22.3 mm
Tightening torque (mounting nut):	1.0 ... 1.7 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Ld:	20% (NC)
B10d:	250.000
Material group:	I
Overvoltage category:	II
Pollution degree :	2
Operating force:	approx. 30 N (at 20 mm/min)

Note

O = NC contact
With switching position indicator

Electrical features gold-plated version (5µm gold-plating)

Switching voltage	20mV ... 35V AC/DC
Switching current	1mA ... 250mA

...Cyxx
"y"

version
0 = 4-pole connector, silver contact
3 = 4-pole connector, gold-plated contact

"xx"

	pin assignment					
xx	Pin 1	Pin 2	Pin 3	Pin 4	Type	
01	NC (1)	NC (1)	NC (2)	NC (2)	2 NC	

Safety instructions / mounting instructions

- the connector must not be connected or disconnected under load
- the single connector pin may be loaded with max. 4A
- not suitable for use under water
- when used outdoors, the M12 connections must be protected against corrosion separately

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

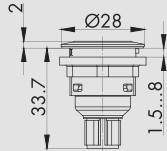
Pushbuttons

Illustration

Dimensions

IP65
IP67

2,3mm



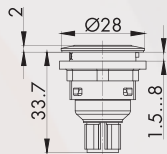
Pushbutton with 4-pole M12 connector with integrated 4-pole M12 connector, A coded



<i>front bezel</i>	1NO	2NO	1NC + 1NO
silver-coloured	STI_C007	STII_C009	STOI_C008
black	SSWTI_C007	SSWTII_C009	SSWTOI_C008
stainless steel, polished	SVATI_C007	SVATII_C009	SVATOI_C008

IP65
IP67

2,3mm



Illuminated pushbutton with 4-pole M12 connector with integrated 4-pole M12 connector, A coded incl. white LED M12 4 poles, A-coded



<i>front bezel</i>	1NO
silver-coloured	STLI_C005
black	SSWTLI_C005
stainless steel, polished	SVATLI_C005

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Accessories



Flat lens, transparent

colour:	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opal white		T22RRWS



High lens, transparent

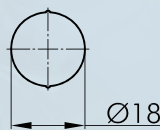
colour:	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opal white		T22HRRWS



Flat lens, non-transparent

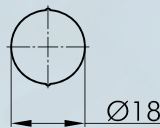
for pushbuttons without inscription and illumination

colour:	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS



Blank nameplate

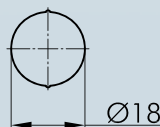
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB

IP67



Sealing cap

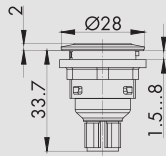
made of silicone rubber, down to -50°C

TK28S

Pushbuttons

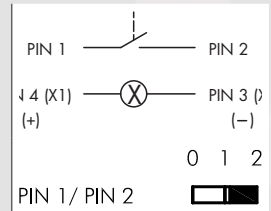
Illustration

Dimensions



Pushbutton with ring illumination and 4-pole M12 connector

with integrated 4-pole M12 connector, A coded
incl. lens and white LED
M12 4 poles, A-coded

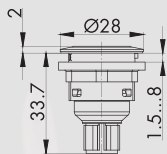


front bezel	illuminated ring	1NO
silver-coloured	white	STLRWI_C005
silver-coloured	red	STLRRI_C005
silver-coloured	green	STLRGI_C005
silver-coloured	yellow	STLRYI_C005
silver-coloured	blue	STLRBI_C005
black	white	SSWTLRWI_C005
black	red	SSWTLRRI_C005
black	green	SSWTLRGI_C005
black	yellow	SSWTLRYI_C005
black	blue	SSWTLRBI_C005
stainless steel, polished	white	SVATLRWI_C005
stainless steel, polished	red	SVATLRRI_C005
stainless steel, polished	green	SVATLRGI_C005
stainless steel, polished	blue	SVATLRBI_C005
stainless steel, polished	yellow	SVATLRYI_C005

Pushbuttons

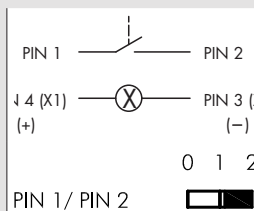
Illustration

Dimensions



Pushbutton with ring illumination and laser printing 4-pole M12 connector

standard imprints see nameplates from page 634 (please specify index number)
special inscription on request
with integrated 4-pole M12 connector, A coded
incl. lens and white LED
M12 4 poles, A-coded



front bezel		illuminated ring		1NO
silver-coloured		white		STLRWI..._C005
silver-coloured		red		STLRRI..._C005
silver-coloured		green		STLRGI..._C005
silver-coloured		yellow		STLRYI..._C005
silver-coloured		blue		STLRBI..._C005
black		white		SSWTLRWI..._C005
black		red		SSWTLRRI..._C005
black		green		SSWTLRGI..._C005
black		yellow		SSWTLRYI..._C005
black		blue		SSWTLRBI..._C005
stainless steel, polished		white		SVATLRWI..._C005
stainless steel, polished		red		SVATLRRI..._C005
stainless steel, polished		green		SVATLRGI..._C005
stainless steel, polished		yellow		SVATLRYI..._C005
stainless steel, polished		blue		SVATLRBI..._C005

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

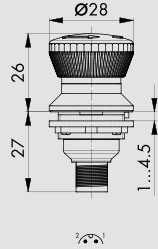
Type Index

Emergency-Stops

Illustration

Dimensions

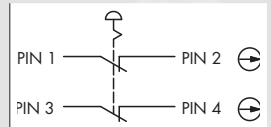
IP65
IP67



Emergency-stop with 4 pole M12 connector

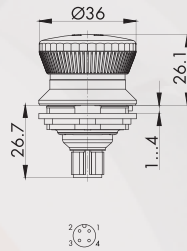
with integrated 4-pole M12 connector, A coded

- 2 NC
- foolproof
- switching position indicator
- twist to release



front bezel	Mushroom head	2NC
yellow	red	FRVKOO_C001

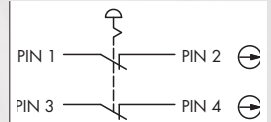
IP65
IP67



Emergency-stop with 4-pole M12 connector - panel cut-out Ø30.5mm

with integrated 4-pole M12 connector, A coded

- 2 NC
- foolproof
- switching position indicator
- twist to release



front bezel	Mushroom head	2NC
yellow	red	KRVKOO_C001

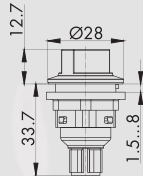
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

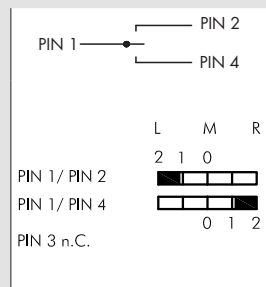
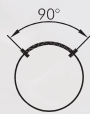
Illustration

Dimensions

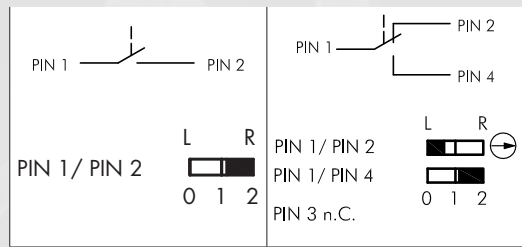
IP65
IP67



Selector switch, maintained, with 4-pole M12 connector
with integrated 4-pole M12 connector, A coded



<i>front bezel</i>		2NO
silver-coloured		SWBII_C009
black		SSWWBII_C009
stainless steel, polished		SVAWBII_C009



<i>front bezel</i>		1NO	1NC + 1NO
silver-coloured		SWAI_C007	SWAOI_C008
black		SSWVAI_C007	SSWVAOI_C008
stainless steel, polished		SVAWAI_C007	SVAWAOI_C008

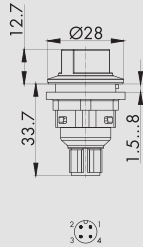
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

Dimensions

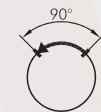
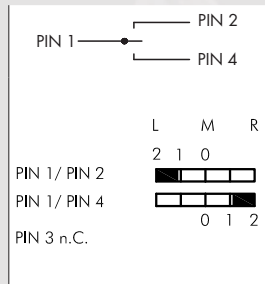
IP65
IP67



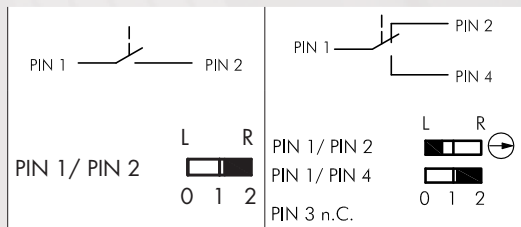
Selector switch, momentary, with 4-pole M12 connector
with integrated 4-pole M12 connector, A coded



front bezel		2NO
silver-coloured		SSTBII_C009
black		SSWSTBII_C009
stainless steel, polished		SVASTBII_C009



front bezel		1NO	1NC + 1NO
silver-coloured		SSTAI_C007	SSTAOI_C008
black		SSWSTAI_C007	SSWSTAOI_C008
stainless steel, polished		SVASTAI_C007	SVASTAOI_C008



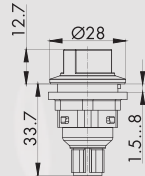
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

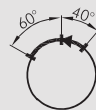
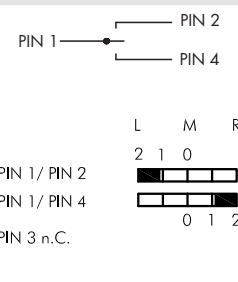
Dimensions

IP65
IP67



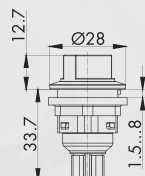
Selector switch, left maintained, right momentary with 4-pole M12 connector

with integrated 4-pole M12 connector, A coded



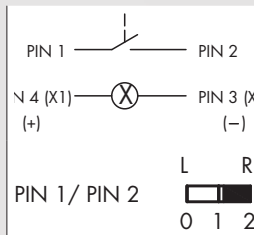
front bezel		2NO
silver-coloured		SWCII_C009
black		SSWWCII_C009
stainless steel, polished		SVAWCII_C009

IP65
IP67



Illuminated selector switch, maintained, with 4-pole M12 connector

with integrated 4-pole M12 connector, A coded
incl. white LED



front bezel		1NO
silver-coloured		SWALI_C005
black		SSWWALI_C005
stainless steel, polished		SVAWALI_C005

SHORTRON® connect

Ø 22.3 mm

MADE IN GERMANY



About Us

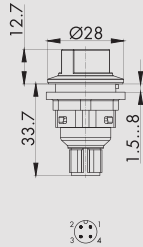
Selector Switches (momentary/maintained)

| = Switching position
> = Spring return

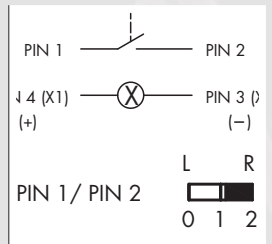
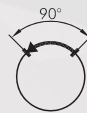
Illustration

Dimensions

IP65
IP67



Illuminated selector switch, momentary, with 4-pole M12 connector
with integrated 4-pole M12 connector, A coded
incl. white LED



front bezel		1NO
silver-coloured		SSTALI_C005
black		SSWSTALI_C005
stainless steel, polished		SVASTALI_C005

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

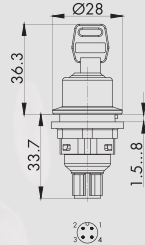
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

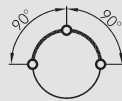
Dimensions

IP65
IP67

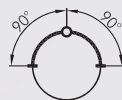
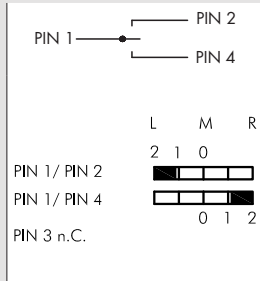


Key-operated switch, maintained, with 4-pole M12 connector

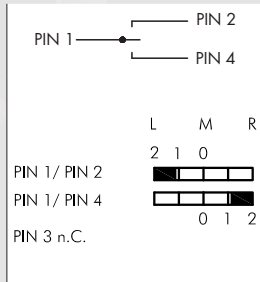
with integrated 4-pole M12 connector, A coded including two keys
other lock types on request



front bezel		2NO
silver-coloured		SSSA12II_C009
black		SSWSSA12II_C009
stainless steel, polished		SVASSA12II_C009



front bezel		2NO
silver-coloured		SSSA13II_C009
black		SSWSSA13II_C009
stainless steel, polished		SVASSA13II_C009



About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

SHORTRON® connect

Ø 22.3 mm

MADE IN GERMANY



About Us

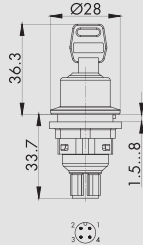
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

Dimensions

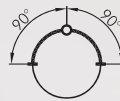
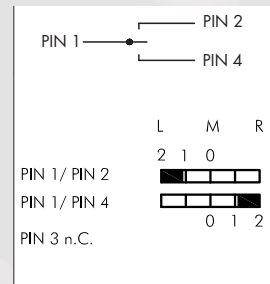
IP65
IP67



Key-operated switch, maintained (3 different keys) with 4-pole M12 connector

with integrated 4-pole M12 connector, A coded incl. 3 keys

- 1st key: two-way operation
- 2nd key: operation to the left only
- 3rd key: operation to the right only



front bezel		2NO
silver-coloured		SSSA311I_C009
black		SSWSSA311I_C009
stainless steel, polished		SVASSA311I_C009

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RTD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

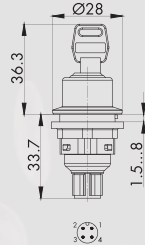
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

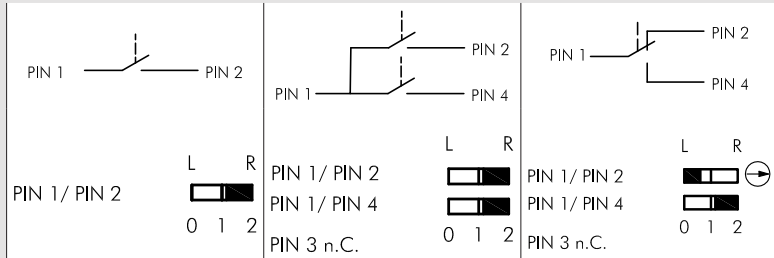
Dimensions

IP65
IP67



Key-operated switch, maintained, with 4-pole M12 connector

with integrated 4-pole M12 connector, A coded including two keys other lock types on request



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA14I_C007	SSSA14II_C009	SSSA14OI_C008
black		SSWSSA14I_C007	SSWSSA14II_C009	SSWSSA14OI_C008
stainless steel, polished		SVASSA14I_C007	SVASSA14II_C009	SVASSA14OI_C008



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA15I_C007	SSSA15II_C009	SSSA15OI_C008
black		SSWSSA15I_C007	SSWSSA15II_C009	SSWSSA15OI_C008
stainless steel, polished		SVASSA15I_C007	SVASSA15II_C009	SVASSA15OI_C008



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA17I_C007	SSSA17II_C009	SSSA17OI_C008
black		SSWSSA17I_C007	SSWSSA17II_C009	SSWSSA17OI_C008
stainless steel, polished		SVASSA17I_C007	SVASSA17II_C009	SVASSA17OI_C008



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA18I_C007	SSSA18II_C009	SSSA18OI_C008
black		SSWSSA18I_C007	SSWSSA18II_C009	SSWSSA18OI_C008
stainless steel, polished		SVASSA18I_C007	SVASSA18II_C009	SVASSA18OI_C008

Accessories



Spare keys
please specify key number

ESMIC...

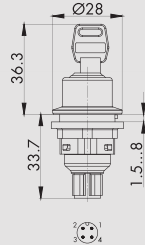
Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- O = Key removable position

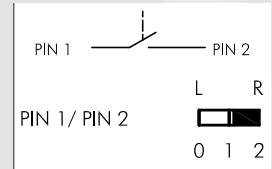
Illustration

Dimensions

IP65
IP67



Key-operated switch, momentary, with 4-pole M12 connector
with integrated 4-pole M12 connector, A coded
including two keys
other lock types on request

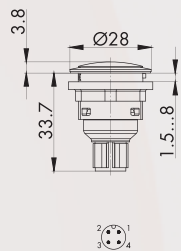


front bezel		1NO
silver-coloured		SSSA28I_C007
black		SSWSSA28I_C007

For panel mount jacks, please refer to page 574



IP65
IP67



Pilot light with 4-pole M12 connector
with integrated 4-pole M12 connector, A-coded
incl. white LED



front bezel		
silver-coloured		SN_C010
black		SSWN_C010
stainless steel, polished		SVAN_C010

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Accessories



Lens

colour:

blue
yellow
green
clear
red
opal white



K22RRBL
K22RRGB
K22RRGN
K22RRKL
K22RRRT
K22RRWS



Blank nameplate

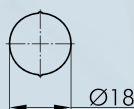
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...

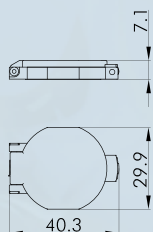


Nameplate with special imprint

according to customer's specification

BSRRB

IP40



Lead-sealable protective lid

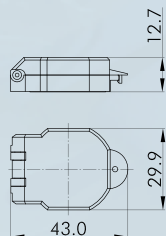
colour:

transparent



KDP22RR

IP65
IP67



Lead-sealable, robust, tight protective lid

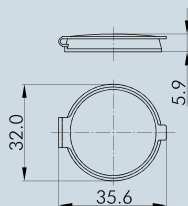
colour:

transparent
black



KDPR22RR
KDPR22RR_SW

IP67



Protective lid made of TPE

colour:

black



AK22RRSW

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Accessories



Spacer ring

suitable for the Shortron series
for panel thickness from 0.5 to 2.5 mm

colour:

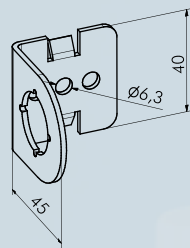
silver-coloured

black



SDR

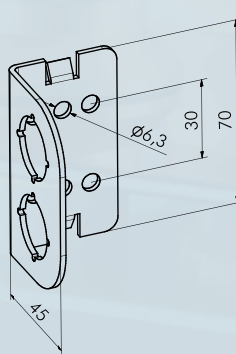
SDRSW



Mounting bracket 90° / 1 mounting hole stainless steel 1.4301

S_CW190

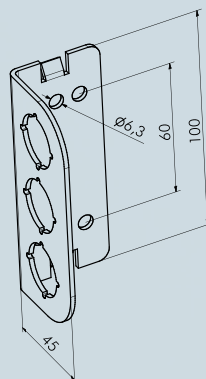
for a fast and easy assembly on profiles



Mounting bracket 90° / 2 mounting holes stainless steel 1.4301

S_CW290

for a fast and easy assembly on profiles



Mounting bracket 90° / 3 mounting holes stainless steel 1.4301

S_CW390

for a fast and easy assembly on profiles

Accessories for Pushbuttons and Switches

Illustration

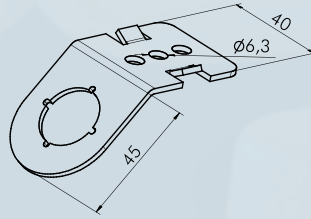
Dimensions



Mounting bracket 135° / 1 mounting hole stainless steel 1.4301

S_CW145

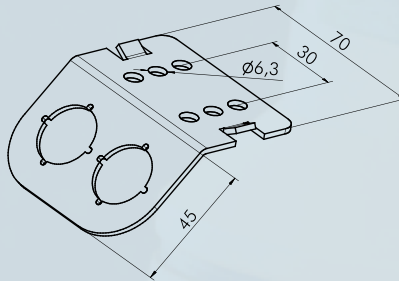
for a fast and easy assembly on profiles



Mounting bracket 135° / 2 mounting holes stainless steel 1.4301

S_CW245

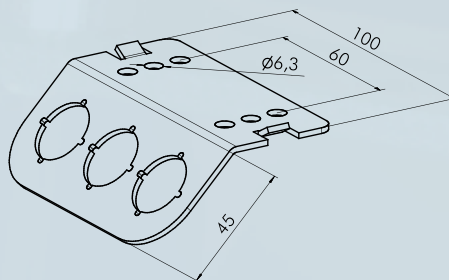
for a fast and easy assembly on profiles



Mounting bracket 135° / 3 mounting holes stainless steel 1.4301

S_CW345

for a fast and easy assembly on profiles





Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm



 Product configurator



SHORTRON-M12

Ø 22.3 mm

About Us

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

General Data

Type reference:	S(T)(N)(TLR)(WA)(WB)(L)(SSA...)(x)(I)(O)(OI)(III)_M(01)(02)(03)(04)(05)(06)(07)(08)
Description:	Pre-assembled short-stroke pushbutton with M12 plug
Approvals:	CE, cURus, ENEC10, VDE, CE
Contact type:	1 inverter / 1 NO+lamp / 1NC+lamp
Degree of protection:	IP65 / IP67 (on the rear IP65)
Operation travel:	2.3 mm
Connection type:	M12 4 poles with PUR cable, A coded; length 25cm/150cm; wires 4x0.34mm ² (AWG22)
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 million (T, TL) 30,000 (WA, WAL, WB, WBL, SSA)
Electrical life (rated load):	1 million (T, TL) DC13:max. 100,000 30,000 (WA, WAL, WB, WBL, SSA)
Contact resistance NO:	< 100/300 mOhm (25/150 cm cable, AgNi contact block, new state)
Contact resistance NC:	< 100/300 mOhm (25/150 cm cable, AgNi contact block, new state)
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	4 A	2 A
Continuous thermal current:	4 A	Technical Data - Lamp
Lamp socket:	none, with integrated 3 mm LED white	
Max. lamp voltage:	30 V AC/DC	
Max. lamp output:	14 mA (at 24 V DC)	
Definition:	X1...anode, X2...cathode	

Additional data

Mounting aperture:	22.3 mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 60947-5-1, EN 61058-1
Material group:	I
Overvoltage category:	II
Pollution degree :	2

Note

O = NC contact; I= NO contact; C = inverter; L=LED

SN	...pilot light
T(L)	...pushbutton (illuminating option)
TLR(x)	...pushbutton with ring illumination (x=colour: W,R,Y,G,B)*2
SSA12	...key actuator, 3 positions
SSA15	...key actuator, 2 positions
WA(L)	...selector head, 2 positions, maintained (illuminating option)
WB(L)	...selector head, 3 positions, maintained (illuminating option)

Actuators

- out of the Shortron series
- silver-coloured front bezel
- potted on the rear

Connecting cable

- cable dia.: 4.7 mm
- PUR cable with straight M12 connector, black
- length 25±3cm / 150±5cm
- integrated strain relief
- bending radius (moving): 10 x cable diameter
- bending radius (static): 5 x cable diameter

Attention:

The common changeover contact (COM-Pin1) may be charged with 4A max.

Complimentary Data acc. to IEC/EN 60947-5-1, applicable to the types: S(T)(WA)(WB)(SSA...)(I)(O)(OI)_M(01)(02)

AC15 B300:	240V 1.5A / 120V 3A
DC13 Q300:	250V 0.27A / 125 0.55A

Type	Type	Cable Length	Pin Assignment
SN_M09	pilot light	25cm	Pin1: NC, Pin2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
SN_M10	pilot light	150cm	Pin1: NC, Pin2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
STOI_M01	Pushbutton 1W	25cm	Pin1: COM, Pin2: NC, Pin3: NC Pin4: NO
STOI_M02	Pushbutton 1W	150cm	Pin1: COM, Pin2: NC, Pin3: NC Pin4: NO
STLI_M03	Illumin. pushbutton	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4: X1(LED+24V)

STLI_M04	Illumin. pushbutton	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4: X1(LED+24V)
STLO_M05	Illumin. pushbutton	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
STLO_M06	Illumin. pushbutton	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
STLR(x)OI_M01	Pushbutton*2 1W	25cm	Pin1: COM, Pin2: NC, Pin3: NC Pin4: NO
STLR(x)OI_M02	Pushbutton*2 1W	150cm	Pin1: COM, Pin2: NC, Pin3: NC Pin4: NO
STLR(x)I_M03	Pushbutton*2 1NO	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4: X1(LED+24V)
STLR(x)I_M04	Pushbutton*2 1NO	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4: X1(LED+24V)
STLR(x)O_M05	Pushbutton*2 1NC	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
STLR(x)O_M06	Pushbutton*2 1NC	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
SWAOI_M01	2pos.selector switch 1W	25cm	Pin1: COM, Pin2: NC, Pin3: NC Pin4: NO
SWAOI_M02	2pos.selector switch 1W	150cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SWBOI_M01	3pos.selector switch 1W	25cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SWBOI_M02	3pos.selector switch 1W	150cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SWBII_M07	3pos.selector switch 2NO	25cm	Pin1: COM, Pin 2: NO1, Pin3: NC, Pin4: NO2
SWBII_M08	3pos.selector switch 2NO	150cm	Pin1: COM, Pin 2: NO1, Pin3: NC, Pin4: NO2
SWALI_M03	Illumin.selector switch	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4: X1(LED+24V)
SWALI_M04	Illumin.selector switch	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4: X1(LED+24V)
SWALO_M05	Illumin.selector switch	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
SWALO_M06	Illumin.selector switch	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4: X1(LED+24V)
SSSA15OI_M01	2pos.key switch 1W	25cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SSSA15OI_M02	2pos.key switch 1W	150cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SSSA12OI_M01	3pos.key switch 1W	25cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SSSA12OI_M02	3pos.key switch 1W	150cm	Pin1: COM, Pin2: NC, Pin3: NC, Pin4: NO
SSSA12II_M07	3pos.key switch 2NO	25cm	Pin1: COM, Pin2: NO1, Pin3: NC, Pin4: NO2
SSSA12II_M08	3pos.key switch 2NO	150cm	Pin1: COM, Pin2: NO1, Pin3: NC, Pin4: NO2

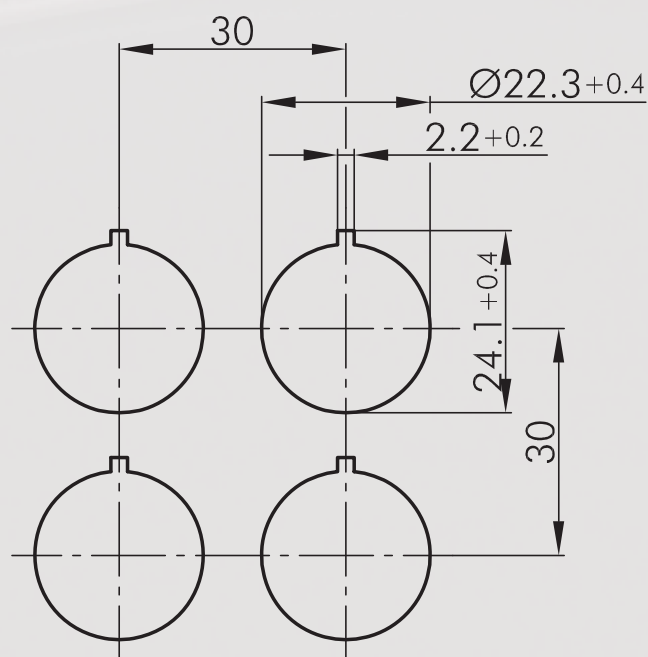
*2 with ring illumination

Data acc. to UL508

Ratings:

24VDC 2A General Purpose

Cutout dimensions



degree of protection



operating travel



tactile



illuminating option



labelling option



SHORTRON®-M12

Ø 22.3 mm

MADE IN GERMANY



About Us

Pushbuttons

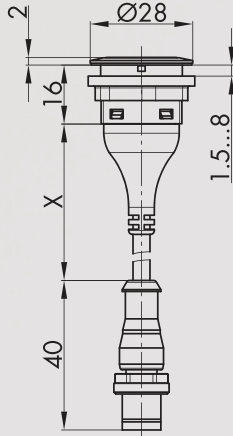
lenses and nameplates to be ordered separately

Illustration

Dimensions

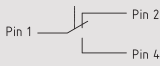
IP65
IP67

2.3mm



Pushbutton

Connection type: M12 4 poles



front bezel:
cable length (X)
cable length (X)

M12 4 poles

PIN 1/PIN 2

PIN 1/PIN 4

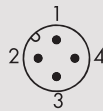
PIN 3 n.c.

0 1 2



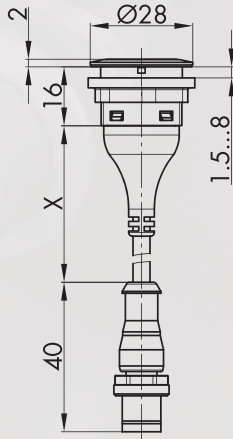
silver-coloured
250±30 mm
1500 ±50 mm

STOI_M01
STOI_M02



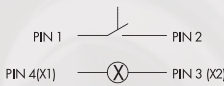
IP65
IP67

2.3mm



Illuminated pushbutton NO

incl. white LED
Connection type: M12 4 poles



front bezel:
cable length (X)
cable length (X)

M12 4 poles

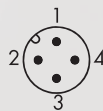
PIN 1/PIN 2

0 1 2



silver-coloured
250±30 mm
1500 ±50 mm

STLI_M03
STLI_M04



Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons
and Switches

Pushbuttons

lenses and nameplates to be ordered separately

Illustration

Dimensions

IP65
IP67

2,3mm

Illuminated pushbutton NC

Connection type: M12 4 poles

PIN 1
 PIN 2
 PIN 4(X1)
 PIN 3 (X2)

PIN 1/PIN 2

0 1 2

front bezel:	silver-coloured		
cable length (X)	250±30 mm		STLO_M05
cable length (X)	1500 ±50 mm		STLO_M06

Accessories

Flat lens, transparent

colour:	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opal white		T22RRWS

High lens, transparent

colour:	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opal white		T22HRRWS

Flat lens, non-transparent

for pushbuttons without inscription and illumination

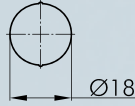
colour:	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS

Selector Switches (momentary/maintained)

| = Switching position
> = Spring return

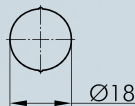
Illustration

Dimensions



Blank nameplate

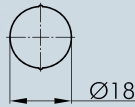
BSRRU



Nameplate with standard imprint

BSRR...

please specify index number (see nameplates from page 634)



Nameplate with special imprint

BSRRB

according to customer's specification

IP67



Sealing cap

TK28S

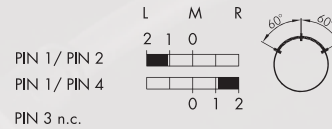
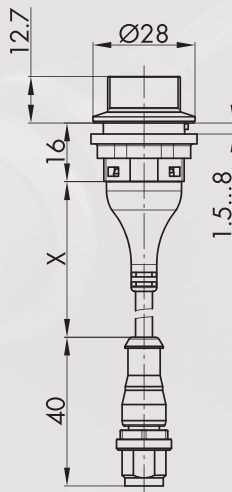
made of silicone rubber, down to -50°C

IP65



Selector switch, maintained

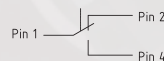
Connection type: M12 4 poles



front bezel:
cable length (X)
cable length (X)

silver-coloured
250±30 mm
1500 ±50 mm

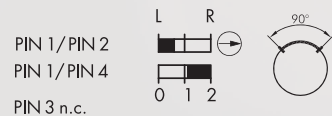
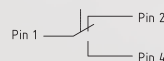
SWBII_M07
SWBII_M08



front bezel:
cable length (X)
cable length (X)

silver-coloured
250±30 mm
1500 ±50 mm

SWBOI_M01
SWBOI_M02



front bezel:
cable length (X)
cable length (X)

silver-coloured
250±30 mm
1500 ±50 mm

SWAOI_M01
SWAOI_M02


Selector Switches (momentary/maintained)


Illustration

Dimensions

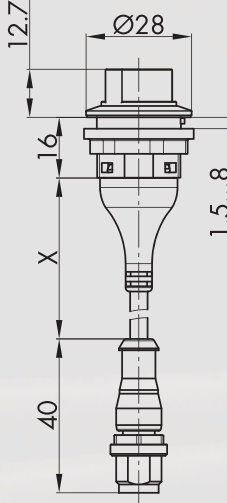
IP65

22.3mm







Selector switch, maintained
incl. white LED
Connection type: M12 4 poles



PIN 1 ——— PIN 2
PIN 4(X1) —⊗— PIN 3 (X2)

PIN 1/PIN 2

0 1 2

front bezel: silver-coloured

cable length (X) 250±30 mm



cable length (X) 1500 ±50 mm

SWALI_M03
SWALI_M04

PIN 1 ——— PIN 2
PIN 4(X1) —⊗— PIN 3 (X2)

PIN 1/PIN 2

0 1 2





front bezel: silver-coloured

cable length (X) 250±30 mm

cable length (X) 1500 ±50 mm

SWALO_M05
SWALO_M06



About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

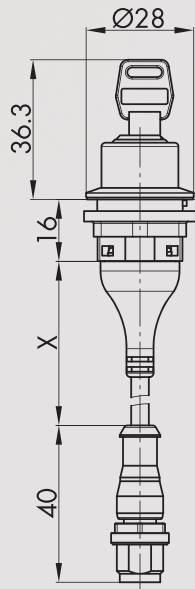
Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration

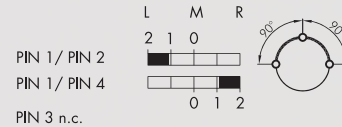
Dimensions

IP65



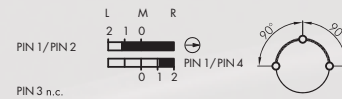
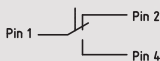
Key-operated switch, maintained

including two keys
other lock types on request
Connection type: M12 4 poles



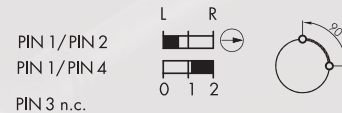
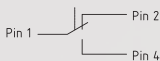
front bezel: silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm

SSSA12II_M07
SSSA12II_M08



front bezel: silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm

SSSA12OI_M01
SSSA12OI_M02



front bezel: silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm

SSSA15OI_M01
SSSA15OI_M02

Accessories



Mounting tool 22

S22

with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-QJUWEL



Mounting tool adapter with 1/4" connections

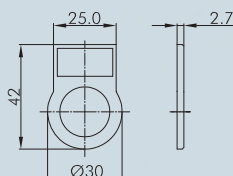
SRA

for mounting tools S16 and S22

Accessories for Pushbuttons and Switches

Illustration

Dimensions



External nameplate holder

for self-adhesive outside marking of the actuators of the RONTRON-RJUWEL, SHORTRON series (except selector and key switches) to snap on from the front

colour: transparent



RRJABT

Self-adhesive nameplate laser-printed

BZ16L...

inscription according to customer's specification
dimensions: 22 x 11 mm



Self-adhesive nameplate blank

BZ16U

dimensions: 22 x 11 mm



Self-adhesive nameplate with standard imprint

BZ16B...

please specify index number (see nameplates from page 634)
dimensions: 22 x 11 mm



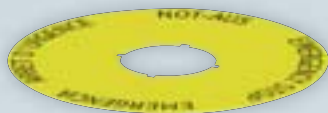
Yellow nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22



Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22_548



Universal lens remover

USK

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology


RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2.6 mm
Travel: 6 mm



 Product configurator



Overview RX-Juwel series



01 Pushbutton heads

02 Emergency-stop heads

03 Knob set for potentiometers

04 Selector heads

05 Key actuators

06 Buzzers

page 216

page 217

page 218

page 218

page 219

page 220

07 Pilot light heads / pilot lights

Contact blocks/lampholders

page 222

page 414

Housing colour



degree of protection



operating travel



tactile

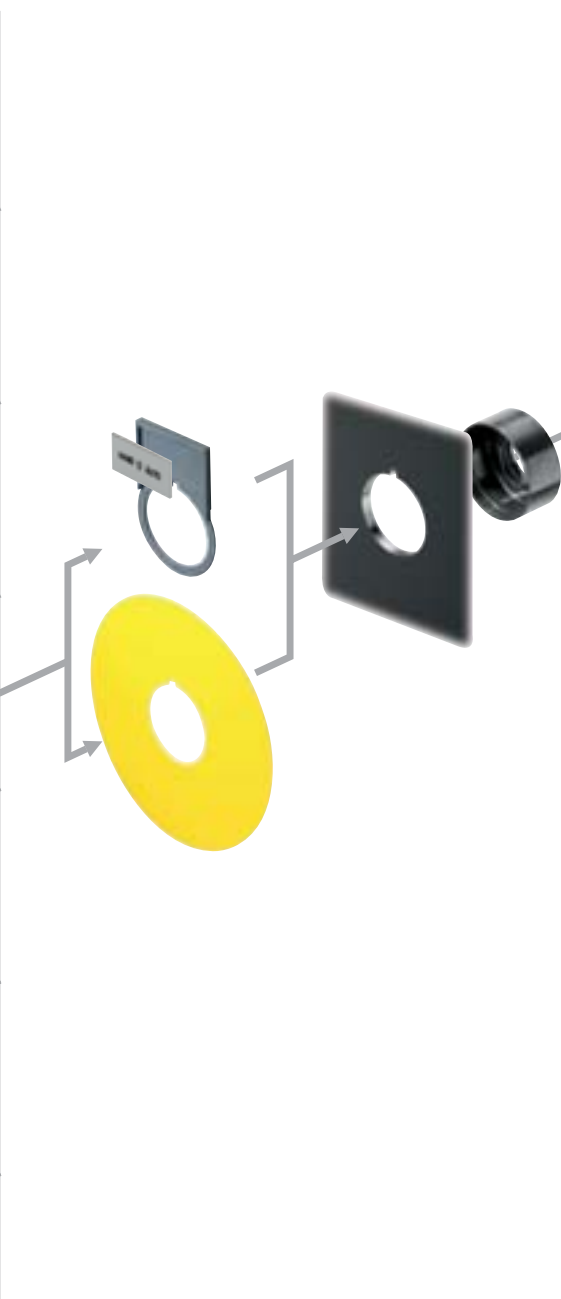



illuminating option





labelling option








- 


AT.../AF.../AZ...
Contact blocks
Faston terminals
page 416
- 


CT...
Contact blocks
Faston terminals
page 502
- 

CTP...
Contact blocks
PCB-mount terminals
page 480
- 

CTF...
Contact blocks
Faston terminals
page 486
- 

FRTP...
Contact blocks
PCB-mount terminals
page 508
- 

FRTF...
Contact blocks
Faston terminals
page 514
- 

ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 554
- 

DFA...
Battery-free wireless
transmitter modules
page 566

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

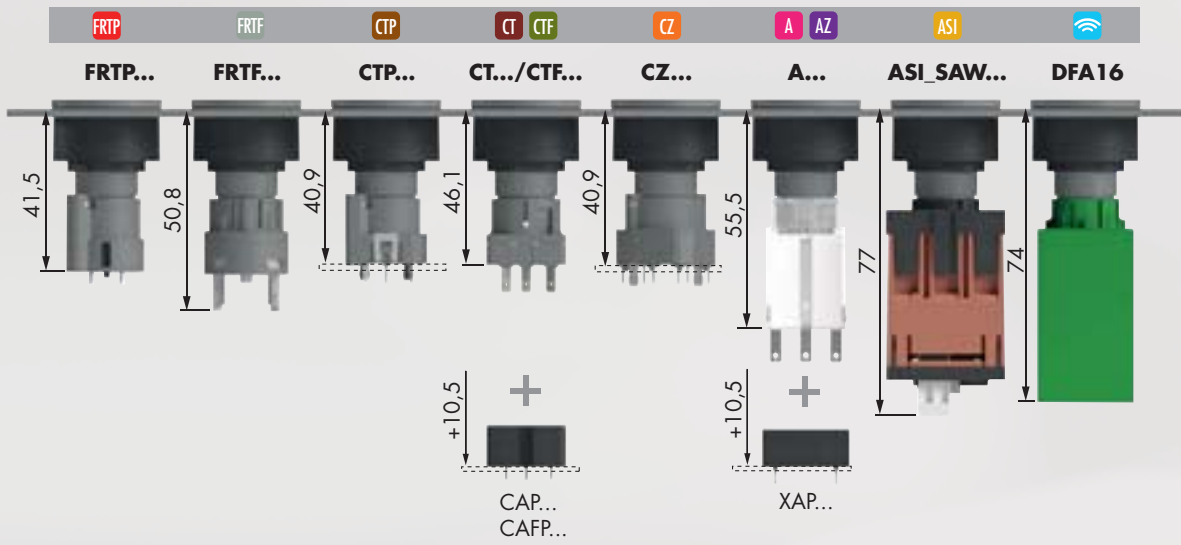
Enclosures

Pedal Switches

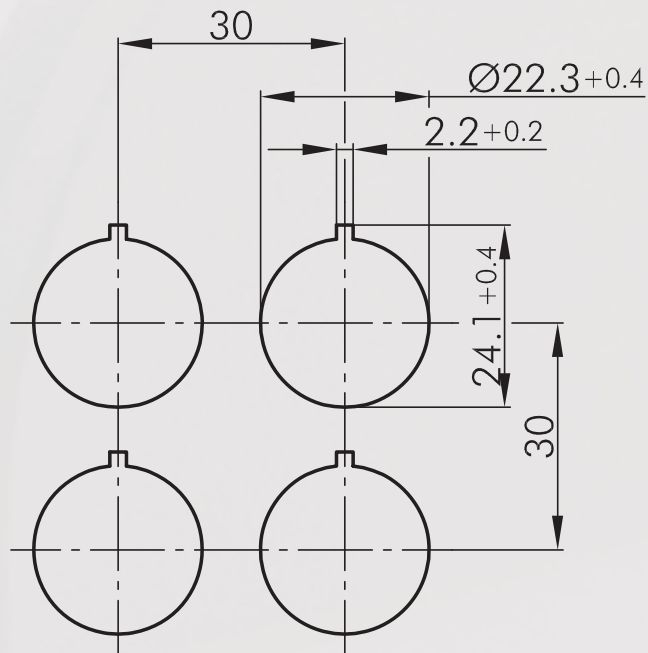
Terminal Blocks

Type Index

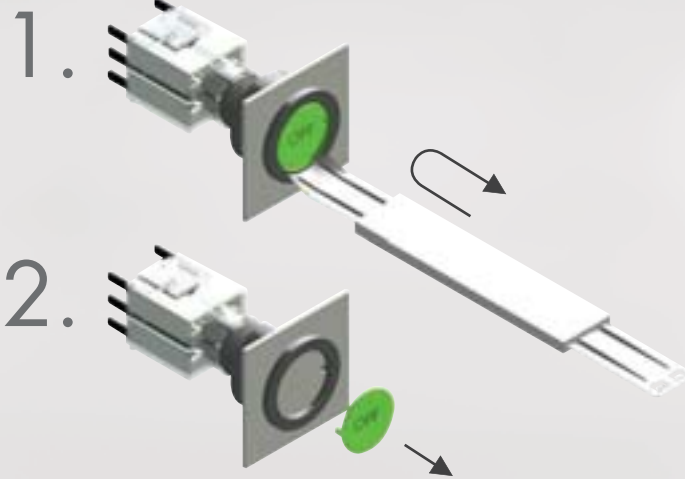
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Pushbuttons

lenses and nameplates to be ordered separately

Illustration

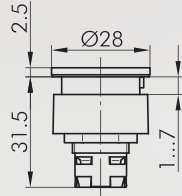
Dimensions

Description

Type

IP65

6 mm



Pushbutton head

suitable contact blocks:

A AZ B B... BZ BZ... B439

front bezel:

charcoal



RXJT

Accessories



Transparent lens

colour:

blue
yellow
green
clear
red
opal white



T20DBL
T20DGB
T20DGN
T20DKL
T20DRT
T20DWS



Concave lens, non-transparent

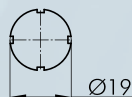
used for pushbuttons without inscription and illumination

colour:

blue
yellow
green
black
red
white



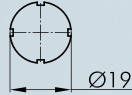
T20DGBL
T20DGGB
T20DGGN
T20DGSW
T20DGRT
T20DGWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

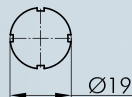
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank nameplate

BSRXU

IP67



Sealing cap

made of silicone rubber, down to -50°C

TK28S

Mushroom Pushbuttons

Illustration

Dimensions

Description

Type

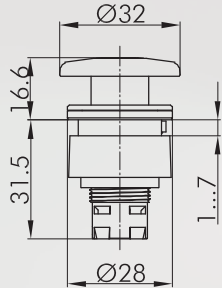


For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65

6 mm



Mushroom head, momentary

Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no

suitable contact blocks:

BUS **A** **AZ** **BZ** **BZ_x** **CT** **CTF** **CTP**

front bezel: charcoal

RXJS

Potentiometers

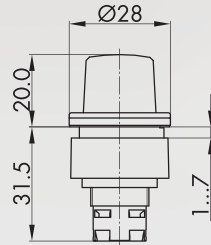
Illustration

Dimensions

Description

Type

IP65



Knob set for potentiometers

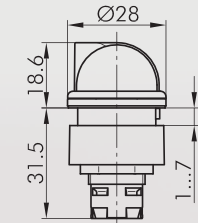
for potentiometers of 6 mm shaft dia. and thread M10 x 0.75
delivery without potentiometer
shaft length: approx. 50 mm ± 4 mm

front bezel: charcoal
knob colour: black



RXJR

IP65



Selector head, maintained

suitable contact blocks:

A AZ BZ BZ.k CT CTF CTP

front bezel: charcoal



RXJWA

suitable contact blocks:

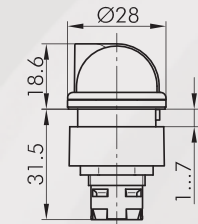
A AZ

front bezel: charcoal



RXJWB

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

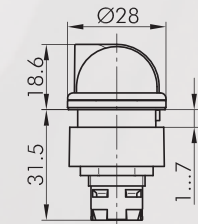
A AZ

front bezel: charcoal



RXJWC

IP65



Selector head, momentary

suitable contact blocks:

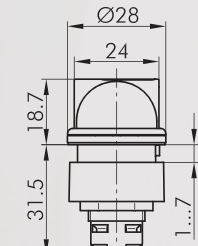
A AZ

front bezel: charcoal



RXJSTB

IP65



Illuminated selector head, maintained (two-piece plunger)

suitable contact blocks:

AZ BZ BZ.k

front bezel: charcoal



RXJZWBL_KL

Key Switches (momentary/maintained)

l = Switching position
> = Spring return
O = Key removable position

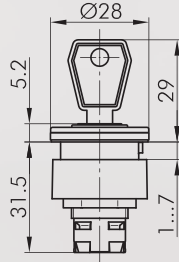
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: charcoal



RXJSSA12E

suitable contact blocks:

A AZ

front bezel: charcoal



RXJSSA13E

suitable contact blocks:

A AZ BZ BZ.k CT CTF CTP

front bezel: charcoal



RXJSSA14E

suitable contact blocks:

A AZ BZ BZ.k CT CTF CTP

front bezel: charcoal



RXJSSA15E

suitable contact blocks:

A AZ BZ BZ.k CT CTF CTP

front bezel: charcoal



RXJSSA17E

suitable contact blocks:

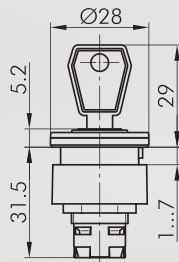
A AZ BZ BZ.k CT CTF CTP

front bezel: charcoal



RXJSSA18E

IP65



Key actuator, maintained (two-piece plunger)

including two keys
other lock types on request

suitable contact blocks:

AZ BZ BZ.k

front bezel: charcoal



RXJZSA12E

suitable contact blocks:

AZ BZ BZ.k

front bezel: charcoal



RXJZSA13E

Accessories



Spare key (standard)

standard spare key, specify key number for special locks

ESE845

Buzzers

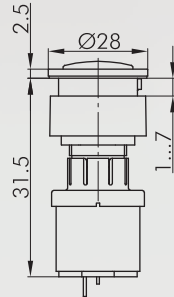
Illustration

Dimensions

Description

Type

IP65



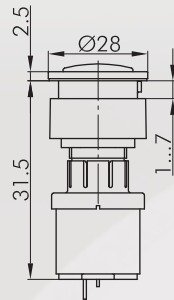
Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: 5mA (12V DC)
 16mA (24V DC)
 signal frequency: 3.8 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal

RXJNSG+SG-24V

IP65



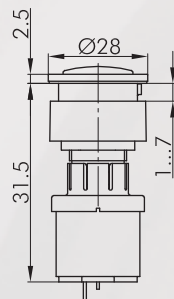
Interval buzzer

operating voltage: 12 ... 24V DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal

RXJNSG+SGL-24V

IP65



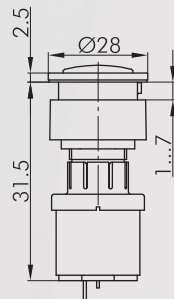
Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 operating temperature: -20°C ... +60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal

RXJNSGL+SGLR-24V

IP65



Illuminated interval buzzer

operating voltage: 12 ... 24V DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... +60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal

RXJNSGL+SGLR-24V

Accessories



Faston clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

Buzzers

Illustration

Dimensions

Description

Type



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pilot Lights

lenses and nameplates to be ordered separately

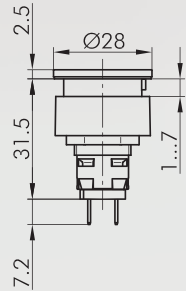
Illustration

Dimensions

Description

Type


IP65



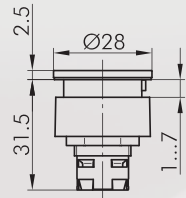
Pilot light with Faston terminals 2.8x0.8 mm

T5.5K socket

Connection type: Faston terminals 2.8x0.8 mm

front bezel: charcoal  **RXJL5**


IP65



Pilot light head

suitable lampholders:







A **B** **B...K** **CTF** **CTP**

front bezel: charcoal  **RXJN**

Accessories









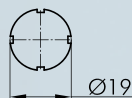
Convex lens

colour:	blue		KF20BL
	yellow		KF20GB
	green		KF20GN
	clear		KF20KL
	red		KF20RT
	white		KF20WS



Hemispherical lens

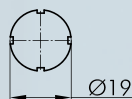
colour:	blue		KH20BL
	yellow		KH20GB
	green		KH20GN
	clear		KH20KL
	red		KH20RT
	opal white		KH20WS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

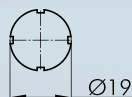
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank nameplate

BSRXU

Pilot Lights

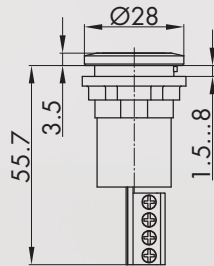
Illustration

Dimensions

Description

Type

IP65
IP67



LED switching position indicator, 3-coloured

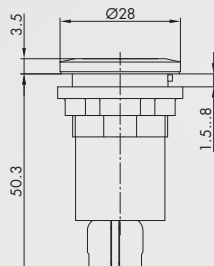
The switching position indicator is equipped with different LED colours (red, green, yellow). They can be used in symbol schematics in switching systems as well as in control rooms.

The pilot light has an integrated logic circuit. When connecting the voltage to V+ the yellow bar is illuminated. When connecting voltage to red or green, the illumination of the yellow bar switches off and the bar, red or green, being connected to voltage is illuminated
Connection: screw connection

Voltage: 24V
+48V - 60V DC
+110V - 125V DC
+220V DC

RXJN_FSB3_24V
RXJN_FSB3_48V
RXJN_FSB3_110V
RXJN_FSB3_220V

IP65
IP67



LED switching position indicator, 2-coloured

The switching position indicator is equipped with different LED colours (red, green).

They can be used in symbol schematics in switching systems as well as in control rooms.
Connection: cage clamp

Voltage: 24V
+48V - 60V DC
+110V - 125V DC
+220V DC

RXJN_FSB2_24V
RXJN_FSB2_48V
RXJN_FSB2_110V
RXJN_FSB2_220V

Accessories



Mounting tool 16

with torque limitation
for the series OKTRON, OKTRON-JUWEL, OKTRON-R,
RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON,
QUARTRON-JUWEL, RX-JUWEL

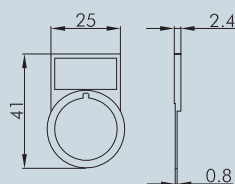
S16



Mounting tool adapter with 1/4" connections

for mounting tools S16 and S22

SRA



External nameplate holder



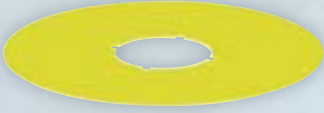






for outside marking of the actuators of the RX-JUWEL,
RONDEX-JUWEL series, accepts self-adhesive nameplates

colour: charcoal



RXJABT

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm	BZ16L...
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm	
		colour: yellow 	NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm	
		colour: yellow 	NAS_22_548
		Universal lens remover	USK
		Round dummy to close unused mounting apertures	
IP65		colour: charcoal 	BVRXJ

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm



RONDEX

 Product configurator



Overview RONDEX series



01 Pushbutton heads	page 232	07 Key actuators	page 238
02 Emergency-stop heads	page 234	08 Buzzers	page 239
03 Mushroom heads	page 235	09 Pilot light heads / pilot lights	page 240
04 Knob set for potentiometers	page 236	Contact blocks/lampholders	page 414
05 Selector heads/knob set for rotary switches	page 236		
06 Toggle heads	page 237		

Housing colour



degree of protection



operating travel



tactile

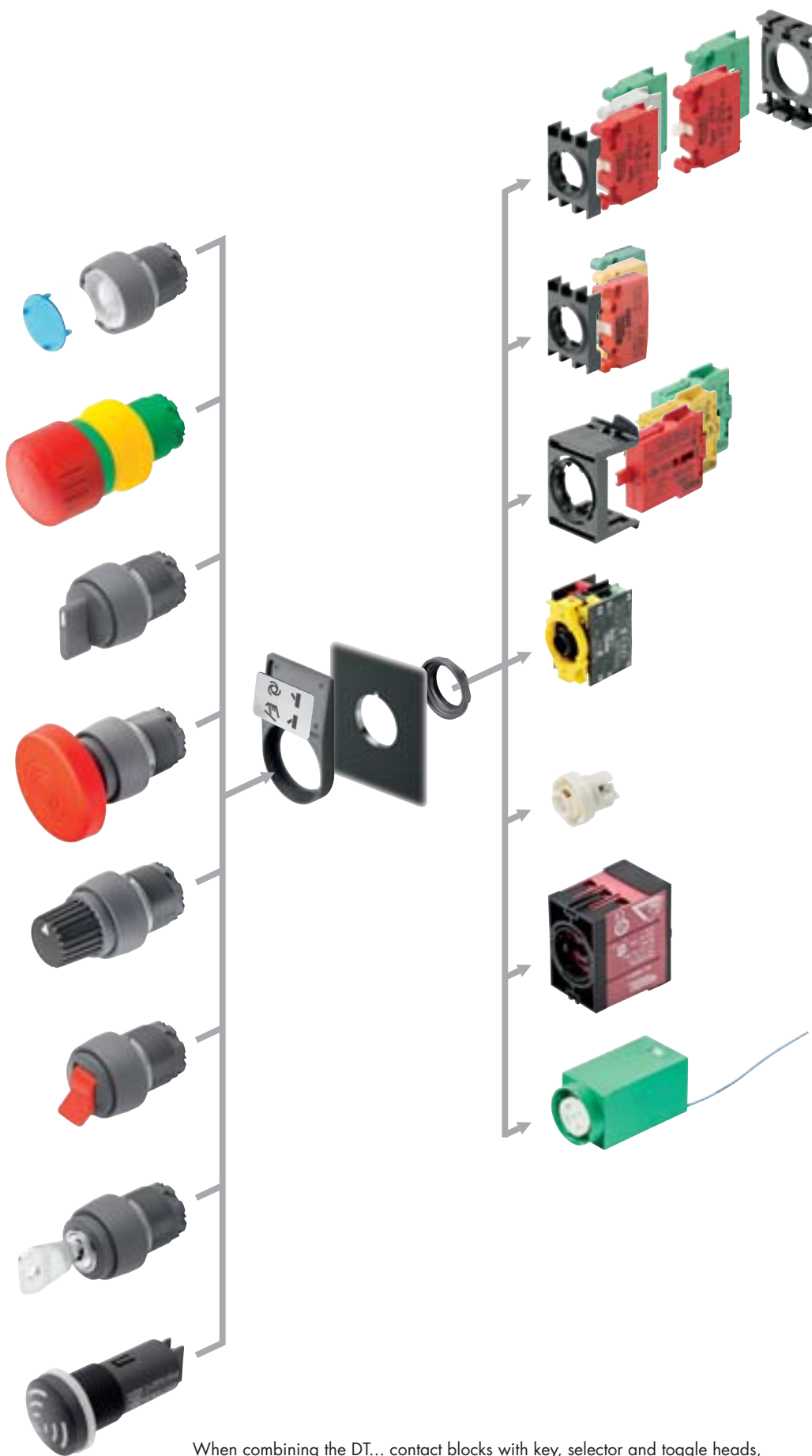


illuminating option



labelling option





DT
DT...
Modular contact
blocks
spring-clamp
connection
page 548

DS
DS...
Modular contact
blocks
push-in connection
page 542

M
MT...
Modular contact
blocks
screw connection
page 534

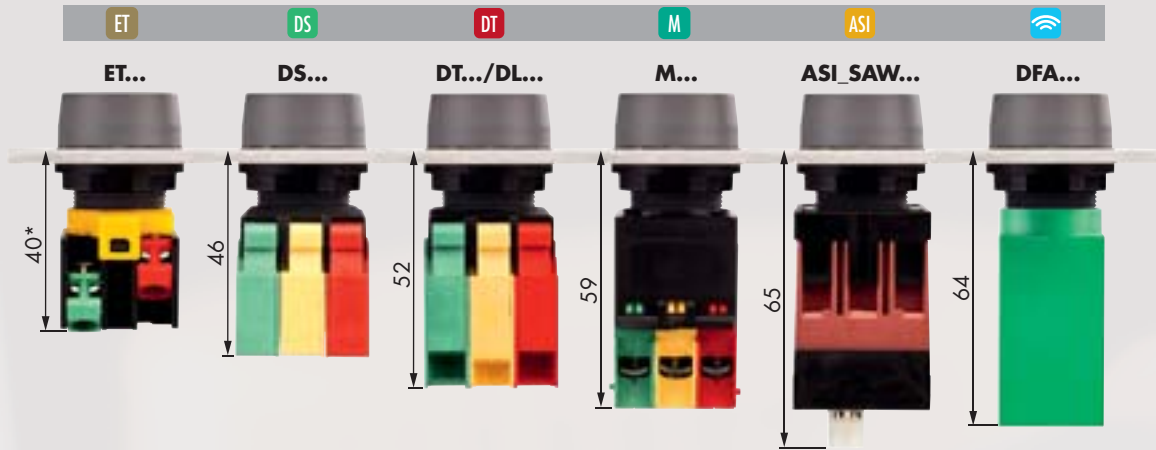
ET
ET...
Monobloc contact
blocks
screw connection
page 528

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

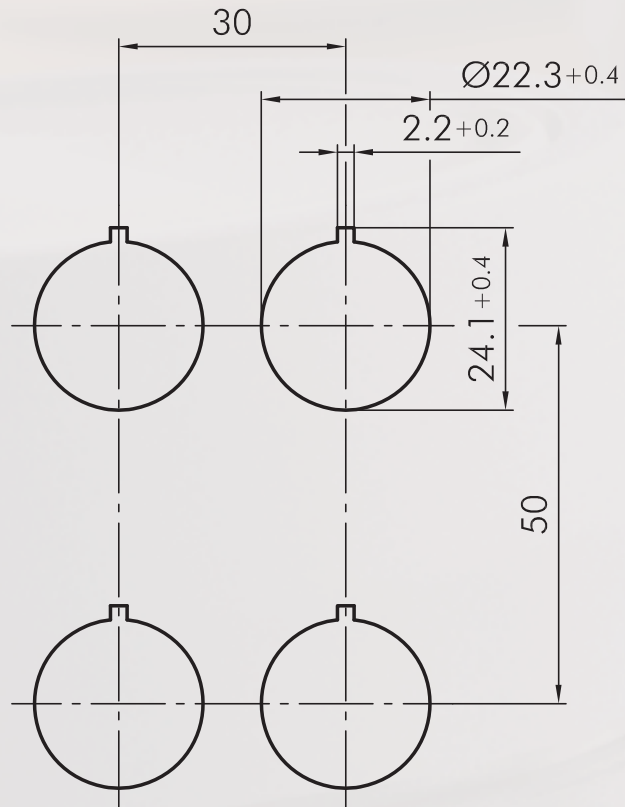
DFA
DFA...
Battery-free wireless
transmitter modules
page 566

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

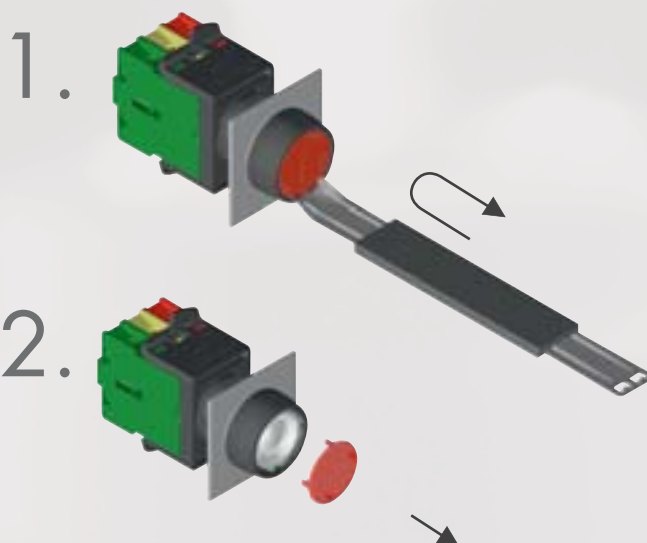
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Pushbuttons

lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

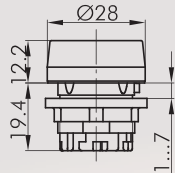
Type

IP65

6 mm

illumination icon

actuator icon



Pushbutton head

suitable contact blocks:

DS DT ET M

front bezel:

charcoal



RT

Accessories



Flat lens, transparent

colour:

blue



TG22BL

yellow



TG22GB

green



TG22GN

clear



TG22KL

red



TG22RT

opal white



TG22WS



Flat lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

blue



TG22GBL

yellow



TG22GGB

green



TG22GGN

black



TG22GSW

red



TG22GRT

white



TG22GWS



High lens, transparent

colour:

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red



KH23RT

opal white



KH23WS



High lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

blue



TG22GHBL

yellow



TG22GHGB

green



TG22GHGN

black



TG22GHSW

red

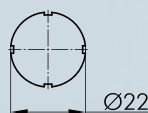


TG22GHRT

white



TG22GHWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSK...

Pushbuttons

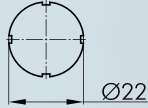
lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

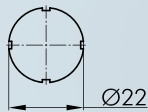
Type



Nameplate with special imprint

according to customer's specification

BSKB

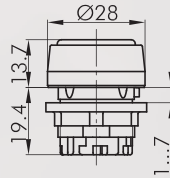


Blank nameplate

BSKU

IP67

6 mm



Membrane pushbutton head

with tightly closed, transparent silicone cap, down to -50° C

suitable contact blocks:

DS DT ET M

front bezel: charcoal

RTM

Accessories



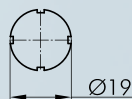
Flat lens, transparent

colour:

blue
yellow
green
clear
red
opal white



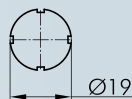
T20FBL
T20FGB
T20FGN
T20FKL
T20FRT
T20FWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

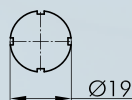
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank nameplate

BSRXU

IP67



Sealing cap

made of silicone rubber, down to -50°C

TK29S

Pushbuttons

Illustration

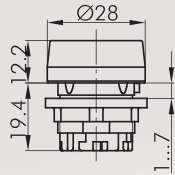
Dimensions

Description

Type

IP65

↓ 6 mm



Economy pushbutton head

no inscription, no illumination

suitable contact blocks:

DS DT ET M

front bezel:	charcoal		
lens:	green		RTG
front bezel:	charcoal		
lens:	red		RTR
front bezel:	charcoal		
lens:	black		RTS
front bezel:	charcoal		
lens:	white		RTW
front bezel:	charcoal		
lens:	yellow		RTY
front bezel:	charcoal		
lens:	blue		RTB



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Mushroom Pushbuttons

Illustration

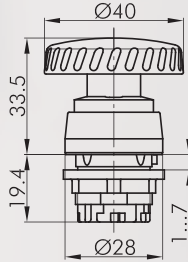
Dimensions

Description

Type

IP65

↓ 6mm



Mushroom head, latch-type

other mushroom colours on request
must be mounted onto yellow background

Foolproof:	no
Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

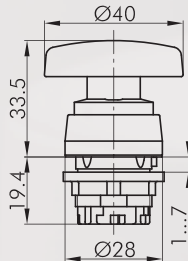


front bezel:	charcoal	
Mushroom head:	red	

RV

IP65

↓ 6mm



Mushroom head, momentary

other mushroom colours on request
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no

suitable contact blocks:


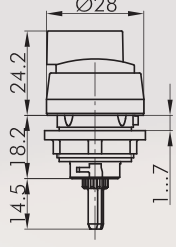

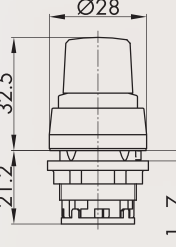

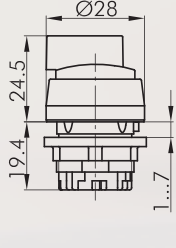



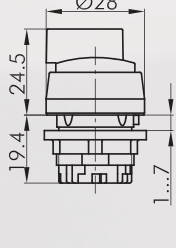



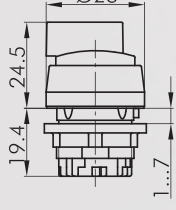



front bezel:	charcoal	
Mushroom head:	red	
front bezel:	charcoal	
Mushroom head:	black	

RS

RS_SW.PILZ

Knob Sets for Rotary Switches

Illustration	Dimensions	Description	Type
		<p>Knob set for rotary switches, without inscription for Kraus & Naimer types CG4 and CA4 other versions on request</p> <p>front bezel: charcoal</p>	RDA
		<p>Knob set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 delivery without potentiometer shaft length: approx. 50 mm ± 2 mm incl. fastening thread</p> <p>front bezel: charcoal</p>	RR
		<p>Selector head, maintained</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p> <p>suitable contact blocks: DT ET M</p> <p>front bezel: charcoal</p>	 RWA  RWB
		<p>Selector head, momentary</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p> <p>suitable contact blocks: DT ET M</p> <p>front bezel: charcoal</p>	 RSTA  RSTB
		<p>Selector head, left maintained, right momentary</p> <p>suitable contact blocks: DT ET M</p> <p>front bezel: charcoal</p>	 RWC

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

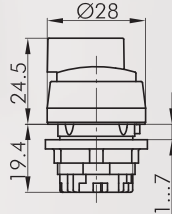
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, maintained

inclusive five small, transparent colour plates in red, yellow, green, white and blue

suitable contact blocks:

DS DT ET M

front bezel: charcoal



RWAL

suitable contact blocks:

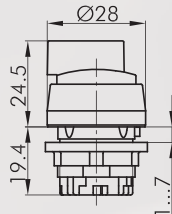
DS DT ET M

front bezel: charcoal



RWBL

IP65



Illuminated selector head, left maintained, right momentary

inclusive four small, transparent colour plates in red, yellow, green and blue

suitable contact blocks:

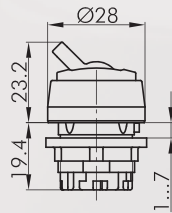
DS DT ET M

front bezel: charcoal



RWCL

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

DS DT ET M

front bezel: charcoal

Knob colour: red


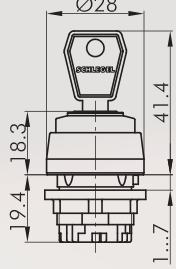
RK

Key Switches (momentary/maintained)

















I = Switching position
> = Spring return
O = Key removable position

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------


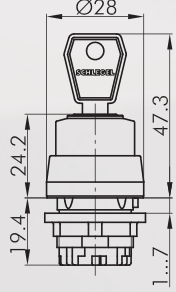
IP65






Key actuator, maintained
including two keys
other lock types on request

suitable contact blocks:	DT ET M		
front bezel:	charcoal		RSSA12E
suitable contact blocks:	DT ET M		
front bezel:	charcoal		RSSA13E
suitable contact blocks:	 DS DT ET M		
front bezel:	charcoal		RSSA14E
suitable contact blocks:	 DS DT ET M		
front bezel:	charcoal		RSSA15E
suitable contact blocks:	 DS DT ET M		
front bezel:	charcoal		RSSA17E
suitable contact blocks:	 DS DT ET M		
front bezel:	charcoal		RSSA18E


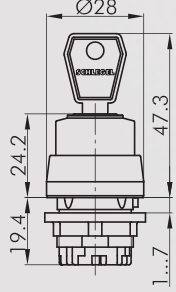
IP65



Key actuator, momentary
including two keys
other lock types on request

suitable contact blocks:	DT ET M		
front bezel:	charcoal		RSSA23E
suitable contact blocks:	 DS DT ET M		
front bezel:	charcoal		RSSA27E

IP65

Key actuator, left maintained, right momentary
including two keys
other lock types on request

suitable contact blocks:	DT ET M		
front bezel:	charcoal		RSSA24E

Buzzers

Illustration

Dimensions

Description

Type

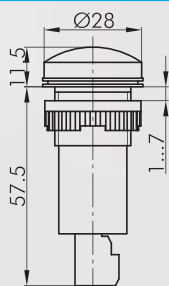
Accessories



Spare key (standard)

ESE845

standard spare key, specify key number for special locks



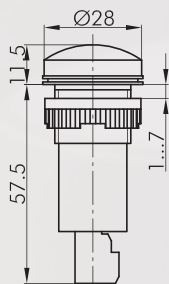
Buzzer 230V

operating voltage: 230V~
volume: 80 dB at 10 cm distance
mounting depth: 60 mm
max. ambient temperature: -20°C up to 50°C
service life: > 5000 h

front bezel: black



RSG-230V



Buzzer 24V

operating voltage: 18 - 30V AC/DC
volume: 80 dB at 10 cm distance
mounting depth: 60 mm
max. ambient temperature: -20°C up to 50°C
service life: > 5000 h

front bezel: black



RSG-24V

RONDEX

Ø 22.3 mm

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Pilot Lights

lenses and nameplates to be ordered separately

- About Us
- Contact Blocks
- Busbarriers/Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFD
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------

<p>IP65</p>			<p>Pilot light head</p> <p>suitable lampholders:</p> <p>DS DT ET M</p> <p>front bezel: charcoal </p>	<p>RN</p>
-------------	--	--	--	------------------

Accessories

	<p>Convex lens</p> <p>colour:</p> <table style="width: 100%;"> <tr> <td style="width: 50%;">blue</td> <td style="width: 10%;"></td> <td style="width: 40%;">KF23BL</td> </tr> <tr> <td>yellow</td> <td></td> <td>KF23GB</td> </tr> <tr> <td>green</td> <td></td> <td>KF23GN</td> </tr> <tr> <td>clear</td> <td></td> <td>KF23KL</td> </tr> <tr> <td>red</td> <td></td> <td>KF23RT</td> </tr> <tr> <td>opal white</td> <td></td> <td>KF23WS</td> </tr> </table>	blue		KF23BL	yellow		KF23GB	green		KF23GN	clear		KF23KL	red		KF23RT	opal white		KF23WS
blue		KF23BL																	
yellow		KF23GB																	
green		KF23GN																	
clear		KF23KL																	
red		KF23RT																	
opal white		KF23WS																	

	<p>High lens, transparent</p> <p>colour</p> <table style="width: 100%;"> <tr> <td style="width: 50%;">blue</td> <td style="width: 10%;"></td> <td style="width: 40%;">KH23BL</td> </tr> <tr> <td>yellow</td> <td></td> <td>KH23GB</td> </tr> <tr> <td>green</td> <td></td> <td>KH23GN</td> </tr> <tr> <td>clear</td> <td></td> <td>KH23KL</td> </tr> <tr> <td>red</td> <td></td> <td>KH23RT</td> </tr> <tr> <td>opal white</td> <td></td> <td>KH23WS</td> </tr> </table>	blue		KH23BL	yellow		KH23GB	green		KH23GN	clear		KH23KL	red		KH23RT	opal white		KH23WS
blue		KH23BL																	
yellow		KH23GB																	
green		KH23GN																	
clear		KH23KL																	
red		KH23RT																	
opal white		KH23WS																	

		<p>Nameplate with standard imprint</p> <p>please specify index number (see nameplates from page 634)</p>	<p>BSK...</p>
--	--	---	----------------------

		<p>Nameplate with special imprint</p> <p>according to customer's specification</p>	<p>BSKB</p>
--	--	---	--------------------

		<p>Blank nameplate</p>	<p>BSKU</p>
--	--	-------------------------------	--------------------

Pilot Lights

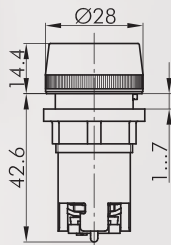
Illustration

Dimensions

Description

Type

IP65



Pilot light with screw connections

RL9G

BA9s socket

Connection type: screw connection 2x2.5mm²

Accessories



Panoramic lens

colour:	blue		KG22BL
	yellow		KG22GB
	green		KG22GN
	clear		KG22KL
	red		KG22RT
	white		KG22WS



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V)

colour:	white		LD9-24MW
---------	-------	--	----------

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm





 Product configurator



RONDEX-M

RONDEX-M

Ø 22.3 mm

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→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Overview RONDEX-M series



01 Pushbutton heads	page 248	07 Key actuators	page 253
02 Emergency-stop heads	page 250	08 Buzzers	page 254
03 Mushroom heads	page 250	09 Pilot light heads / pilot lights	page 255
04 Knob set for potentiometers	page 251	Contact blocks/lampholders	page 414
05 Selector heads	page 251		
06 Toggle heads	page 252		

Housing colour



degree of protection



operating travel



tactile

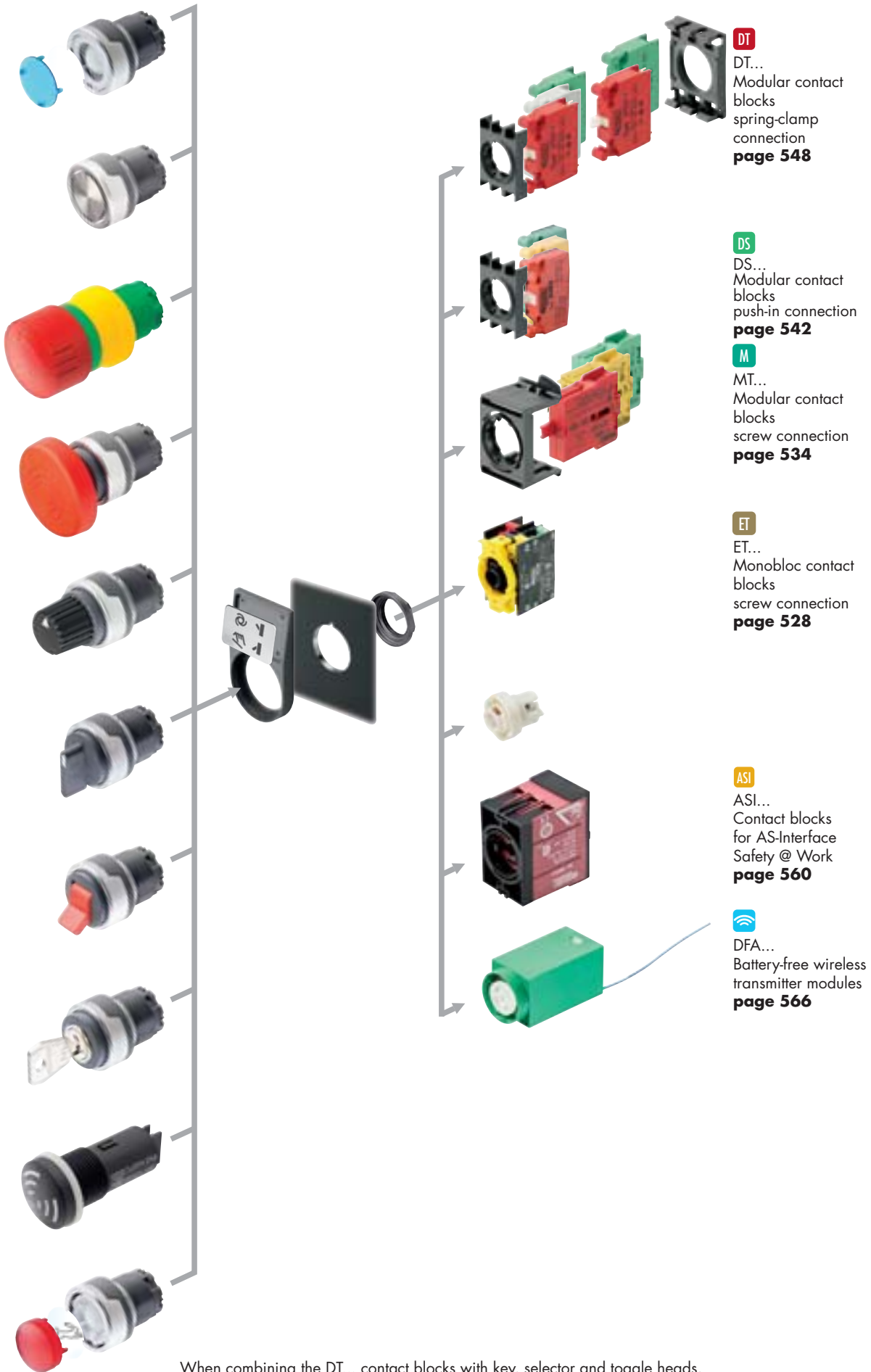


illuminating option



labelling option





When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

RONDEX-M

Ø 22.3 mm

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SCHLEGEL
ELEKTROKONTAKT

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Pushbuttons
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Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

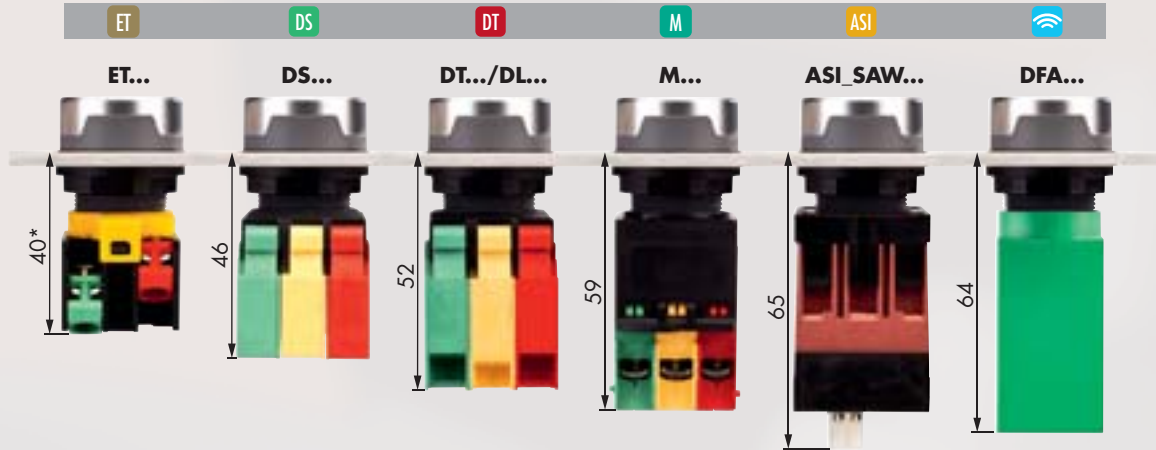
Enclosures

Pedal Switches

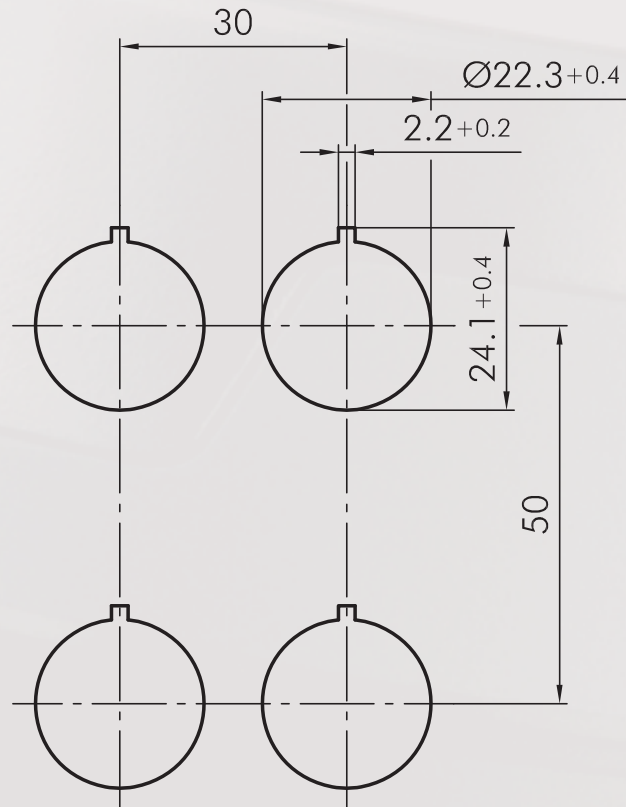
Terminal Blocks

Type Index

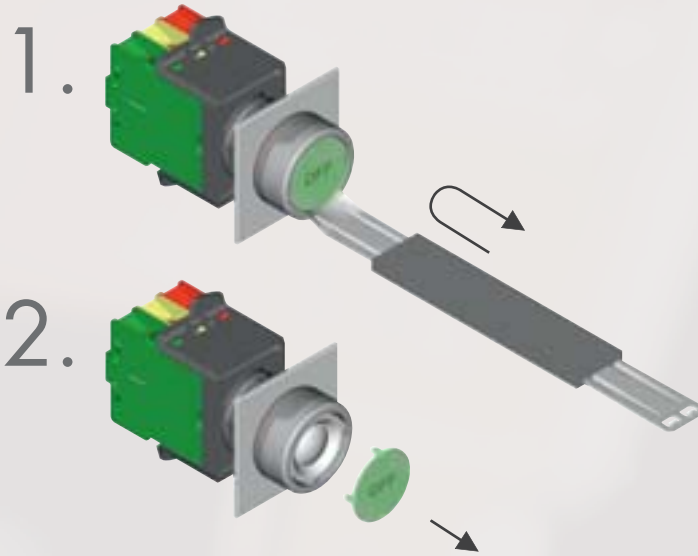
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



RONDEX-M

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons

lenses and nameplates to be ordered separately

Illustration

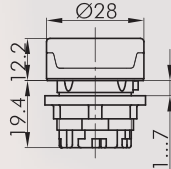
Dimensions

Description

Type

IP65

6 mm



Pushbutton head

suitable contact blocks:

DS DT ET M

front bezel:

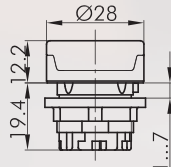
metallic/charcoal



RMCT

IP65

6 mm



Pushbutton head with ring illumination

incl. lens, inscription on request

suitable contact blocks:

DS DT ET M

front bezel:

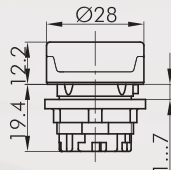
metallic/charcoal



RMCTLR

IP65

6 mm



Pushbutton head with latching function

suitable contact blocks:

DS DT ET M

front bezel:

metallic/charcoal



RMCF

Accessories



Flat lens, transparent

colour:

blue



TG22BL

yellow



TG22GB

green



TG22GN

clear



TG22KL

red



TG22RT

opal white



TG22WS



Flat lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

blue



TG22GBL

yellow



TG22GGB

green



TG22GGN

black



TG22GSW

red



TG22GRT

white



TG22GWS



High lens, transparent

colour

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red



KH23RT

opal white



KH23WS

Pushbuttons

Illustration

Dimensions

Description

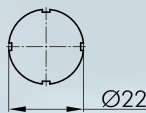
Type



High lens, non-transparent

used for pushbuttons without inscription and illumination

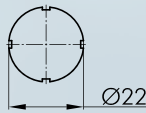
colour:	blue		TG22GHBL
	yellow		TG22GHGB
	green		TG22GHGN
	black		TG22GHSW
	red		TG22GHRT
	white		TG22GHWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

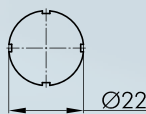
BSK...



Nameplate with special imprint

according to customer's specification

BSKB



Blank nameplate

BSKU

IP67



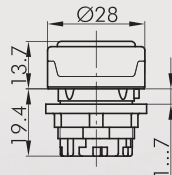
Sealing cap

made of silicone rubber, down to -50°C

TK29S

IP67

6mm



Membrane pushbutton head

with tightly closed, transparent silicone cap, down to -50 C

suitable contact blocks:

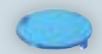


front bezel: metallic/charcoal



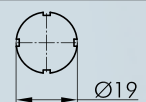
RMCTM

Accessories



Flat lens, transparent

colour:	blue		T20FBL
	yellow		T20FGB
	green		T20FGN
	clear		T20FKL
	red		T20FRT
	opal white		T20FWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

BSRX...

RONDEX-M

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

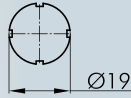
Mushroom Pushbuttons

Illustration

Dimensions

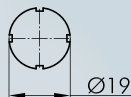
Description

Type



Nameplate with special imprint
according to customer's specification

BSRXB



Blank nameplate

BSRXU

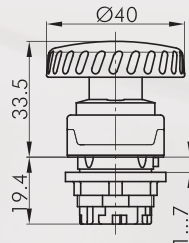


For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65

6 mm



Mushroom head, latch-type

other mushroom colours on request
must be mounted onto yellow background

Foolproof: no
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

DS DT ET M

front bezel: metallic/charcoal

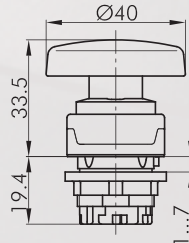
Mushroom head: red



RMCV

IP65

6 mm



Mushroom head, momentary

other mushroom colours on request

Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no

suitable contact blocks:

DS DT ET M

front bezel: metallic/charcoal

Mushroom head: red



RMCS

Potentiometers

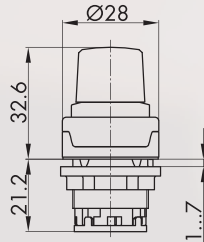
Illustration

Dimensions

Description

Type

IP65



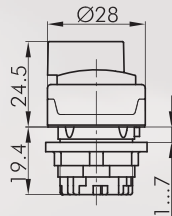
Knob set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10x0.75
delivery without potentiometer
shaft length: approx. 50 mm ± 2 incl. fastening thread

front bezel: metallic/charcoal

RMCR

IP65



Selector head, maintained

suitable contact blocks:

front bezel: metallic/charcoal

RMCWA



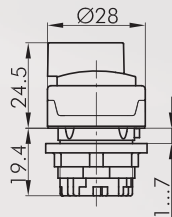
suitable contact blocks:

front bezel: metallic/charcoal

RMCWB



IP65



Selector head, momentary

suitable contact blocks:

front bezel: metallic/charcoal

RMCSTA



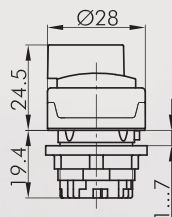
suitable contact blocks:

front bezel: metallic/charcoal

RMCSTB



IP65



Selector head, left maintained, right momentary

suitable contact blocks:

front bezel: metallic/charcoal

RMCWC



RONDEX-M

Ø 22.3 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures


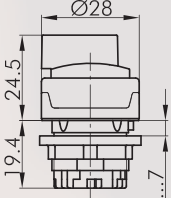



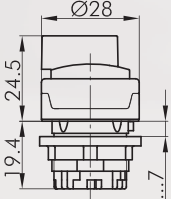


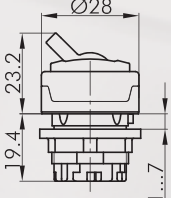
Pedal Switches

Terminal Blocks

Type Index

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
<p>IP65</p> 		<p>Selector head, maintained inclusive four small transparent colour plates in red, yellow, green and blue</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: metallic/charcoal</p> <p>suitable contact blocks: DT ET M</p> <p>front bezel: metallic/charcoal</p>	<p>90°</p>  <p>RM CWAL</p> <p>45° 45°</p>  <p>RM CWBL</p>
<p>IP65</p> 		<p>Illuminated selector head, left maintained, right momentary inclusive four small transparent colour plates in red, yellow, green and blue</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: metallic/charcoal</p>	<p>45° 45°</p>  <p>RM CWCL</p>
<p>IP65</p> 		<p>Toggle head with red toggle (other colours on request)</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: metallic/charcoal</p> <p>Knob colour: red</p>	<p>RMCK</p>

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

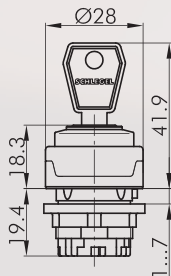
Illustration

Dimensions

Description

Type

IP65



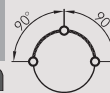
Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: metallic/charcoal

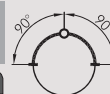


RMCSSA12E

suitable contact blocks:

DT ET M

front bezel: metallic/charcoal



RMCSSA13E

suitable contact blocks:

DS DT ET M

front bezel: metallic/charcoal



RMCSSA14E

suitable contact blocks:

DS DT ET M

front bezel: metallic/charcoal



RMCSSA15E

suitable contact blocks:

DS DT ET M

front bezel: metallic/charcoal

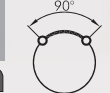


RMCSSA17E

suitable contact blocks:

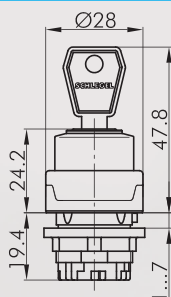
DS DT ET M

front bezel: metallic/charcoal



RMCSSA18E

IP65



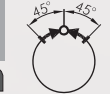
Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: metallic/charcoal



RMCSSA23E

suitable contact blocks:

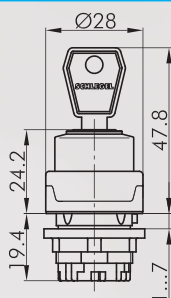
DS DT ET M

front bezel: metallic/charcoal



RMCSSA27E

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: metallic/charcoal



RMCSSA24E

Buzzers

Illustration

Dimensions

Description

Type

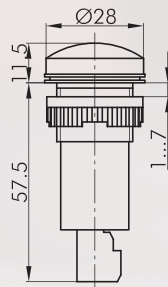
Accessories



Spare key (standard)

standard spare key, specify key number for special locks

ESE845



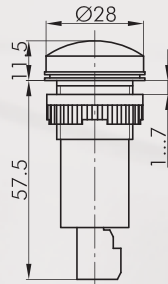
Buzzer 230V

operating voltage: 230V~
volume: 80 dB at 10 cm distance
mounting depth: 60 mm
max. ambient temperature: -20°C up to 50°C
service life: > 5000 h

front bezel: black



RSG-230V



Buzzer 24V

operating voltage: 18 - 30V AC/DC
volume: 80 dB at 10 cm distance
mounting depth: 60 mm
max. ambient temperature: -20°C up to 50°C
service life: > 5000 h

front bezel: black



RSG-24V

Pilot Lights

lenses and nameplates to be ordered separately

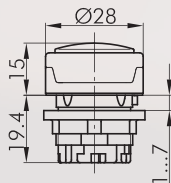
Illustration

Dimensions

Description

Type

IP65



Pilot light head

suitable lampholders:

DS DT ET M

front bezel:

metallic/charcoal



RMCN

Accessories



Convex lens

colour:

blue
yellow
green
clear
red
opal white



KF23BL
KF23GB
KF23GN
KF23KL
KF23RT
KF23WS



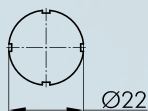
High lens, transparent

colour:

blue
yellow
green
clear
red
opal white



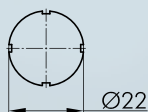
KH23BL
KH23GB
KH23GN
KH23KL
KH23RT
KH23WS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

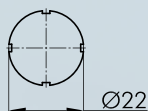
BSK...



Nameplate with special imprint

according to customer's specification

BSKB



Blank nameplate

BSKU





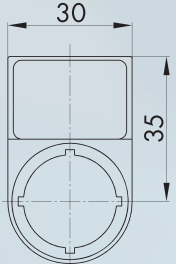



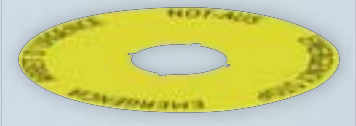


Mounting tool 22

with torque limitation



for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL

S22

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External nameplate holder for outside marking of the actuators of the RONDEX series, accepts self-adhesive nameplates colour: charcoal 	RABT
		Self-adhesive nameplate, laser-printed inscription according to customer's specification dimensions: 19 x 27 mm	BZ23L...
		Self-adhesive nameplate blank dimensions: 19 x 27 mm	BZ23U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 19 x 27 mm	BZ23B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow 	NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow 	NAS_22_548
		Universal lens remover	USK

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		<p>Dummy to close unused mounting apertures</p> <p>colour: charcoal</p>	 <p>BVR22</p>



Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 6 mm





RONDEX-JUWEL®

 Product configurator



Overview RONDEX-JUWEL® series



- 01 Pushbutton heads
- 02 Emergency-stop heads
- 03 Selector heads
- 04 Key actuators
- 05 Panel mount jacks
- 06 Pilot light heads

- page 264
- page 266
- page 267
- page 269
- page 272
- page 273

Contact blocks/lampholders

page 414

Housing colour



degree of protection



operating travel



tactile

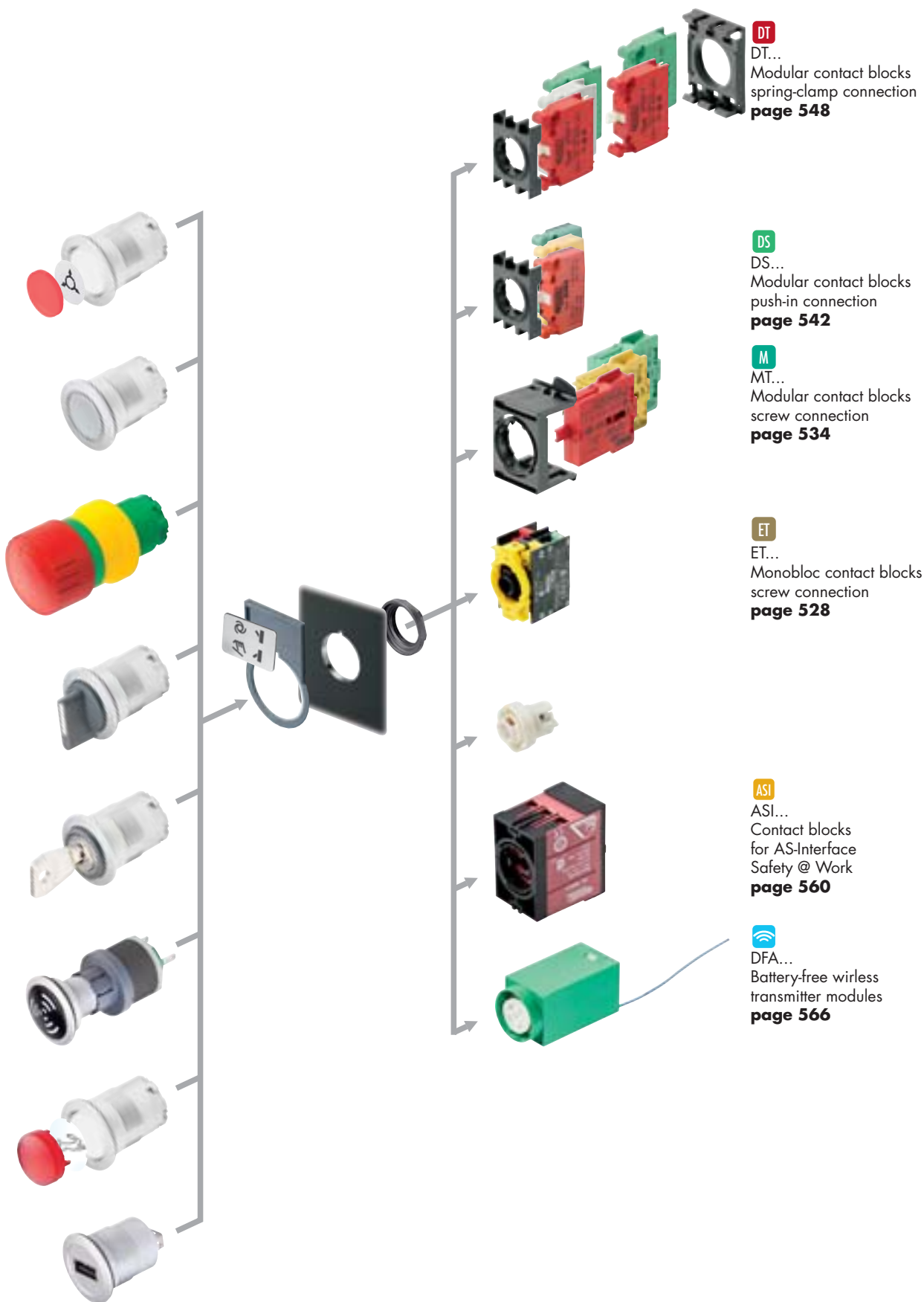


illuminating option



labelling option





DT
DT...
Modular contact blocks
spring-clamp connection
page 548

DS
DS...
Modular contact blocks
push-in connection
page 542

M
MT...
Modular contact blocks
screw connection
page 534

ET
ET...
Monobloc contact blocks
screw connection
page 528

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

DFA
DFA...
Battery-free wireless
transmitter modules
page 566

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

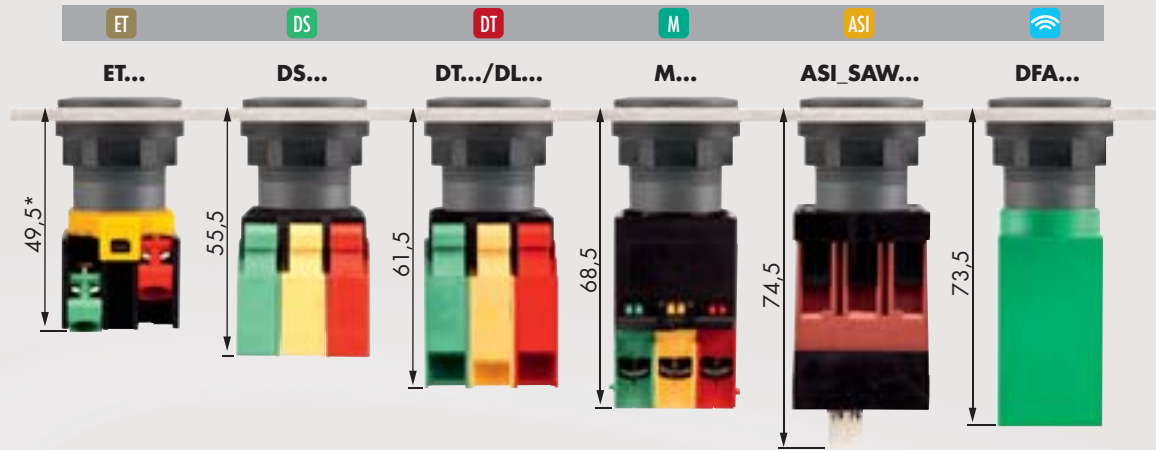
Pedal Switches

Terminal Blocks

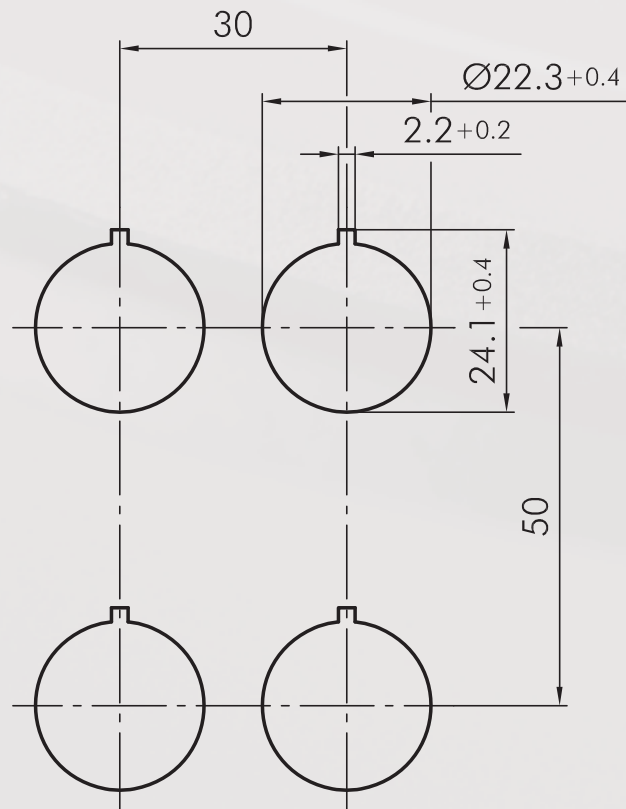
Type Index

Ø 22.3 mm

Mounting depth dimensions



Cutout dimensions



About Us

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

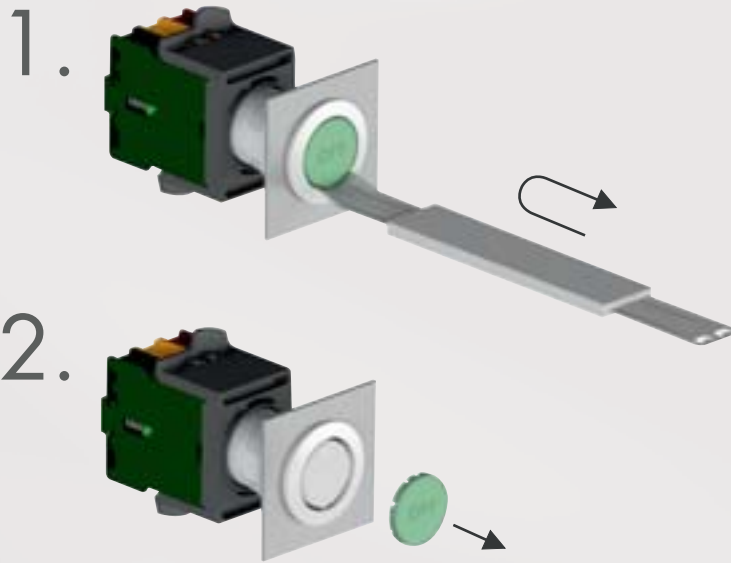
Enclosures

Pedal Switches

Terminal Blocks

Type Index

Mounting and service instructions



Pushbuttons

lenses and nameplates to be ordered separately

Illustration

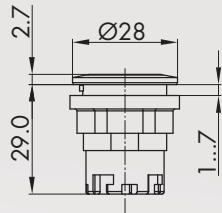
Dimensions

Description

Type

IP65
IP67

6 mm



Pushbutton head

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured

charcoal

stainless steel, polished



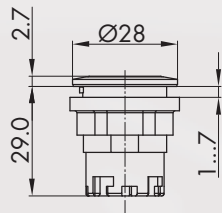
JRMT

JRT

JRVAT

IP65
IP67

4 mm



Short-stroke pushbutton head

suitable contact blocks:

DS

front bezel

silver-coloured

charcoal

stainless steel, polished



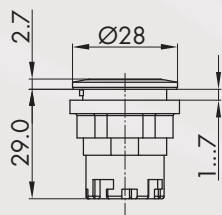
JRMD

JRD

JRVAD

IP65
IP67

6 mm



Pushbutton head, maintained

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured

charcoal

stainless steel, polished



JRMF

JRF

JRVAF

Accessories

Flat lens, transparent

colour

blue

yellow

green

clear

red

opal white



T22RRBL

T22RRGB

T22RRGN

T22RRKL

T22RRRT

T22RRWS

Flat lens, non-transparent

colour:

blue

yellow

green

black

red

white

silver-coloured



T22RRGBL

T22RRGGB

T22RRGGN

T22RRGSW

T22RRGRT

T22RRGWS

T22RRGM

Pushbuttons

lenses and nameplates to be ordered separately

Illustration

Dimensions

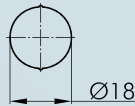
Description

Type



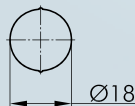
High lens, transparent

colour:	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opal white		T22HRRWS



Blank nameplate

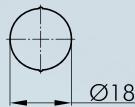
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...

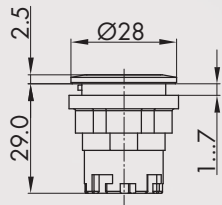


Nameplate with special imprint

according to customer's specification

BSRRB

IP65
IP67



Pushbutton head with ring illumination

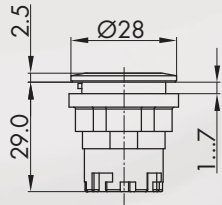
incl. lens

suitable contact blocks:



front bezel:	silver-coloured		JRMTLR
	stainless steel, polished		JRVATLR

IP65
IP67



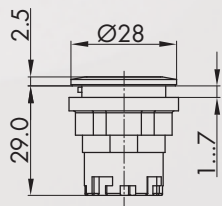
Short-stroke pushbutton head with ring illumination

suitable contact blocks:



front bezel:	silver-coloured		JRMDLR
	stainless steel, polished		JRVADLR

IP65
IP67



Pushbutton head with ring illumination and laser printing

incl. lens,

with laser printing translucent, standard imprints see nameplates from page 634 (please specify index number), special inscription on request

suitable contact blocks:



front bezel:	silver-coloured		JRMTLRL...
	stainless steel, polished		JRVATLRL...

Emergency-Stops

Illustration

Dimensions

Description

Type

Accessories

IP67

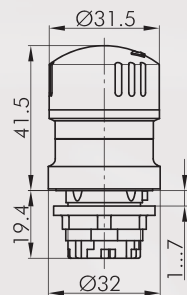


Sealing cap

made of silicone rubber, down to -50°C

TK28S

IP65
IP67
IP69K



Emergency-stop head

Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:



front bezel:	yellow	
Mushroom head:	red	

QRUV



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

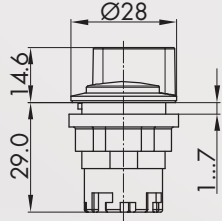
Illustration

Dimensions

Description

Type

IP65



Selector head, maintained

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished



JRMWA

JRWA

JRVAWA

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished

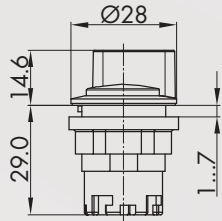


JRMWB

JRWB

JRVAWB

IP65



Selector head, momentary

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished



JRMSTA

JRSTA

JRVASTA

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished

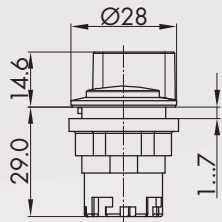


JRMSTB

JRSTB

JRVASTB

IP65



Selector head, left maintained, right momentary

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished

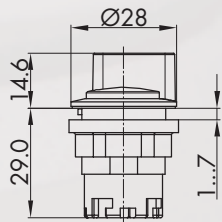


JRMWC

JRWVC

JRVAWC

IP65



Illuminated selector head, maintained

inclusive five small transparent colour plates in red, yellow, white, green and blue

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished



JRMWAL

JRWAL

JRVAWAL

suitable contact blocks:



front bezel:

silver-coloured



charcoal



stainless steel, polished




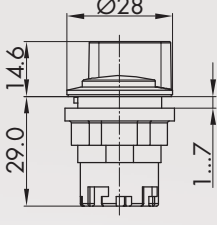






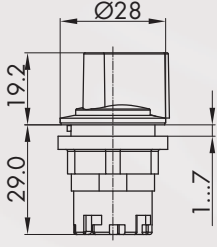






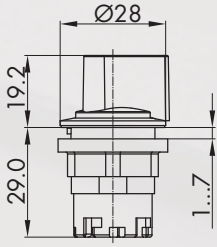






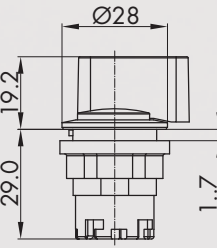





JRMWBL

JRWBL

JRVAWBL

Selector Switches (momentary/maintained)
two-piece plunger for selector heads with 3 switching positions (see page 13)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
<p>IP65</p>  <p>☀️</p>		<p>Illuminated selector head, left maintained, right momentary inclusive four small transparent colour plates in red, yellow, white, green and blue</p> <p>suitable contact blocks: </p> <p>front bezel: silver-coloured  charcoal  stainless steel, polished </p>	 <p>JRMWCL JRWCL JRVAWCL</p>
<p>IP65</p> 		<p>Handy selector head, maintained handy usability, also with gloves</p> <p>suitable contact blocks: </p> <p>front bezel: silver-coloured  charcoal  stainless steel, polished </p>	 <p>JRMGWA JRGWA JRVAGWA</p>
<p>IP65</p> 		<p>Handy selector head, momentary handy usability, also with gloves</p> <p>suitable contact blocks: </p> <p>front bezel: silver-coloured  charcoal  stainless steel, polished </p>	 <p>JRMGSTA JRGSTA JRVAGSTA</p>
<p>IP65</p> 		<p>Handy selector head, left maintained, right momentary handy usability, also with gloves</p> <p>suitable contact blocks: </p> <p>front bezel: silver-coloured  charcoal  stainless steel, polished </p>	 <p>JRMGWC JRGWC JRVAGWC</p>

Key Switches (momentary/maintained)
two-piece plunger for key switches with 3 switching positions (see page 13)

I = Switching position
> = Spring return
O = Key removable position

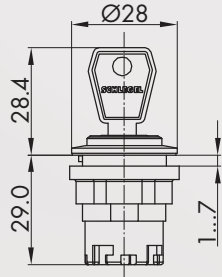
Illustration

Dimensions

Description

Type

IP65



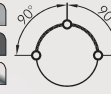
Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished

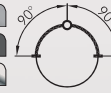


JRMSSA12E
JRSSA12E
JRVASSA12E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished



JRMSSA13E
JRSSA13E
JRVASSA13E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished

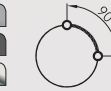


JRMSSA14E
JRSSA14E
JRVASSA14E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished



JRMSSA15E
JRSSA15E
JRVASSA15E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished



JRMSSA16E
JRSSA16E
JRVASSA16E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished



JRMSSA17E
JRSSA17E
JRVASSA17E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished



JRMSSA18E
JRSSA18E
JRVASSA18E

suitable contact blocks:



front bezel: silver-coloured
charcoal
stainless steel, polished



JRMSSA19E
JRSSA19E
JRVASSA19E

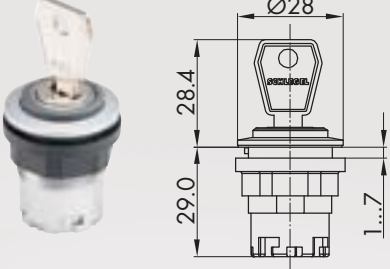
Key Switches (momentary/maintained)

two-piece plunger for key switches with 3 switching positions (see page 13)

I = Switching position
> = Spring return
O = Key removable position

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------

IP65



Key actuator, momentary
including two keys
other lock types on request

suitable contact blocks:
DS DT M

front bezel: silver-coloured charcoal stainless steel, polished

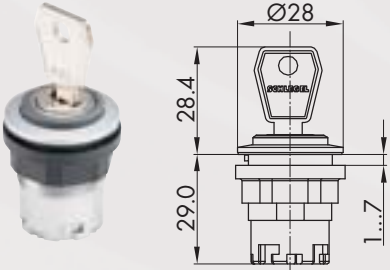
suitable contact blocks:
DS DT ET M

front bezel: silver-coloured charcoal stainless steel, polished

JRMSSA23E
JRSSA23E
JRVASSA23E

JRMSSA28E
JRSSA28E
JRVASSA28E

IP65



suitable contact blocks:
DS DT M

front bezel: silver-coloured charcoal stainless steel, polished


suitable contact blocks:
DS DT M

front bezel: silver-coloured charcoal stainless steel, polished

JRMSSA24E
JRSSA24E
JRVASSA24E

JRMSSA25E
JRSSA25E
JRVASSA25E

Accessories



Spare key (standard) ESE845
standard spare key, specify key number for special locks

Buzzers

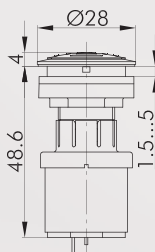
Illustration

Dimensions

Description



Type

IP65



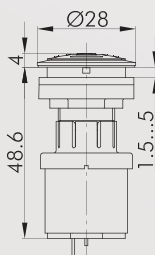
Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: 5mA (12V DC)
 16mA (24V DC)
 signal frequency: 3.8 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
 stainless steel, polished 



RRJNSG+SG-24V
RRJVANSG+SG-24V

IP65



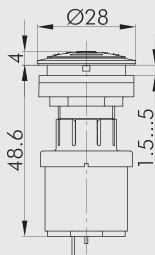
Interval buzzer

operating voltage: 12 ... 24V DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... 60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
 stainless steel, polished 



RRJNSG+SGL-24V
RRJVANSG+SGL-24V

IP65



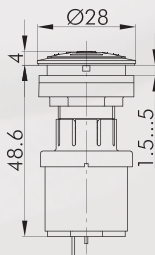
Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 operating temperature: -20°C ... +60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
 stainless steel, polished 



RRJNSGL+SGLR-24V
RRJVANSGL+SGLR-24V

IP65



Illuminated interval buzzer

operating voltage: 12 ... 24V DC
 operating current: abt. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10 cm, 24V)
 max. 80 db (10 cm, 12V)
 intervall: 1s
 operating temperature: -20°C ... +60°C
 Connection type: Faston terminals 2.8x0.8 mm

front bezel: silver-coloured 
 stainless steel, polished 

RRJNSGL+SGLR-24V
RRJVANSGL+SGLR-24V

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Panel Mount Jacks

Illustration

Dimensions

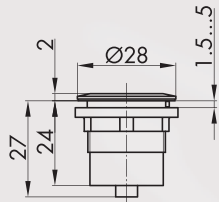
Description

Type



For panel mount jacks, please refer to page 572

IP65



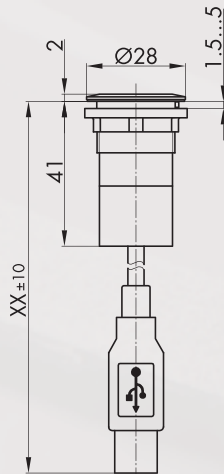
WiFi antenna

standard: IEEE 802.11 ac/a/b/g/n
connection: MCX jack
colour: silver-coloured



RRJ_WLA_01

IP65



WiFi adapter to USB

specification: IEEE 802.11 n conform downward compatible to IEEE 802.11 g/b supports 64/128-bit WEP, WPA and WPA2 encoding
system requirement: Windows XP, Vista, 7, 8, 8.1, 10, Mac OS X and Linux
connection: USB 2.0 cable (length XX=1500 mm)
colour: silver-coloured



RRJ_WLU_01



RFID components are available under www.schlegel.biz

Pilot Lights

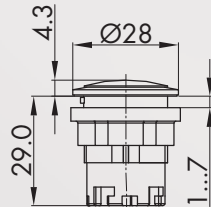
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pilot light head

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured

charcoal

stainless steel, polished



JRMN

JRN

JRVAN

Accessories



Lens

colour:

blue

yellow

green

clear

red

opal white



K22RRBL

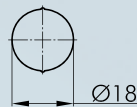
K22RRGB

K22RRGN

K22RRKL

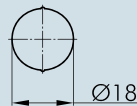
K22RRRT

K22RRWS



Blank nameplate

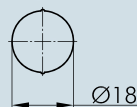
BSRRU



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB



Mounting tool 22

with torque limitation

for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL

S22


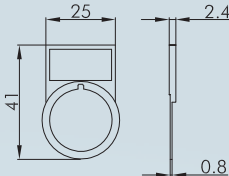












Mounting tool adapter with 1/4" connections













for mounting tools S16 and S22

SRA

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
 		External nameplate holder for outside marking of the actuators of the RX-JUWEL, RONDEX-JUWEL series, accepts self-adhesive nameplates colour: charcoal  silver-coloured 	RXJABT RXJMABT
		Self-adhesive nameplate laser-printed inscription according to customer's specification dimensions: 22 x 11 mm	BZ16L...
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow 	NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow 	NAS_22_548
		Lead-sealable protective lid colour: transparent 	KDP22RR

Accessories for Pushbuttons and Switches


Illustration	Dimensions	Description	Type
		<p>Lead-sealable, robust, tight protective lid</p> <p>colour: transparent  black </p>	<p>KDPR22RR KDPR22RR_SW</p>
		<p>Protective lid made of TPE</p> <p>colour: black </p>	<p>AK22RRSW</p>
		<p>Robust tight protection cap</p> <ul style="list-style-type: none"> - captive lid, threadable - suitable for the series Rontron-R-Juwel, Rondex-Juwel and Shortron <p>colour: aluminum  stainless steel, polished </p>	<p>SDAL22RR SDVA22RR</p>
		<p>Universal lens remover</p>	<p>USK</p>
		<p>Dummy</p> <p>to close unused mounting apertures</p> <p>colour: silver-coloured  charcoal </p>	<p>BVJRM BVJR</p>



Front dimensions: Ø 30 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm





 Product configurator



DUJX-Basic

Overview DUX-Basic series



- 01 Pushbutton heads
- 02 Emergency-stop heads
- 03 Mushroom heads
- 04 Selector heads
- 05 Toggle heads
- 06 Key actuators

- page 282
- page 283
- page 284
- page 285
- page 289
- page 290

- 07 Pilot light heads / pilot lights
- Contact blocks/lampholders

- page 294
- page 414

Housing colour



degree of protection



operating travel



tactile

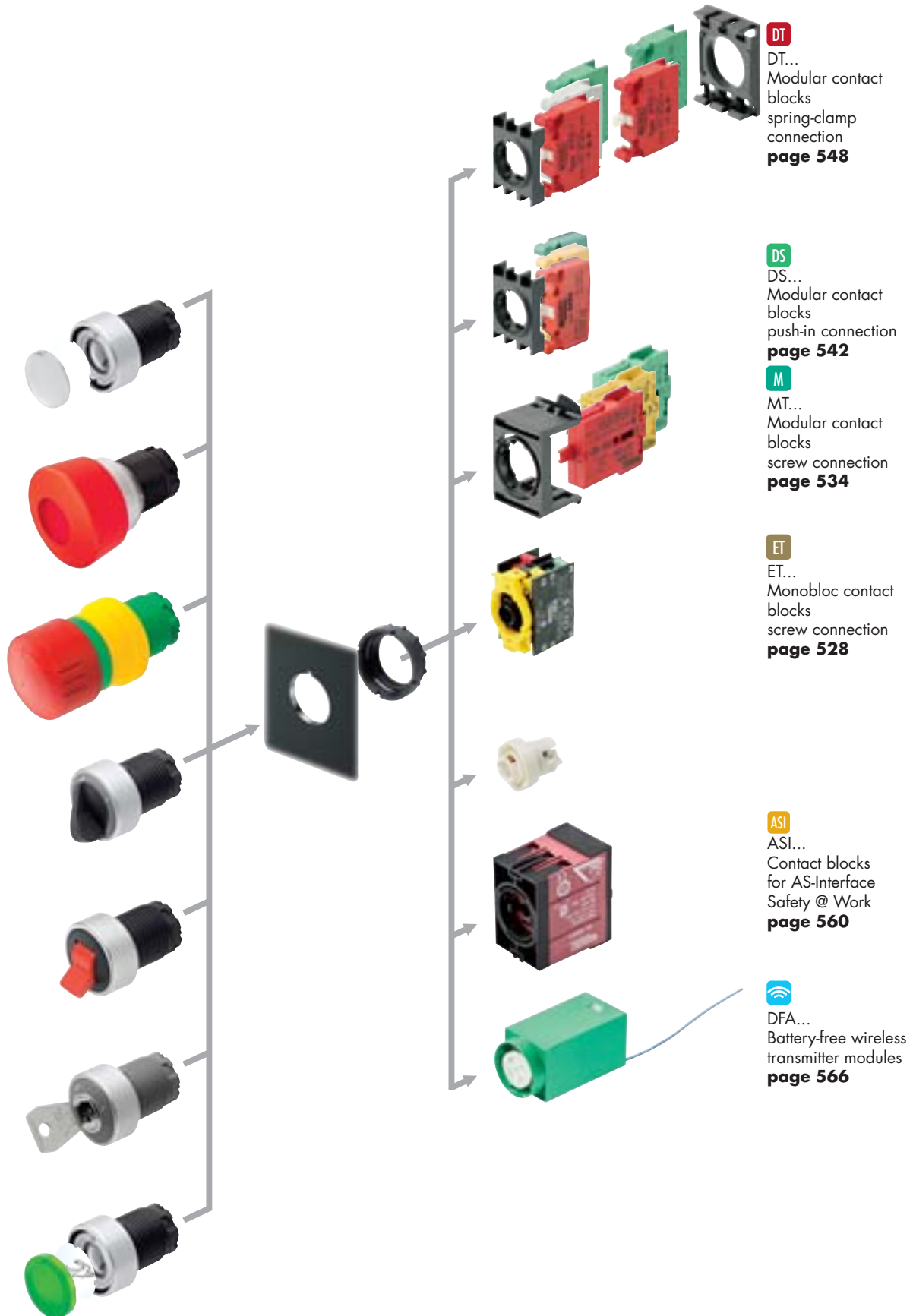


illuminating option



labelling option





DT
DT...
Modular contact blocks
spring-clamp connection
page 548

DS
DS...
Modular contact blocks
push-in connection
page 542

M
MT...
Modular contact blocks
screw connection
page 534

ET
ET...
Monobloc contact blocks
screw connection
page 528

ASI
ASI...
Contact blocks for AS-Interface
Safety @ Work
page 560

DFA
DFA...
Battery-free wireless transmitter modules
page 566

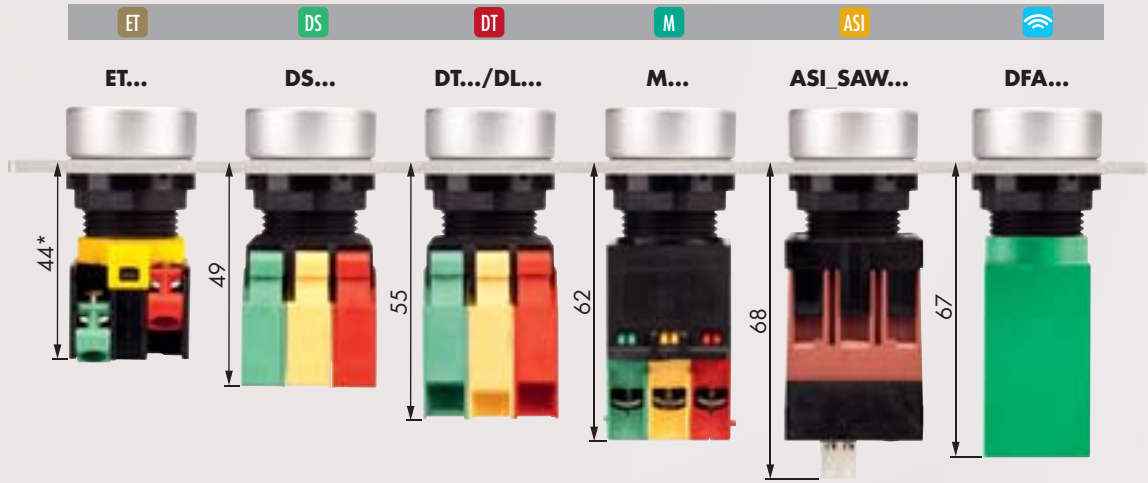
DUX-Basic

Ø 22.3 mm

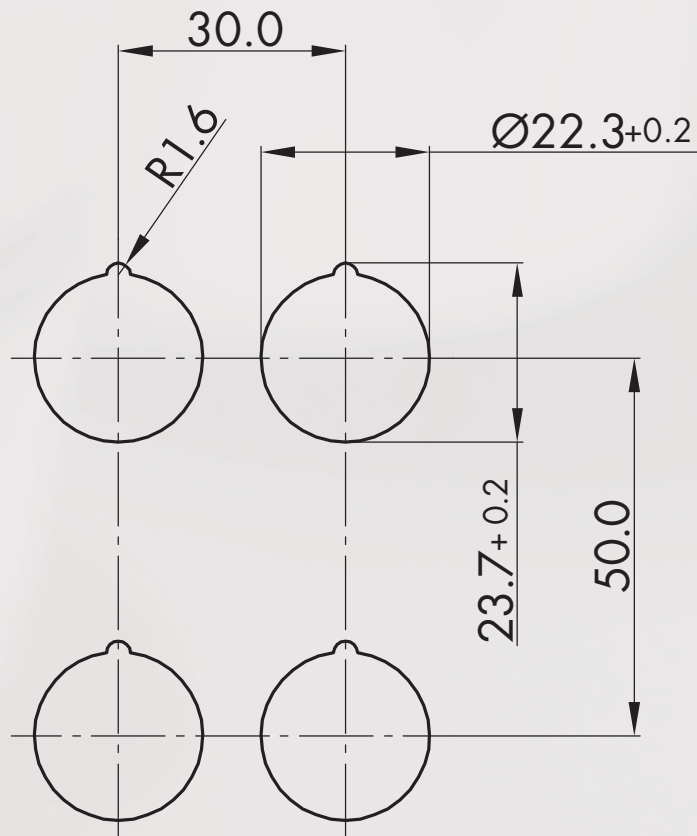
MADE IN GERMANY



Mounting depth dimensions



Cutout dimension



About Us

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

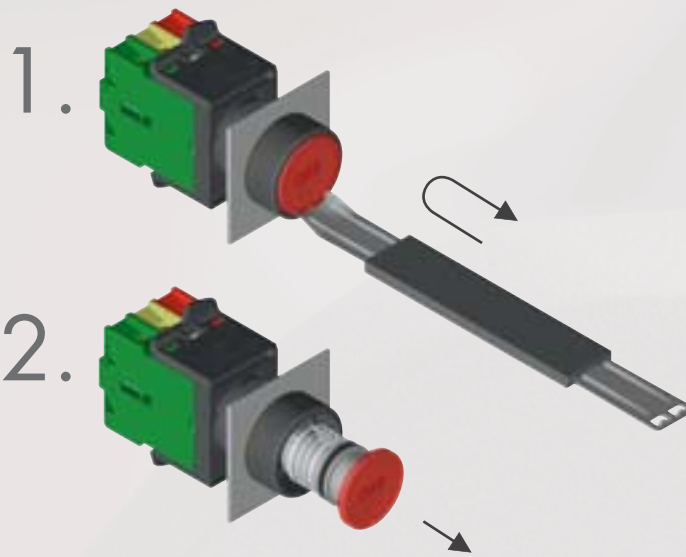
Enclosures

Pedal Switches

Terminal Blocks

Type Index

Mounting and service instructions



Pushbuttons

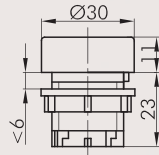
Illustration

Dimensions

Description

Type

IP65



Pushbutton head with flat non-transparent lens

available in white=WS, red=RT, green=GN, yellow=GB, black=SW, blue=BL

add code letter to type number, e.g. DXRTCRT
no inscription, no illumination

suitable contact blocks:



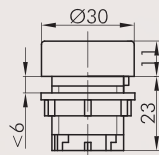
front bezel:

mat
grey
polished
black



DXRTC...
DXRTG...
DXRTM...
DXRTS...

IP65



Pushbutton head with flat transparent lens and blank nameplate

available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL
add code letter to type number, e.g. DXRTL CRT

suitable contact blocks:



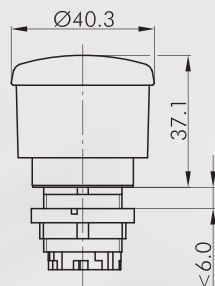
front bezel:

mat
grey
polished
black



DXRTL...
DXRTL...
DXRTL...
DXRTL...

IP65



Emergency braking head with inscription

Switching position indicator: yes
Anti-lock collar: no
Release: pull
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Section 15



suitable contact blocks:



front bezel: green
Mushroom head: red
front bezel: black
Mushroom head: red



DXRVG40SS
DXRVS40SS

Emergency-Stops

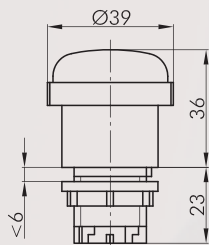
Illustration

Dimensions

Description

Type

IP65



Emergency braking head with arrow

must be mounted onto yellow background!

Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15



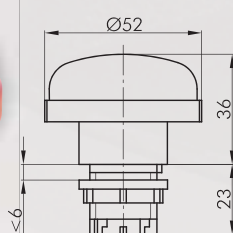
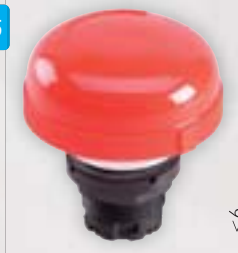
suitable contact blocks:



front bezel:	grey	
Mushroom head:	red	

DXRV39PF

IP65



Emergency-stop head

must be mounted onto yellow background!

Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:



front bezel:	polished	
Mushroom head:	red	
front bezel:	grey	
Mushroom head:	red	
front bezel:	black	
Mushroom head:	red	

DXRV52MRT

DXRV52GRT

DXRV52SRT



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Mushroom Pushbuttons

Illustration

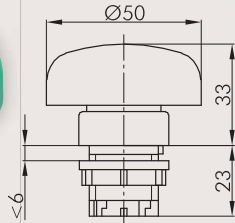
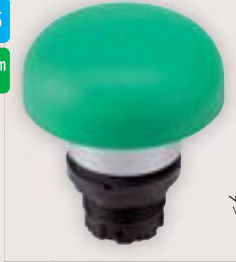
Dimensions

Description

Type

IP65

6 mm



Mushroom head, momentary

mushroom available in red=RT, green=GN, black=SW
add code letters to type number, e.g. DXRS50CRT

suitable contact blocks:

DS DT ET M

front bezel:

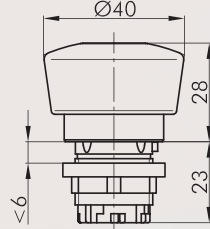
mat
grey
polished
black



DXRS50C...
DXRS50G...
DXRS50M...
DXRS50S...

IP65

6 mm



Mushroom head, momentary, with illumination and labelling option

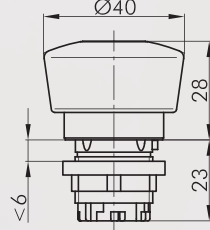
incl. blank nameplate, inscription on request
mushroom available in red=RT, green=GN, black=SW
add code letters to type number, e.g. DXRSL40CRT

suitable contact blocks:

DS DT ET M

IP65

6 mm



Mushroom head, momentary

mushroom available in red=RT, green=GN, black=SW
add code letters to type number, e.g. DXRS40CRT

suitable contact blocks:

DS DT ET M

front bezel:

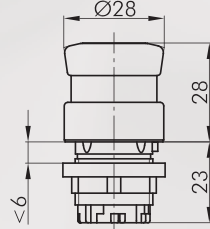
mat
grey
polished
black



DXRS40C...
DXRS40G...
DXRS40M...
DXRS40S...

IP65

6 mm



Mushroom head, momentary, with illumination and labelling option

incl. blank nameplate, inscription on request
mushroom available in red=RT, green=GN, black=SW
add code letters to type number, e.g. DXRSL28CRT

suitable contact blocks:

DS DT ET M

front bezel:

mat
grey
polished
black



DXRSL28C...
DXRSL28G...
DXRSL28M...
DXRSL28S...

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

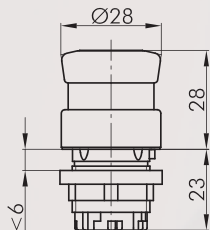
Illustration

Dimensions

Description

Type

IP65



Mushroom head, momentary

mushroom available in red=RT, green=GN, black=SW
add code letters to type number, e.g. DXRS28CRT

suitable contact blocks:

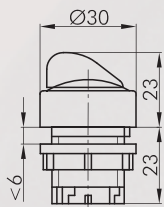


front bezel: mat
grey
polished
black



DXRS28C...
DXRS28G...
DXRS28M...
DXRS28S...

IP65



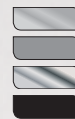
Selector head, maintained

available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG
add code letters to type number, e.g. DXRWACSWDG

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRWAHC...
DXRWAHG...
DXRWAHM...
DXRWAHS...

suitable contact blocks:

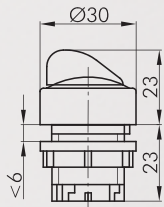


front bezel: mat
grey
polished
black



DXRWBHC...
DXRWBHG...
DXRWBHM...
DXRWBHS...

IP65



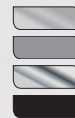
Selector head, momentary

available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG
add code letters to type number, e.g. DXRSTACSWDG

suitable contact blocks:



front bezel: mat
grey
polished
black

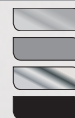


DXRSTAHC...
DXRSTAHG...
DXRSTAHM...
DXRSTAHS...

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSTBHC...
DXRSTBHG...
DXRSTBHM...
DXRSTBHS...

DUX-Basic

Ø 22.3 mm

MADE IN GERMANY



About Us

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

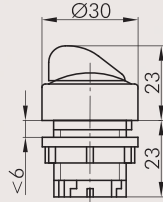
Illustration

Dimensions

Description

Type

IP65



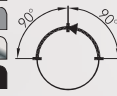
Selector head, left maintained, right momentary

available colour combinations:
 black ring / black knob ...SWSW
 black ring / grey knob ...SWDG
 grey ring / black knob ...DGSW
 grey ring / grey knob ...DGDG
 add code letters to type number, e.g. DXRWCCSWDG

suitable contact blocks:

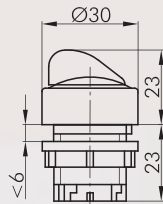


front bezel: mat grey polished black



DXRWCHC...
 DXRWCHG...
 DXRWCHM...
 DXRWCHS...

IP65



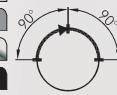
Selector head, left momentary, right maintained

available colour combinations:
 black ring / black knob ...SWSW
 black ring / grey knob ...SWDG
 grey ring / black knob ...DGSW
 grey ring / grey knob ...DGDG
 add code letters to type number, e.g. DXRWDCSWDG

suitable contact blocks:



front bezel: mat grey polished black



DXRWDHC...
 DXRWDHG...
 DXRWDHM...
 DXRWDHS...

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

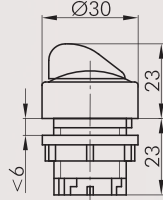
Illustration

Dimensions

Description

Type

IP65



Selector head with ring illumination, maintained

available colour combinations:

- red ring / black knob ...RTSW
 - red ring / grey knob ...RTDG
 - green ring / black knob ...GNSW
 - green ring / grey knob ...GNDG
 - clear ring / black knob ...KLSW
 - clear ring / grey knob ...KLDG
- add code letters to type number, e.g. DXRWALCRTSW

suitable contact blocks:



front bezel:

- mat
- grey
- polished
- black



- DXRWALHC...
- DXRWALHG...
- DXRWALHM...
- DXRWALHS...

suitable contact blocks:



front bezel:

- mat
- grey
- polished
- black



- DXRWBLHC...
- DXRWBLHG...
- DXRWBLHM...
- DXRWBLHS...

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

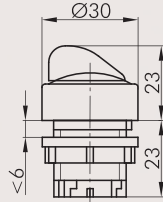
Illustration

Dimensions

Description

Type

IP65



Selector head, momentary, with ring illumination

available colour combinations:

red ring / black knob	...RTSW
red ring / grey knob	...RTDG
green ring / black knob	...GNSW
green ring / grey knob	...GNDG
clear ring / black knob	...KLSW
clear ring / grey knob	...KLDG

add code letters to type number, e.g. DXRSTALCRTSW

suitable contact blocks:



front bezel:

mat	
grey	
polished	
black	



DXRSTALHC...
DXRSTALHG...
DXRSTALHM...
DXRSTALHS...

suitable contact blocks:



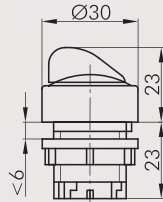
front bezel:

mat	
grey	
polished	
black	



DXRSTBLHC...
DXRSTBLHG...
DXRSTBLHM...
DXRSTBLHS...

IP65



Selector head with ring illumination, left maintained, right momentary

available colour combinations:

red ring / black knob	...RTSW
red ring / grey knob	...RTDG
green ring / black knob	...GNSW
green ring / grey knob	...GNDG
clear ring / black knob	...KLSW
clear ring / grey knob	...KLDG

add code letters to type number, e.g. DXRWCLCRTSW

suitable contact blocks:



front bezel:

mat	
grey	
polished	
black	



DXRWCLHC...
DXRWCLHG...
DXRWCLHM...
DXRWCLHS...

Selector Switches (momentary/maintained)

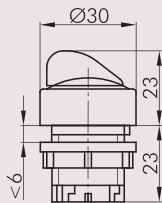
Illustration

Dimensions

Description

Type

IP65



Selector head with ring illumination, left momentary, right maintained

available colour combinations

red ring / black knob	...RTSW
red ring / grey knob	...RTDG
green ring / black knob	...GNSW
green ring / grey knob	...GN DG
clear ring / black knob	...KLSW
clear ring / grey knob	...KLDG

add code letters to type number, e.g. DXRWDLCRTSW

suitable contact blocks:



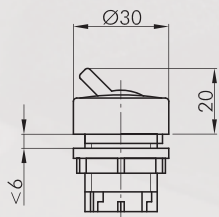
front bezel:

mat
grey
polished
black



DXRWDLHC...
DXRWDLHG...
DXRWDLHM...
DXRWDLHS...

IP65



Toggle head, maintained

available colour combinations:

black ring / black toggle	...SWSW
black ring / red toggle	...SWRT
black ring / white toggle	...SWWS
grey ring / black toggle	...DGSW
grey ring / red toggle	...DGRT
grey ring / white toggle	...DGWS

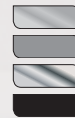
Add code letters to type number, e.g. DXRKCSWSW

suitable contact blocks:



front bezel:

mat
grey
polished
black



DXRKC...
DXRKG...
DXRKM...
DXRKS...

DUX-Basic

Ø 22.3 mm

MADE IN GERMANY



About Us

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

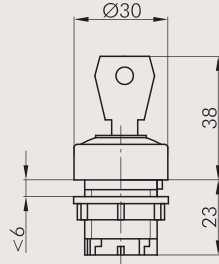
Illustration

Dimensions

Description

Type

IP65



Key actuator, momentary

including two keys
available colour combinations:
black ring ...SW...
grey ring ...DG...
add code letters to type number, e.g. DXRSSACDG12
other lock types on request

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSAC...12
DXRSSAG...12
DXRSSAM...12
DXRSSAS...12

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSAC...13
DXRSSAG...13
DXRSSAM...13
DXRSSAS...13

suitable contact blocks:



front bezel mat
grey
polished
black



DXRSSAC...17
DXRSSAG...17
DXRSSAM...17
DXRSSAS...17

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSAC...18
DXRSSAG...18
DXRSSAM...18
DXRSSAS...18

Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

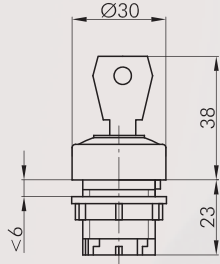
Illustration

Dimensions

Description

Type

IP65



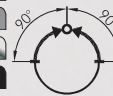
Key actuator, momentary

including two keys
available colour combinations:
black ring ...SW...
grey ring ...DG...
add code letters to type number, e.g. DXRSSACDG23
other lock types on request

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSAC...23
DXRSSAG...23
DXRSSAM...23
DXRSSAS...23

suitable contact blocks:

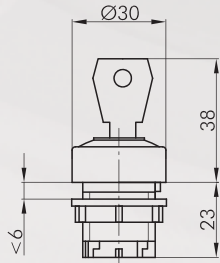


front bezel: mat
grey
polished
black



DXRSSAC...27
DXRSSAG...27
DXRSSAM...27
DXRSSAS...27

IP65



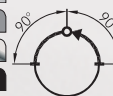
Key actuator maintained/left, momentary/right

including two keys
available colour combinations:
black ring ...SW...
grey ring ...DG...
add code letters to type number, e.g. DXRSSACDG24
other lock types on request

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSAC...24
DXRSSAG...24
DXRSSAM...24
DXRSSAS...24

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

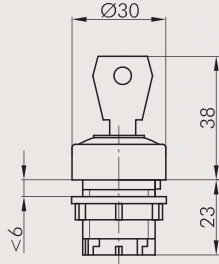
Illustration

Dimensions

Description

Type

IP65



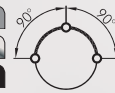
Key actuator with ring illumination, latching

including two keys
available colour combinations:
red ring ...RT...
green ring ...GN...
clear ring ...KL...
add code letters to type number, e.g. DXRSSALCRT12
other lock types on request
accepts only LEDs!

suitable contact blocks:



front bezel: mat
grey
polished
black

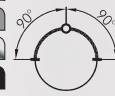


DXRSSALC...12
DXRSSALG...12
DXRSSALM...12
DXRSSALS...12

suitable contact blocks:



front bezel: mat
grey
polished
black

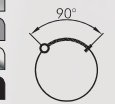


DXRSSALC...13
DXRSSALG...13
DXRSSALM...13
DXRSSALS...13

suitable contact blocks:



front bezel: mat
grey
polished
black

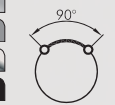


DXRSSALC...17
DXRSSALG...17
DXRSSALM...17
DXRSSALS...17

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSALC...18
DXRSSALG...18
DXRSSALM...18
DXRSSALS...18

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

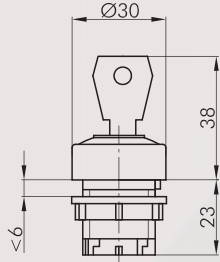
Illustration

Dimensions

Description

Type

IP65



Key actuator with ring illumination, momentary

including two keys
available colour combinations:

red ring ...RT...
green ring ...GN...
clear ring ...KL...

add code letters to type number, e.g. DXRSSALCRT23
other lock types on request
accepts only LEDs!

suitable contact blocks:



front bezel: mat
grey
polished
black



DXRSSALC...23
DXRSSALG...23
DXRSSALM...23
DXRSSALS...23

suitable contact blocks:

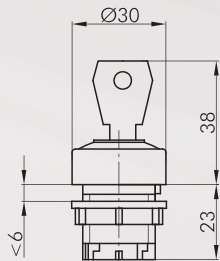


front bezel: mat
grey
polished
black



DXRSSALC...27
DXRSSALG...27
DXRSSALM...27
DXRSSALS...27

IP65



Key actuator with ring illumination maintained/left, momentary/right

including two keys
available colour combinations:

red ring ...RT...
green ring ...GN...
clear ring ...KL...

add code letters to type number, e.g. DXRSSALCRT24
other lock types on request
accepts only LEDs!

suitable contact blocks:



front bezel: mat
grey
silver-coloured
black



DXRSSALC...24
DXRSSALG...24
DXRSSALM...24
DXRSSALS...24

Pilot Lights

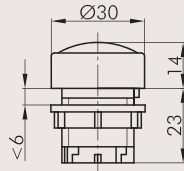
Illustration

Dimensions

Description

Type

IP65



Pilot light head with transparent convex lens

available in
red=RT, green=GN, yellow=GB, clear=KL, blue=BL
add code letters to type number, e.g. DXRNKCRT

suitable lampholders:

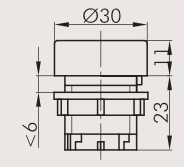
DS DT ET M

front bezel: mat
grey
polished
black



DXRNKC...
DXRNKG...
DXRNKM...
DXRNKS...

IP65



Pilot light head with transparent flat lens

available in
red=RT, green=GN, yellow=GB, clear=KL, blue=BL
add code letters to type number, e.g. DXRNFCRT

suitable lampholders:

DS DT ET M

front bezel: mat
grey
polished
black



DXRNFC...
DXRNFG...
DXRNFM...
DXRNFS...

Accessories



Mounting tool 22

S22

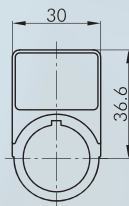
with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL,
RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic,
SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL



Mounting tool adapter with 1/4" connections

SRA

for mounting tools S16 and S22



External nameplate holder

for outside marking of the actuators of the DUX-Basic series
accepts self-adhesive nameplates

colour: black



DRABT



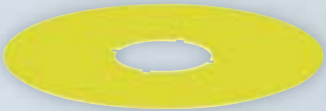






Self-adhesive nameplate, laser-printed

BZ23L...

inscription according to customer's specification
dimensions: 19 x 27 mm

Accessories for Pushbuttons and Switches


Illustration	Dimensions	Description	Type
		Self-adhesive nameplate blank dimensions: 19 x 27 mm	BZ23U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 19 x 27 mm	BZ23B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow 	NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow 	NAS_22_548
		Universal lens remover	USK

front dimensions: 30 x 30 mm
Panel cut-out: Ø 22.3 mm
front bezel height: 12 mm
Travel: 6 mm





QUARTEX-R

 Product configurator



Overview QUARTEX-R series



01 Pushbutton heads	page 302	07 Key actuators	page 308
02 Emergency-stop heads	page 305	08 Pilot light heads / pilot lights	page 309
03 Mushroom heads	page 305	Contact blocks/lampholders	page 414
04 Knob set for potentiometers	page 306		
05 Selector heads/knob set for rotary switches	page 307		
06 Toggle heads	page 307		

Housing colour



degree of protection



operating travel



tactile

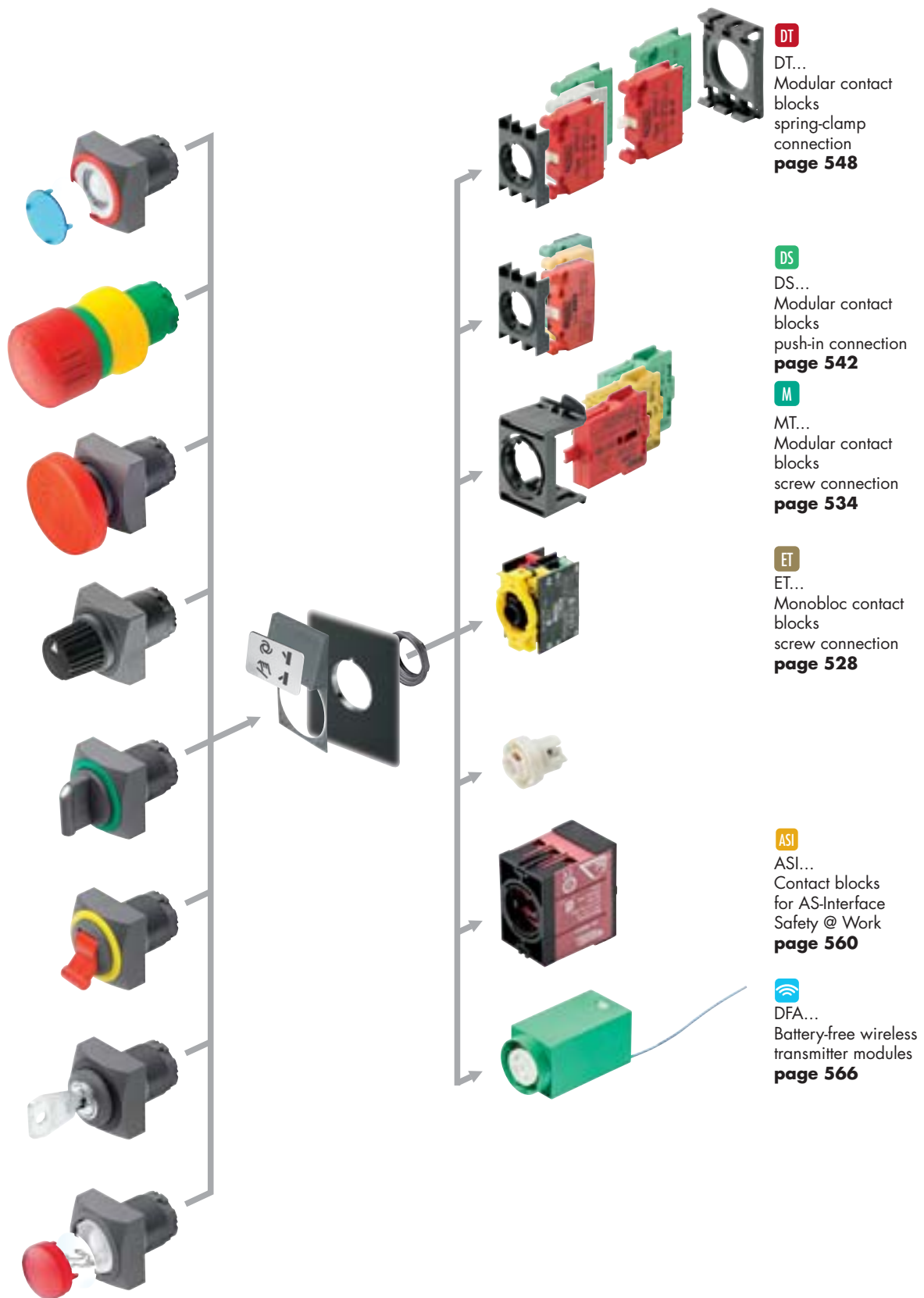


illuminating option



labelling option





DT
DT...
Modular contact
blocks
spring-clamp
connection
page 548

DS
DS...
Modular contact
blocks
push-in connection
page 542

M
MT...
Modular contact
blocks
screw connection
page 534

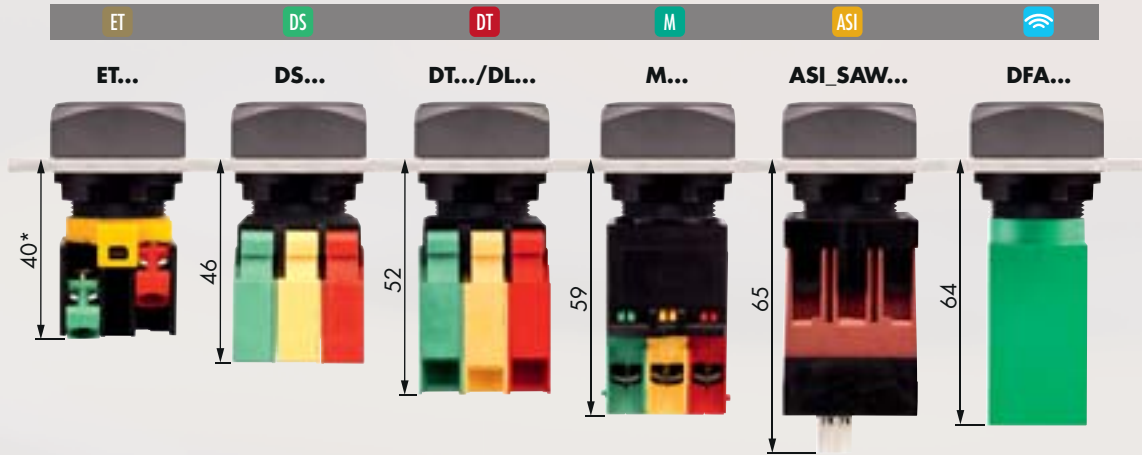
ET
ET...
Monobloc contact
blocks
screw connection
page 528

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

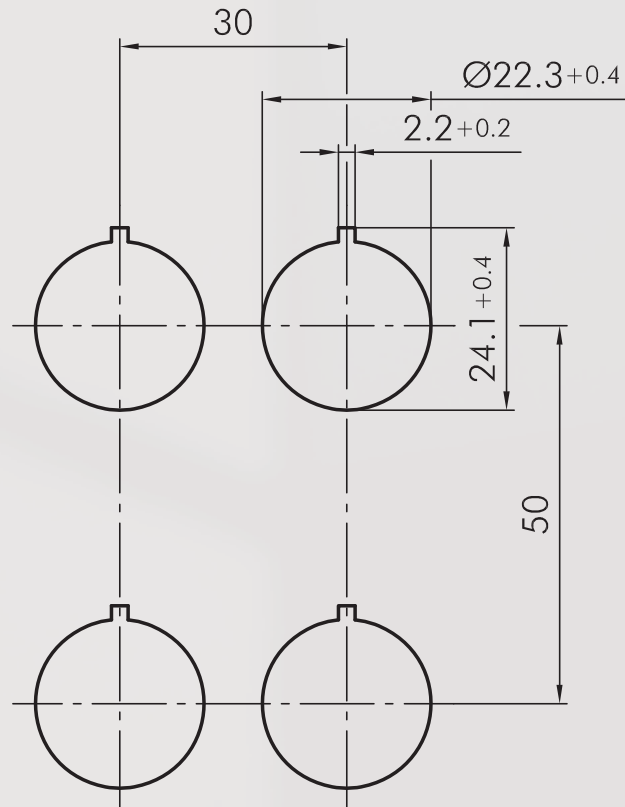
DFA
DFA...
Battery-free wireless
transmitter modules
page 566

When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

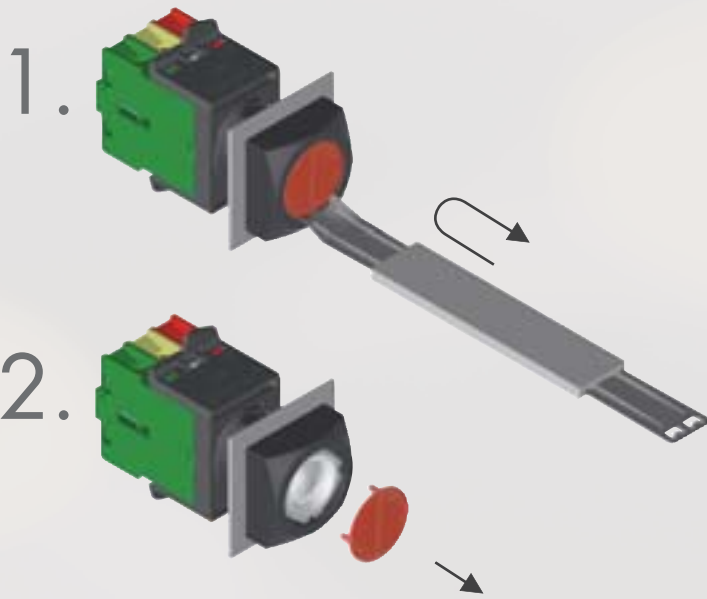
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Pushbuttons

Illustration

Dimensions

Description

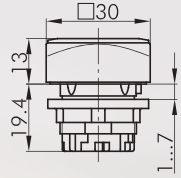
Type

IP65

6 mm

☀

🔧



Pushbutton head

suitable contact blocks:

☑ DS DT ET M

front bezel:

charcoal



QRT...

Accessories



Concave lens, transparent

colour:

blue



T26DBL

yellow



T26DGB

blue



T26DGN

clear



T26DKL

red



T26DRT

opal white



T26DWS



Concave lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

blue



T26DGBL

yellow



T26DGGB

green



T26DGGN

black



T26DGSW

red



T26DGRT

white



T26DGWS



High lens, transparent

colour:

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red



KH23RT

opal white



KH23WS



High lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

blue



TG22GHBL

yellow



TG22GHGB

green



TG22GHGN

black



TG22GHSW

red

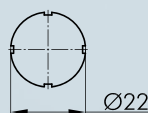


TG22GHRT

white



TG22GHWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSK...

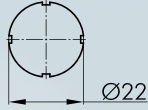
Accessories for Pushbuttons and Switches

Illustration

Dimensions

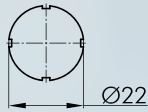
Description

Type



Nameplate with special imprint
according to customer's specification

BSKB

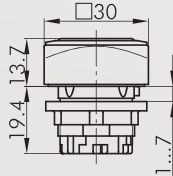


Blank nameplate

BSKU

IP67

6 mm



Membrane pushbutton head

with tightly closed, transparent silicone cap, down to -50° C

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRTM...

Accessories



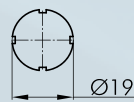
Flat lens, transparent

colour:

blue
yellow
green
clear
red
opal white



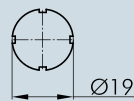
T20FBL
T20FGB
T20FGN
T20FKL
T20FRT
T20FWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

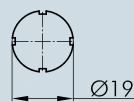
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank nameplate

BSRXU

Pushbuttons

Illustration

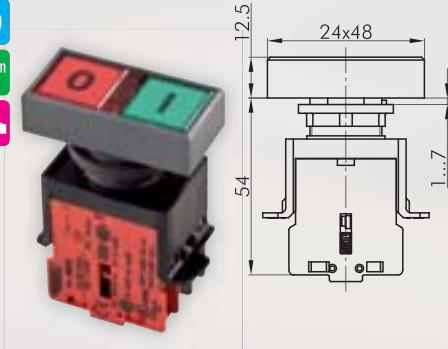
Dimensions

Description

Type

IP40

6 mm



Double pushbutton

fully assembled with modular contact blocks
ON-pushbutton green, 1NO
OFF-pushbutton red, 1NC

Connection type: screw connection

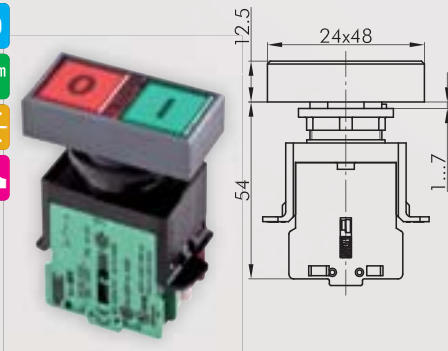
front bezel: charcoal



LDT

IP40

6 mm



Illuminated double pushbutton

with central signal light
without lamp
fully assembled with modular contact blocks
ON-pushbutton green, 1NO
OFF-pushbutton red, 1NC

Connection type: screw connection

front bezel: charcoal



LDTL

Accessories

IP67



Sealing cap

made of silicone rubber, down to -50°C

TK50S

Mushroom Pushbuttons

Illustration

Dimensions

Description

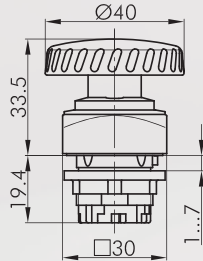
Type



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65
6 mm



Mushroom head, latch-type



other mushroom colours on request
must be mounted onto yellow background

- Foolproof: no
- Switching position indicator: no
- Permissive Contact: no
- Anti-lock collar: no
- Release: twist
- Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



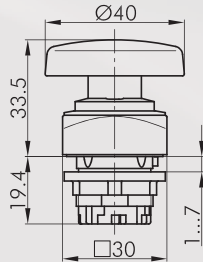
suitable contact blocks:

ASI DS DT ET M

front bezel: charcoal 
Mushroom head: red 

QRV

IP65
6 mm






Mushroom head, momentary

other mushroom colours on request

- Switching position indicator: no
- Permissive Contact: no
- Anti-lock collar: no

suitable contact blocks:

DS DT ET M


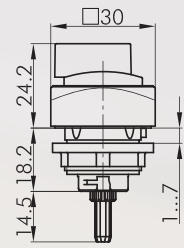
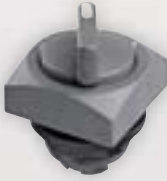
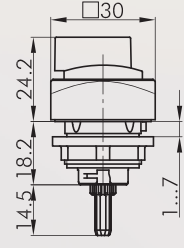

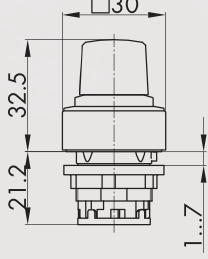

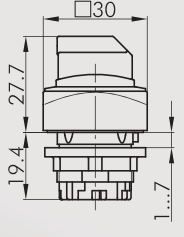



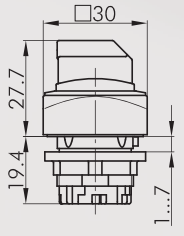

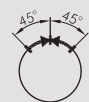
front bezel: charcoal 
Mushroom head: red 
front bezel: charcoal 
Mushroom head: black 

QRS

QRS_SW.PILZ

Knob Sets for Rotary Switches

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Knob set for rotary switches, without inscription for Kraus & Naimer CG4 and CA4 further versions on request</p> <p>front bezel: charcoal</p>	QRDAU
		<p>Knob set for rotary switches, with inscription for Kraus & Naimer types CG4 and CA4 other versions on request</p> <p>front bezel: charcoal</p>	QRDAB...
		<p>Knob set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 delivery without potentiometer shaft length: approx. 50 mm ± 2 mm, incl. fastening thread</p> <p>front bezel: charcoal</p>	QRR...
		<p>Selector head, maintained</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p> <p>suitable contact blocks: DT ET M</p> <p>front bezel: charcoal</p>	 QRWA...  QRWB...
		<p>Selector head, momentary</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p> <p>suitable contact blocks: DT ET M</p> <p>front bezel: charcoal</p>	 QRSTA...  QRSTB...

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

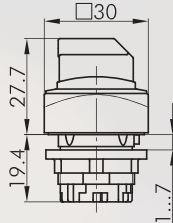
Illustration

Dimensions

Description

Type

IP65



Selector head, left maintained, right momentary

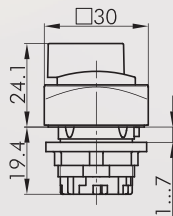
suitable contact blocks:

DT ET M

front bezel: charcoal



QRWC...



Illuminated selector head, maintained

inclusive four small, transparent colour plates in red, yellow, green, white and blue

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRWAL

suitable contact blocks:

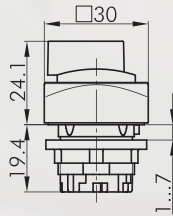
DS DT ET M

front bezel: charcoal



QRWBL

IP65



Illuminated selector head, left maintained, right momentary

inclusive four small, transparent colour plates in red, yellow, green and blue

suitable contact blocks:

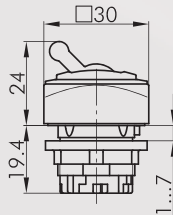
DS DT ET M

front bezel: charcoal



QRWCL

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

DS DT ET M

front bezel: charcoal

Knob colour: red



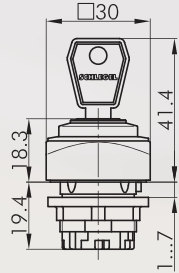
QRK...

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------

IP65



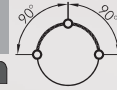
Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: charcoal

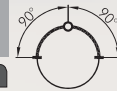


QRSSA12E...

suitable contact blocks:

DT ET M

front bezel: charcoal



QRSSA13E...

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRSSA14E...

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRSSA15E...

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRSSA17E...

suitable contact blocks:

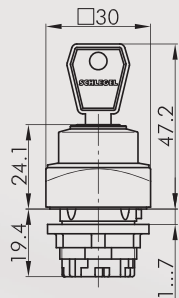
DS DT ET M

front bezel: charcoal



QRSSA18E...

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: charcoal



QRSSA23E...

suitable contact blocks:

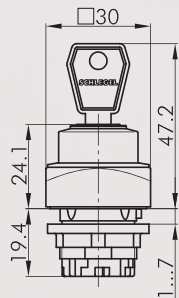
DS DT ET M

front bezel: charcoal



QRSSA27E...

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: charcoal



QRSSA24E...

Pilot Lights

Illustration

Dimensions

Description

Type

Accessories

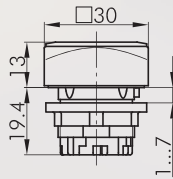


Spare key (standard)

standard spare key, specify key number for special locks

ESE845

IP65



Pilot light head

suitable lampholders:

DS DT ET M

front bezel: charcoal



QRN...

Accessories



Convex lens

colour: blue
yellow
green
clear
red
opal white



KF23BL
KF23GB
KF23GN
KF23KL
KF23RT
KF23WS



High lens, transparent

colour: blue
yellow
green
clear
red
opal white



KH23BL
KH23GB
KH23GN
KH23KL
KH23RT
KH23WS

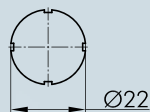


Concave lens, transparent

colour: blue
yellow
blue
clear
red
opal white



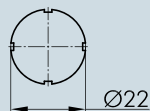
T26DBL
T26DGB
T26DGN
T26DKL
T26DRT
T26DWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSK...


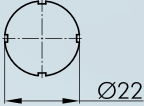


Nameplate with special imprint


according to customer's specification


BSKB


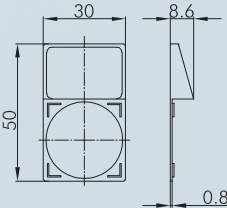

Accessories for Pushbuttons and Switches


Illustration	Dimensions	Description	Type
		Blank nameplate	BSKU


Accessories


	Mounting tool 22 with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL	S22
---	--	------------

	Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
---	--	------------

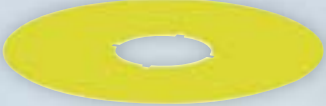





		External nameplate holder for outside marking of the actuators of the QUARTEX-R series, accepts self-adhesive nameplates colour: charcoal 	QRABT
---	---	---	--------------

	Self-adhesive nameplate, laser-printed inscription according to customer's specification dimensions: 19 x 27 mm	BZ23L...
---	--	-----------------

	Self-adhesive nameplate blank dimensions: 19 x 27 mm	BZ23U
---	--	--------------

	Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 19 x 27 mm	BZ23B...
---	---	-----------------

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow	 NAS_22
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22.3 mm colour: yellow	 NAS_22_548
		Universal lens remover	USK
		Dummy to close unused mounting apertures colour: charcoal	 BVQR

IP65

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm





 Product configurator



RVVA

Overview RVA series



- | | |
|----------------------------|----------|
| 01 Pushbutton heads | page 318 |
| 02 Selector heads | page 319 |
| 03 Key actuators | page 320 |
| 04 Pilot light heads | page 321 |
| Contact blocks/lampholders | page 414 |

Housing colour



degree of protection



operating travel



tactile

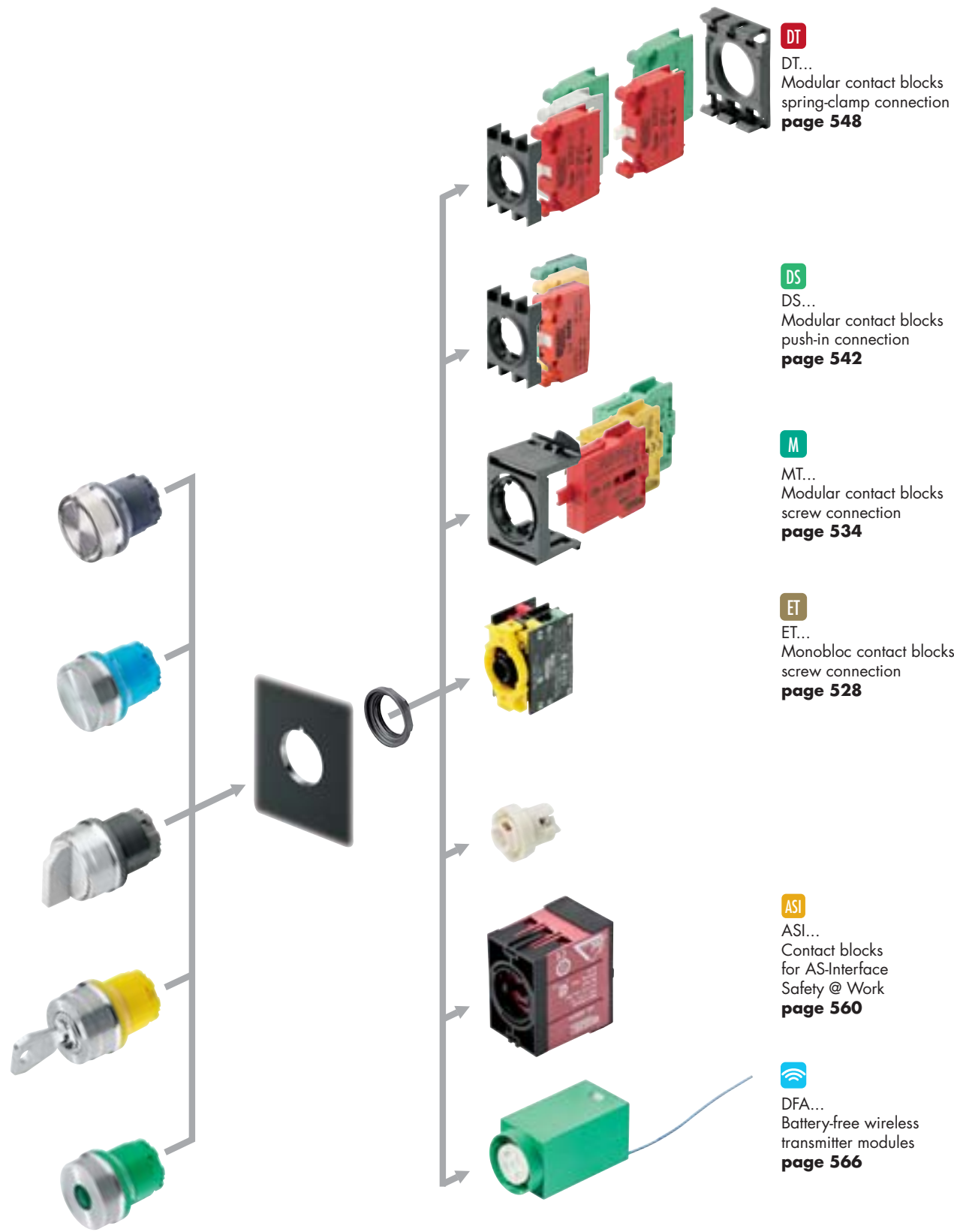


illuminating option



labelling option





DT
DT...
Modular contact blocks
spring-clamp connection
page 548

DS
DS...
Modular contact blocks
push-in connection
page 542

M
MT...
Modular contact blocks
screw connection
page 534

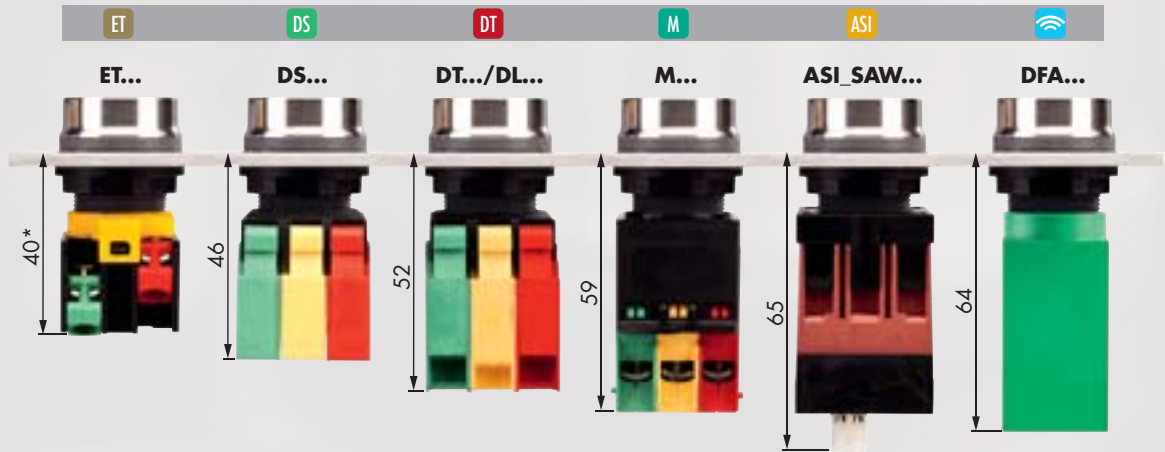
ET
ET...
Monobloc contact blocks
screw connection
page 528

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

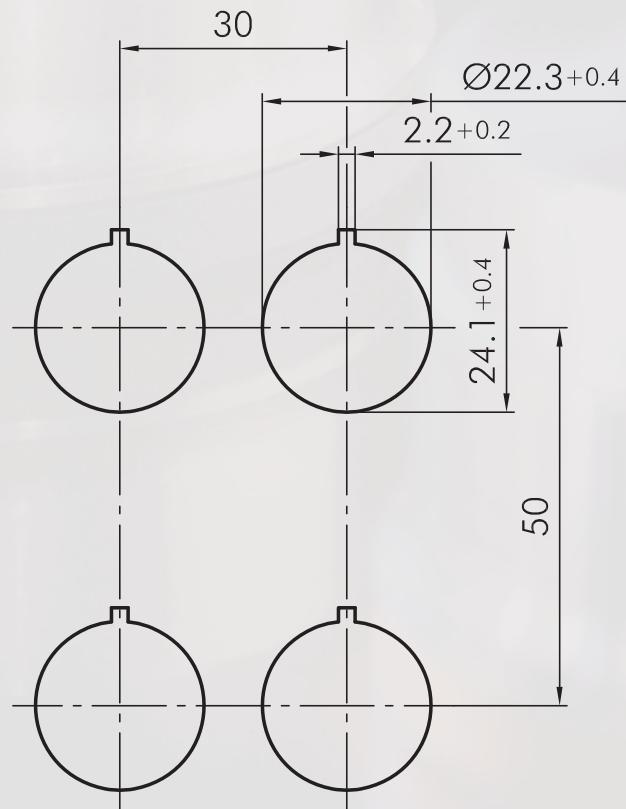
DFA
DFA...
Battery-free wireless
transmitter modules
page 566

When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

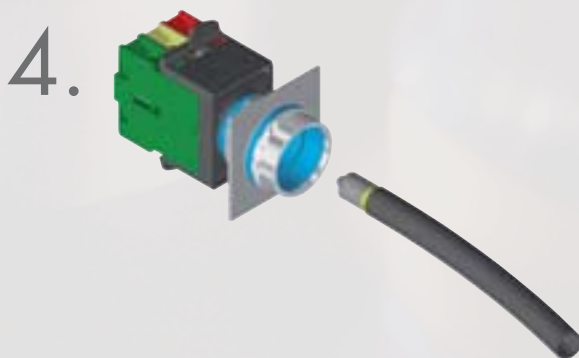
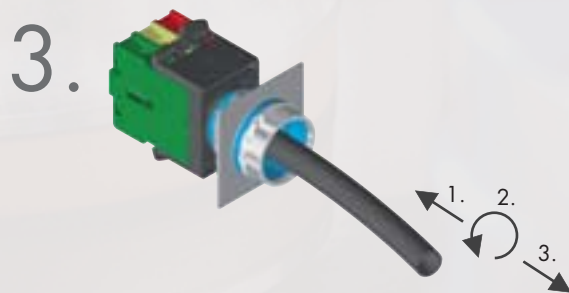
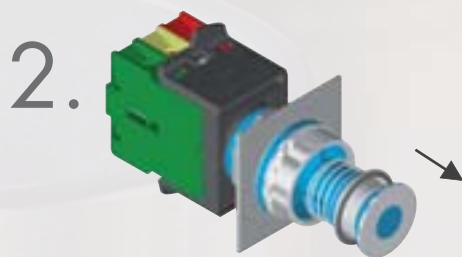
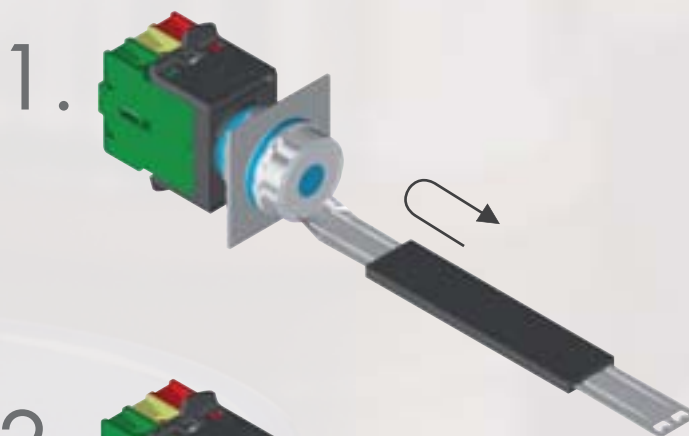
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Pushbuttons

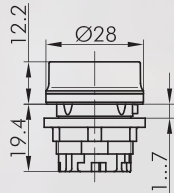
Illustration

Dimensions

Description

Type

IP69K



Pushbutton head

laser printing on request

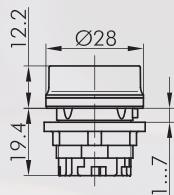
suitable contact blocks:



front bezel: stainless steel, polished

RVAT_...

IP65



Pushbutton head with ring illumination

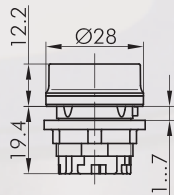
suitable contact blocks:



front bezel: stainless steel, polished

RVATLR_...

IP65



Pushbutton head with ring illumination and laser printing

incl. lens
standard imprints see nameplates from page 634
(please specify index number)
special imprints on request

suitable contact blocks:



front bezel: stainless steel, polished

RVATLRL_...

Accessories

IP67



Sealing cap

made of silicone rubber, down to -50°C

TK295

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

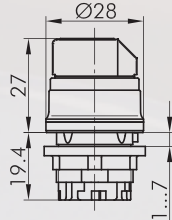
Illustration

Dimensions

Description

Type

IP65



Selector head, maintained

suitable contact blocks:

DS DT ET M

front bezel: stainless steel, polished

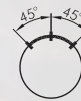


RVAWA_...

suitable contact blocks:

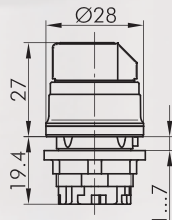
DT ET M

front bezel: stainless steel, polished



RVAWB_...

IP65



Selector head, momentary

suitable contact blocks:

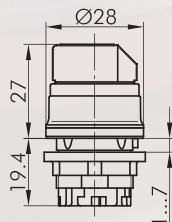
DT ET M

front bezel: stainless steel, polished



RVASTB_...

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

DT ET M

front bezel: stainless steel, polished



RVAWC_...

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

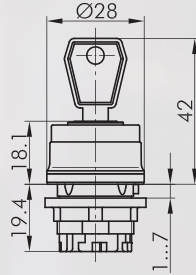
Illustration

Dimensions

Description

Type

IP65



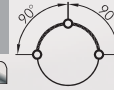
Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: stainless steel, polished



RVASSA12E...

suitable contact blocks:

DT ET M

front bezel: stainless steel, polished



RVASSA13E...

suitable contact blocks:

DS DT ET M

front bezel: stainless steel, polished



RVASSA14E...

suitable contact blocks:

DS DT ET M

front bezel: stainless steel, polished



RVASSA15E...

suitable contact blocks:

DS DT ET M

front bezel: stainless steel, polished



RVASSA17E...

suitable contact blocks:

DS DT ET M

front bezel: stainless steel, polished



RVASSA18E...

Accessories



Spare key (standard)

ESE845

standard spare key, specify key number for special locks

Pilot Lights

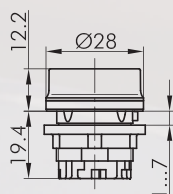
Illustration

Dimensions

Description

Type

IP69K



Pilot light head

suitable lampholders:

DS DT ET M

front bezel: stainless steel, polished



RVAN_...

Accessories



Mounting tool 22

S22

with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL,
RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic,
SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL



Mounting tool adapter with 1/4" connections

SRA

for mounting tools S16 and S22



Universal lens remover

USK

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

tested down to
-40°C | -40°F

Front dimensions: Ø 36 mm
Panel cut-out: Ø 30.5 mm
Front bezel height: 2.7 mm
Travel: 6 mm





KOMBITAST-R-JUWEL

 Product configurator



KOMBITAST®-R-JUWEL

Ø 30.5 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Overview - KOMBITAST-R-JUWEL series



01 Pushbutton heads	page 328	07 Panel mount jacks	page 339
02 Emergency-stop heads	page 330	08 Pilot light heads / pilot lights	page 340
03 Knob set for rotary switches/potentiometers	page 333	Contact blocks/lampholders	page 414
04 Selector heads	page 334		
05 Toggle heads	page 336		
06 Key actuators	page 337		

Housing colours (silver-coloured, stainless steel, charcoal)



degree of protection



operating travel



tactile

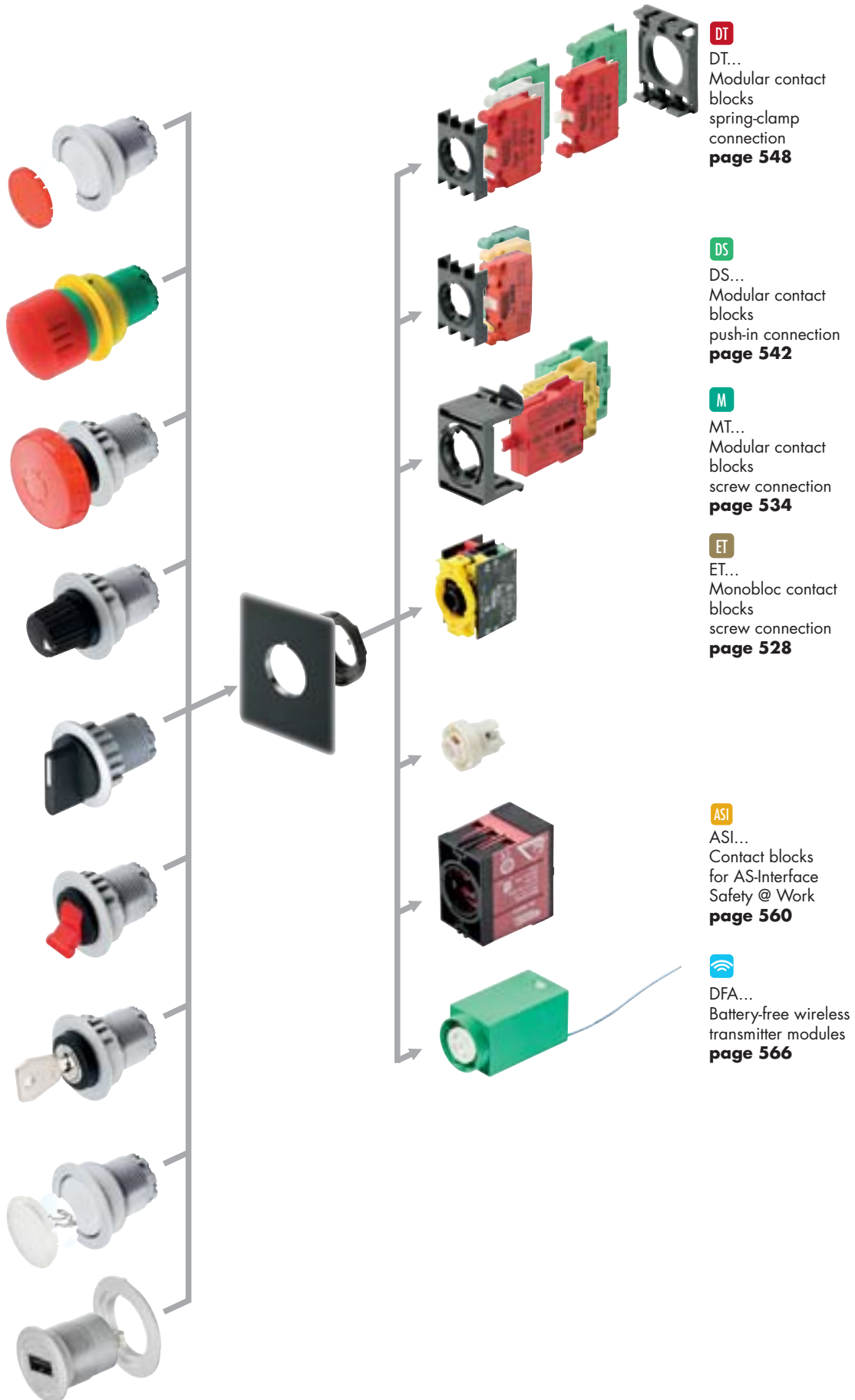


illuminating option



labelling option





DT
DT...
Modular contact
blocks
spring-clamp
connection
page 548

DS
DS...
Modular contact
blocks
push-in connection
page 542

M
MT...
Modular contact
blocks
screw connection
page 534

ET
ET...
Monobloc contact
blocks
screw connection
page 528

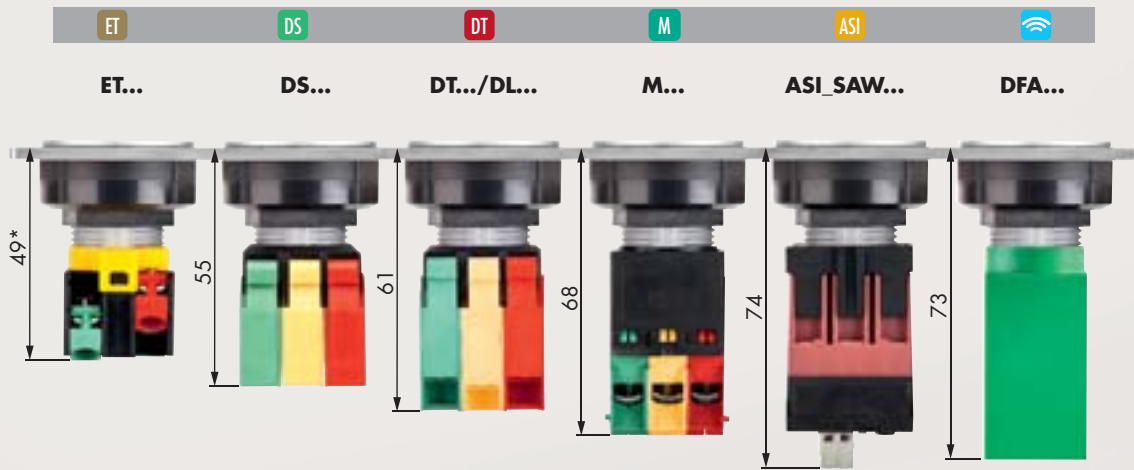
ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

DFA
DFA...
Battery-free wireless
transmitter modules
page 566

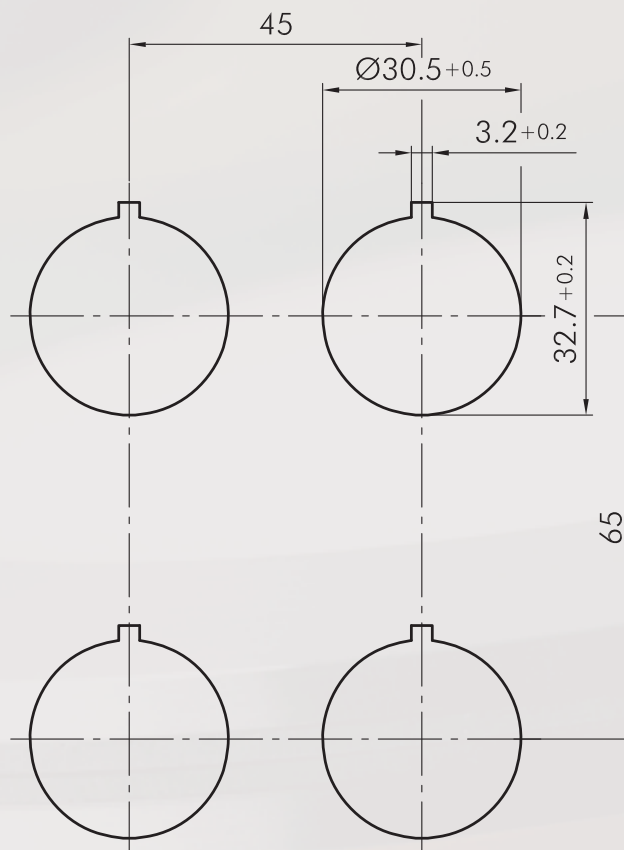
When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

Ø 30.5 mm

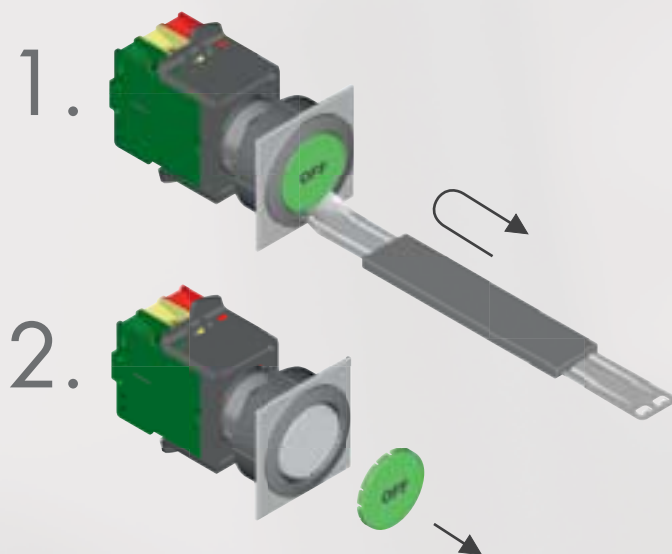
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

KOMBITAST®-R-JUWEL

Ø 30.5 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index


Pushbuttons

Illustration

Dimensions

Description

Type



6 mm

29.0





2.7

Ø36




0.8

Pushbutton head

suitable contact blocks:







front bezel:

silver-coloured		KRJMT
charcoal		KRJT
stainless steel, polished		KRJVAT

Accessories









Flat lens, transparent

colour:	blue		T30FBL
	yellow		T30FGB
	green		T30FGN
	clear		T30FKL
	red		T30FRT
	opal white		T30FWS








Flat lens, non-transparent

for pushbuttons without inscription and illumination

colour:	blue		T30FGBL
	yellow		T30FGGB
	green		T30FGGN
	white		T30FGWS
	black		T30FGSW
	red		T30FGRT








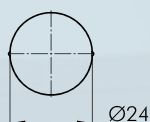
Convex lens, transparent

colour:	blue		T30DBL
	yellow		T30DGB
	green		T30DGN
	clear		T30DKL
	red		T30DRT



High lens, transparent

colour:	blue		T30HBL
	yellow		T30HGB
	green		T30HGN
	clear		T30HKL
	red		T30HRT



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

BSKJ...

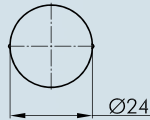
Pushbuttons

Illustration

Dimensions

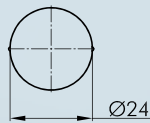
Description

Type



Nameplate with special imprint
according to customer's specification

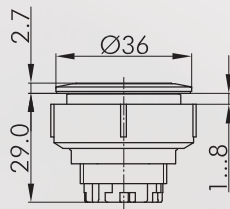
BSKJB



Blank nameplate

BSKJU

IP69K



Pushbutton head with ring illumination

incl. lens, inscription on request

suitable contact blocks:



front bezel:

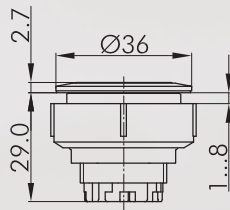
silver-coloured

stainless steel, polished



KRJMTLR
KRJVATLR

IP69K



Pushbutton head with ring illumination and laser printing

incl. lens,
with laser printing, standard symbols see nameplates on page 634
(please specify index number)
special inscription on request

suitable contact blocks:



front bezel:

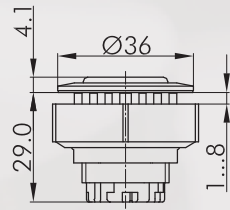
silver-coloured

stainless steel, polished



KRJMTLRL...
KRJVATLRL...

IP67



Membrane pushbutton head

with fully closed, transparent silicone cap, down to -50° C

suitable contact blocks:



front bezel:

silver-coloured

charcoal

stainless steel, polished



KRJMTM
KRJTM
KRJVATM

Accessories



Flat lens, transparent

colour:

blue

yellow

green

clear

red

opal white



T20FBL
T20FGB
T20FGN
T20FKL
T20FRT
T20FWS

KOMBITAST®-R-JUWEL

Ø 30.5 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

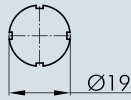
Emergency-Stops

Illustration

Dimensions

Description

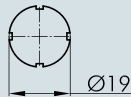
Type



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

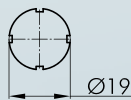
BSRX...



Nameplate with special imprint

according to customer's specification

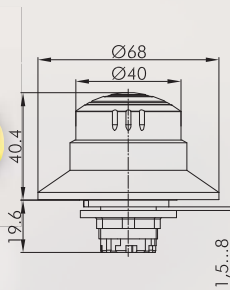
BSRXB



Blank nameplate

BSRXU

IP65



Emergency-stop head

Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel: yellow

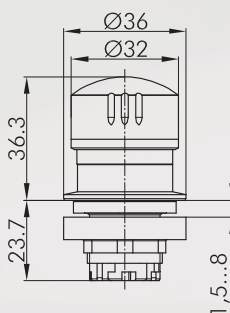


Mushroom head: red



KRBUV70

IP65
IP67



Emergency-stop head

Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel: yellow



Mushroom head: red



KRJUV

Emergency-Stops

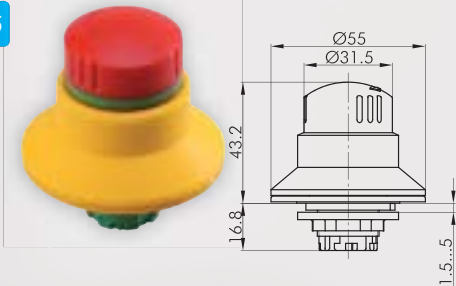
Illustration

Dimensions

Description

Type

IP65



Emergency-stop head

consisting of QRBUV and adapter

Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

ASI DS DT ET M

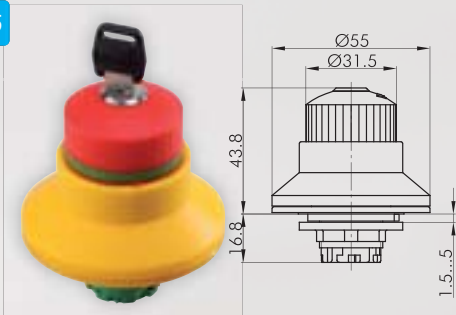
front bezel: yellow

Mushroom head: red



KRBUV

IP65



Emergency-stop head

consisting of QRBUVSE and adapter

Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: key release
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

ASI DS DT ET M

front bezel: yellow

Mushroom head: red



KRBUVSE



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Mushroom Pushbuttons

Illustration

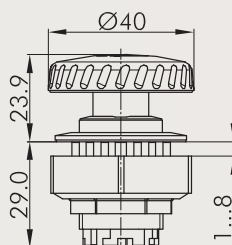
Dimensions

Description

Type

IP65

6 mm



Mushroom head, latch-type

Foolproof: no
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist

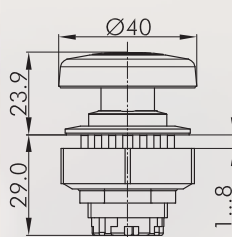
suitable contact blocks:

ASI DS DT ET M

front bezel:	silver-coloured		
Mushroom head:	red		KRJMV
front bezel:	charcoal		
Mushroom head:	red		KRJV
front bezel:	stainless steel, polished		
Mushroom head:	red		KRJAV

IP65

6 mm



Mushroom head, momentary

other mushroom colours on request
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no

suitable contact blocks:

DS DT ET M

front bezel:	silver-coloured		
Mushroom head:	red		KRJMS
front bezel:	charcoal		
Mushroom head:	red		KRJS
front bezel:	stainless steel, polished		
Mushroom head:	red		KRJVAS

Knob Sets for Rotary Switches

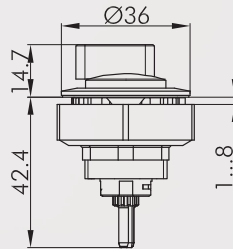
Illustration

Dimensions

Description

Type

IP65



Knob set for rotary switches Kraus & Naimer for Kraus & Naimer types CG4 and CA4

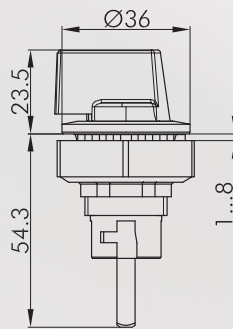
front bezel:

silver-coloured
charcoal



KRJMDAU
KRJDAU

IP65



Knob set for rotary switches ELEKTRA Tailfingen

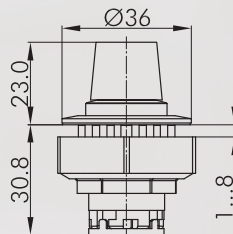
front bezel:

silver-coloured
anthracite



KRJMDAU_ET
KRJDAU_ET

IP65



Knob set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75
delivery without potentiometer
shaft length: approx. 50 mm ± 2 mm incl. fastening thread

front bezel

silver-coloured
charcoal
stainless steel, polished



KRJMR
KRJJR
KRJVAR

KOMBITAST®-R-JUWEL

Ø 30.5 mm

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About Us

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

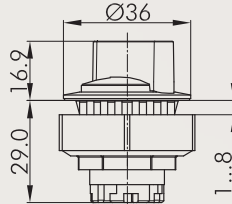
Illustration

Dimensions

Description

Type

IP65



Selector head, maintained

suitable contact blocks:

DS DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMWA
KRJWA
KRJVAWA

suitable contact blocks:

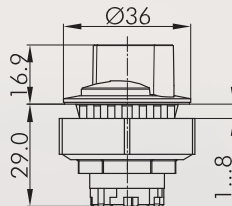
DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMWB
KRJWB
KRJVAWB

IP65



suitable contact blocks:

DS DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMSTA
KRJSTA
KRJVASTA

suitable contact blocks:

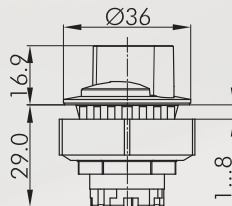
DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMSTB
KRJSTB
KRJVASTB

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

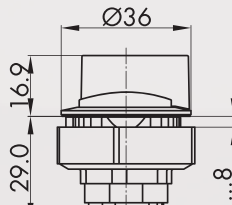
DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMWC
KRJWC
KRJVAWC

IP65



Selector head, maintained (two-piece plunger)

suitable contact blocks:

DS DT M

front bezel: silver-coloured charcoal



KRJMZWB
KRJZWB

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

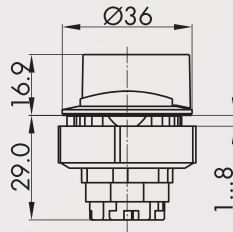
Illustration

Dimensions

Description

Type

IP65



Selector head, momentary (two-piece plunger)

suitable contact blocks:

DS DT M

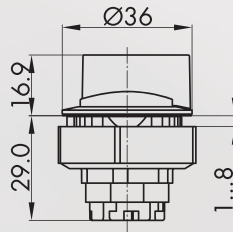
front bezel:

silver-coloured
charcoal



KRJMZSTB
KRJZSTB

IP65



Selector head, left maintained, right momentary (two-piece plunger)

suitable contact blocks:

DS DT M

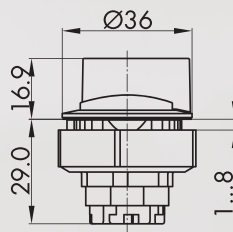
front bezel:

silver-coloured
charcoal



KRJMZWC
KRJZWC

IP65



suitable contact blocks:

DS DT M

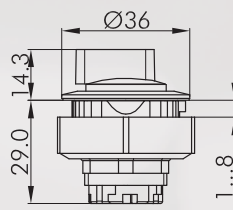
front bezel:

silver-coloured
silver-coloured



KRJMZWD
KRJZWD

IP65



Illuminated selector head, maintained

inclusive five small transparent colour plates in red, yellow, green, white and blue

suitable contact blocks:

DS DT ET M

front bezel

silver-coloured
charcoal
stainless steel, polished



KRJMWAL
KRJWAL
KRJVAWAL

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMWBL
KRJWBL
KRJVAWBL

KOMBITAST®-R-JUWEL

Ø 30.5 mm

MADE IN GERMANY



About Us

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

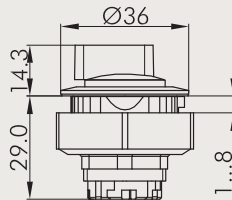
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, left maintained, right momentary

inclusive four small transparent colour plates in red, yellow, green, white and blue

suitable contact blocks:

DS DT ET M

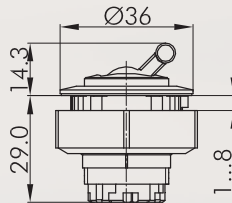
front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMWCL
KRJWCL
KRJVAWCL

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMK
KRJK
KRJVAK

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

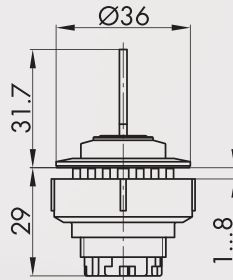
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained

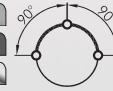
including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



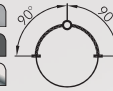
KRJMSA12E
KRJSSA12E
KRJVASSA12E

suitable contact blocks:

DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMSA13E
KRJSSA13E
KRJVASSA13E

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMSA14E
KRJSSA14E
KRJVASSA14E

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMSA15E
KRJSSA15E
KRJVASSA15E

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMSA17E
KRJSSA17E
KRJVASSA17E

suitable contact blocks:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMSA18E
KRJSSA18E
KRJVASSA18E

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Ø 30.5 mm

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About Us

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

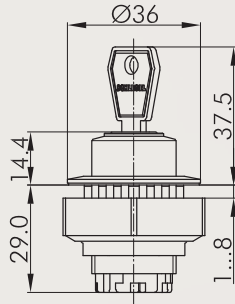
Illustration

Dimensions

Description

Type

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMSA23E
KRJSSA23E
KRJVASSA23E

suitable contact blocks:

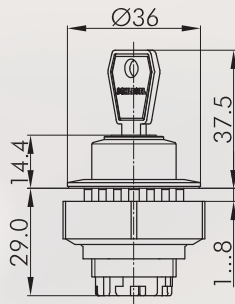
DS DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMSA27E
KRJSSA27E
KRJVASSA27E

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

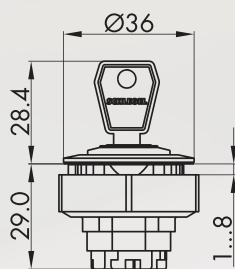
DT ET M

front bezel: silver-coloured charcoal stainless steel, polished



KRJMSA24E
KRJSSA24E
KRJVASSA24E

IP65



Key actuator, maintained (two-piece plunger)

including two keys
other lock types on request

suitable contact blocks:

DS DT M

front bezel: silver-coloured charcoal



KRJMZSA12E
KRJZSA12E

suitable contact blocks:

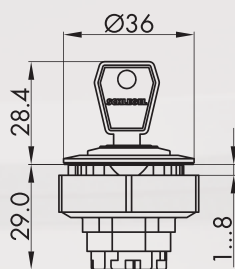
DS DT M

front bezel: silver-coloured charcoal



KRJMZSA13E
KRJZSA13E

IP65



suitable contact blocks:

DS DT M

front bezel: silver-coloured charcoal



KRJMZSA23E
KRJZSA23E

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

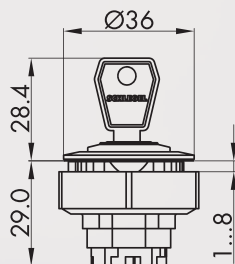
Illustration

Dimensions

Description

Type

IP65



suitable contact blocks:

DS DT M

front bezel:

silver-coloured
charcoal



KRJMZSSA24E
KRJZSSA24E

Accessories



Spare key (standard)

standard spare key, specify key number for special locks

ESE845



Adapter for panel mount jacks

allows true-to-size mounting of all flush-mounted jacks of the Rontron-R-Juwel series into cut-outs of 30.5 mm dia., the jack is not included in delivery

suitable jacks:



colour:

silver-coloured



KRJM22R

Ø30.5

**For panel mount jacks,
please refer to page 572**



A propos de nous

Appareils de commande

→ Têtes de commande

Traversées de cloison

Tête de bouton d'arrêt d'urgence

Systèmes interface bus de terrain

RFID

Boîtiers

Interrupteurs à pédale

Blocs de jonction

Index

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Ø 30.5 mm

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About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pilot Lights

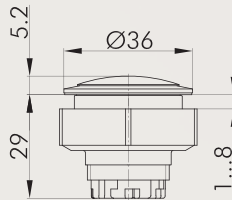
Illustration

Dimensions

Description

Type

IP65



Pilot light head

suitable lampholders:

DS DT ET M

front bezel:

silver-coloured
charcoal
stainless steel, polished



KRJMN
KRJN
KRJVAN

Accessories



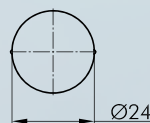
Convex lens

colour:

blue
yellow
green
clear
red
opal white



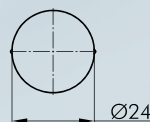
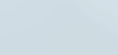
K30DBL
K30DGB
K30DGN
K30DKL
K30DRT
K30DWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

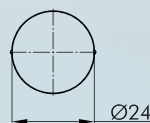
BSKJ...



Nameplate with special imprint

according to customer's specification

BSKJB



Blank nameplate

BSKJU

Pilot Lights

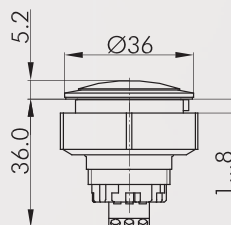
Illustration

Dimensions

Description

Type

IP65

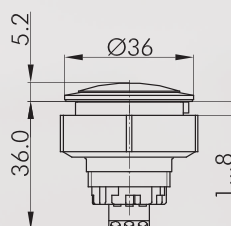


Two-colour LED pilot light 24V

operating temperature: -25°C ... 60°C
 rated voltage: 24V DC
 rated current: max. 10mA per LED
 rated insulation voltage: 60V
 pollution degree: 2
 overvoltage category: II
 connection: screw terminals 3x 0.14...1 mm²
pin arrangement
 pin 1: rouge
 pin 2: GND
 pin 3: green
 other colours on request
 incl. lens and nameplate

front bezel:	silver-coloured		
LED colour:	red/green		KRJML_24R_G
front bezel:	charcoal		
LED colour:	red/green		KRJL_24R_G
front bezel:	stainless steel, polished		
LED colour:	red/green		KRJVAL_24R_G

IP65



Two-colour LED pilot light 230V

operating temperature: -25°C ... 45°C
 rated voltage: 230V AC / 50 ... 60Hz
 rated current: max. 5mA per LED
 pollution degree: 2
 overvoltage category: II
 connection: screw terminals 3x 0.2...2.5 mm²
 (flexible/rigid)
pin arrangement
 pin 1: rouge
 pin 2: GND
 pin 3: green
 other colours on request
 incl. lens and nameplate

front bezel:	silver-coloured		
LED colour:	red/green		KRJML_230R_G
front bezel:	charcoal		
LED colour:	red/green		KRJL_230R_G
front bezel:	stainless steel, polished		
LED colour:	red/green		KRJVAL_230R_G

Accessories


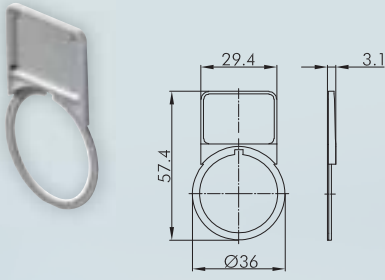





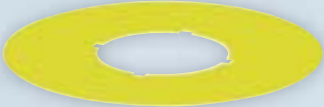





Mounting tool 22

S22

with torque limitation
 for the series QUARTEX-R-(JUWEL), KOMBITAST-R-JUWEL,
 RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic,
 SHORTRON, jacks of the ranges RONTRON-R-/Q-JUWEL

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External nameplate holder for outside marking of the actuators of the KOMBITAST-R-JUWEL series, accepts self-adhesive nameplates colour: silver-coloured  charcoal 	KRJMABT KRJABT
		Self-adhesive nameplate, laser-printed inscription according to customer's specification dimensions: 19 x 27 mm	BZ23L...
		Self-adhesive nameplate blank dimensions: 19 x 27 mm	BZ23U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 19 x 27 mm	BZ23B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 30,5 mm colour: yellow 	NAS_30
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia.75 mm for mounting dia. 30,5 mm colour: yellow 	NAS_30_548

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		<p>Lead-sealable protective lid for pushbutton KRJMT(LR)/KRJT/KRJVAT(LR)</p> <p>colour: transparent</p>	KDKRT
		<p>Lead-sealable protective lid for selector switches KRJMWA/KRJWA/KRJVAWA</p> <p>lid: transparent</p>	KDKRWA
		<p>Lead-sealable protective lid for selector switches KRJMWB/KRJWB/KRJVAWB</p> <p>colour: transparent</p>	KDKRWB
		Universal lens remover	USK
<p>IP65</p>		<p>Dummy to close unused mounting apertures</p> <p>colour: silver-coloured charcoal</p>	BVKRJM BVKRJ

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: 25 x 25 mm
Panel cut-out: 23.1 x 23.1 mm
Front bezel height: 2 mm
Travel: 3 mm



OKTRON-JUWEL

 Product configurator



Overview OKTRON-JUWEL series



01 Pushbutton heads

02 Emergency-stop heads

03 Knob set for potentiometers

04 Selector heads

05 Key actuators

06 Buzzers

page 350

page 351

page 352

page 353

page 354

page 356

07 Panel mount jacks

08 Pilot lights

Contact blocks/lampholders

page 357

page 358

page 414

Housing colour



degree of protection



operating travel



tactile



illuminating option



labelling option





CT
CT...
Contact blocks
Faston terminals
page 502

CZ
CZ...
Contact blocks
PCB-mount terminals
page 494

CTP
CTP...
Contact blocks
PCB-mount terminals
page 480

CTF
CTF...
Contact blocks
Faston terminals
page 486

FRTF
FRTF...
Contact blocks
PCB-mount terminals
page 508

FRTF
FRTF...
Contact blocks
Faston terminals
page 514

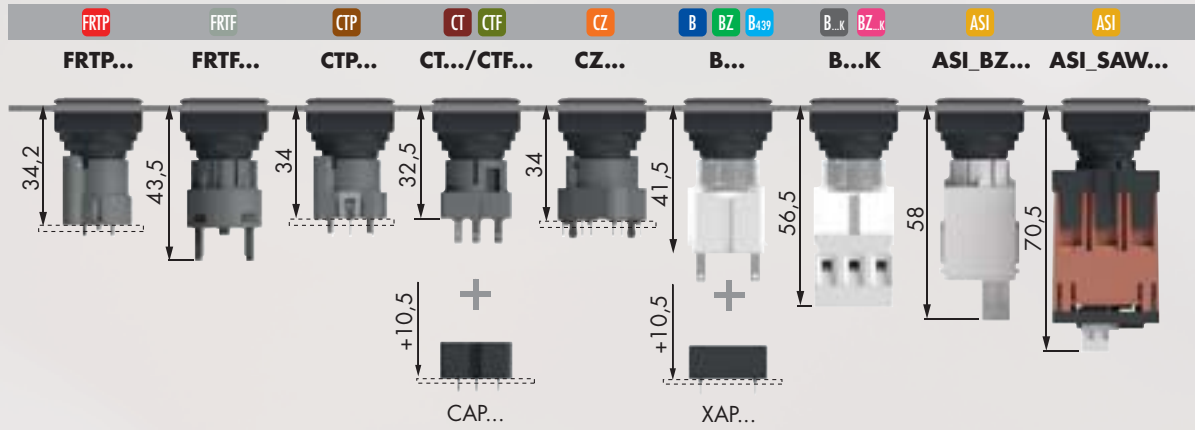
B
BZ
BF...
Contact blocks
Faston terminals
page 436

B_x
BZ_x
BFK...
Contact blocks
screw connection
page 444

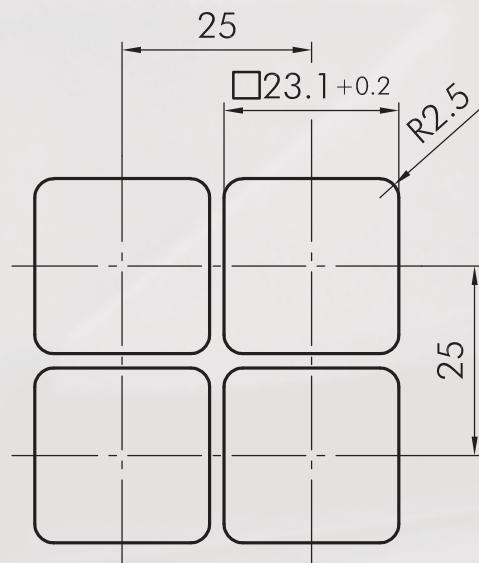
ASI
ASI...
Contact blocks
for AS-Interface
page 554

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

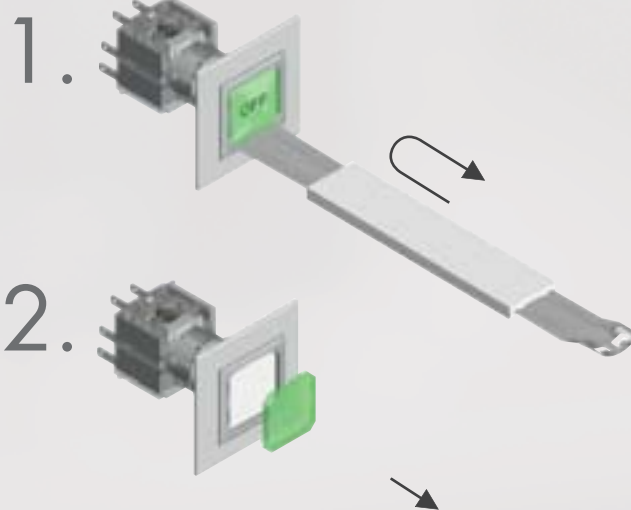
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Pushbuttons

Illustration

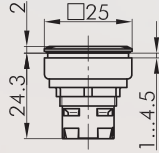
Dimensions

Description

Type

IP65

3mm



Pushbutton head

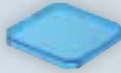
suitable contact blocks:

BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: black

OKJT

Accessories



Flat lens, transparent

colour: blue
yellow
green
clear
red
white



TOKJFBL
TOKJFGB
TOKJFGN
TOKJFKL
TOKJFRT
TOKJFWS

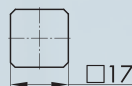
Flat lens, non-transparent

used for pushbuttons without inscription and illumination

colour: blue
yellow
green
black
red
white



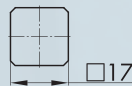
TOKJFGBL
TOKJFGGB
TOKJFGGN
TOKJFGSW
TOKJFGRT
TOKJFGWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

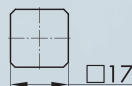
BSOKJ...



Nameplate with special imprint

according to customer's specification

BSOKJB



Blank nameplate

BSOKJU

Emergency-Stops

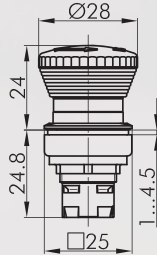
Illustration

Dimensions

Description

Type

IP65
IP67





Emergency-stop head Ø 28mm

Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



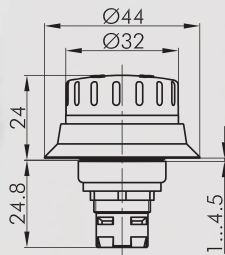
suitable contact blocks:

ASI AZ BZ BZ.k FRTP PTP

front bezel: yellow 
 Mushroom head: red 

OKJUV

IP65
IP67





Emergency-stop head

Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI AZ BZ BZ.k FRTP PTP

front bezel: yellow 
 Knob colour: red 

OKJBUV



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Potentiometers

I = Switching position
> = Spring return

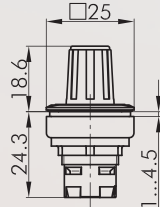
Illustration

Dimensions

Description

Type

IP65



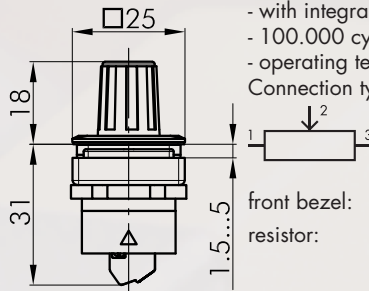
Knob set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10x0.75
delivery without potentiometer
shaft length: approx. 32 mm

front bezel: black

OKJR

IP66
IP69K



Potentiometer

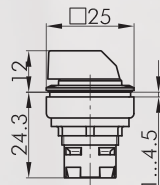
- with 1 kOhm potentiometer
- rotation angle 260°
- with integrated scale
- 100.000 cycles
- operating temperature -20°C ... 70°C

Connection type: screw connection

front bezel: black
resistor: 1 kOhm
5 kOhm
10 kOhm
50 kOhm

OKJR1K
OKJR5K
OKJR10K
OKJR50K

IP65



Selector head, maintained

suitable contact blocks:

BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: black



OKJWA

suitable contact blocks:

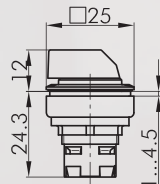
ASI AZ BZ BZ...K B439 CT CZ

front bezel: black



OKJWB

IP65



Selector head, momentary

suitable contact blocks:

BUS ASI AZ B B...K BZ BZ...K B439 CT CTF CTP CZ

front bezel: black



OKJSTA

suitable contact blocks:

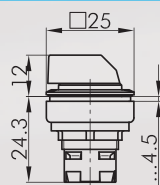
ASI AZ BZ BZ...K B439 CT CZ

front bezel: black



OKJSTB

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

ASI AZ BZ BZ...K B439 CT CZ

front bezel: black



OKJWC

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

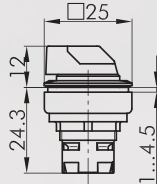
Illustration

Dimensions

Description

Type

IP65



Illuminated selector head, maintained

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJWAL_GN)

suitable contact blocks:

BUS ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel: black



OKJWAL...

suitable contact blocks:

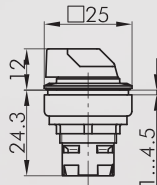
ASI AZ BZ BZ... B439 CT CZ

front bezel: black



OKJWBL...

IP65



Illuminated selector head, momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJSTAL_GN)

suitable contact blocks:

BUS ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel: black



OKJSTAL...

suitable contact blocks:

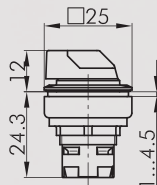
ASI AZ BZ BZ... B439 CT CZ

front bezel: black



OKJSTBL...

IP65



Illuminated selector head, left maintained, right momentary

knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJWCL_GN)

suitable contact blocks:

ASI AZ BZ BZ... B439 CT CZ

front bezel: black



OKJWCL...

IP65



Selector head for desert application, maintained

tested with coarse Arizona dust

suitable contact blocks:

ASI AZ BZ BZ... CT CZ

front bezel: black

Knob colour: black



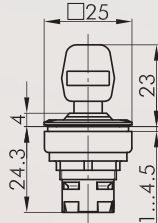
OKJWB_514

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------

IP65



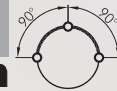
Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: black

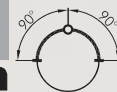


OKJSSA12

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: black



OKJSSA13

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: black



OKJSSA14

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: black



OKJSSA15

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: black



OKJSSA16

suitable contact blocks:

ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: black



OKJSSA17

suitable contact blocks:

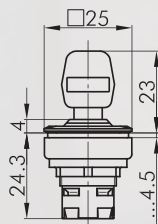
ASI AZ B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: black



OKJSSA18

IP65



Key actuator, maintained (3 different keys)

including three keys
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks:

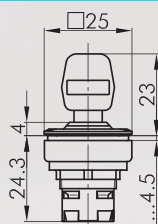
ASI AZ BZ BZ.k B439 CT CZ

front bezel: black



OKJSSA31

IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: black



OKJSSA23

suitable contact blocks:

ASI B B.k BZ BZ.k B439 CT CTF CTP CZ

front bezel: black



OKJSSA28

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

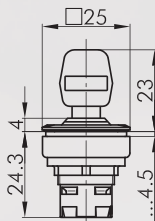
Illustration

Dimensions

Description

Type

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

ASI AZ BZ BZ.k B439 CT CZ

front bezel: black



OKJSSA25

Accessories



Standard spare keys

standard spare key, specify key number for special locks

ESMIC482

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Buzzers

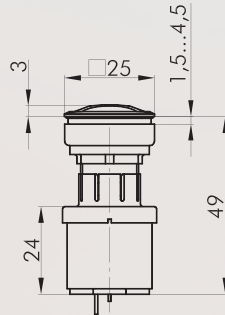
Illustration

Dimensions

Description

Type

IP65

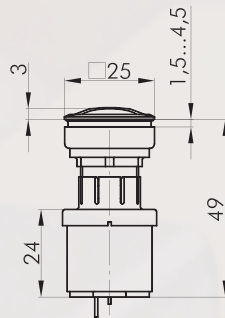


Buzzer

operating voltage: 12 ... 24V DC
operating current: 5mA (12V DC)
16mA (24V DC)
signal frequency: 3.8 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 75 db (10 cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm
front bezel: black

OKJNSG+SG-24V

IP65

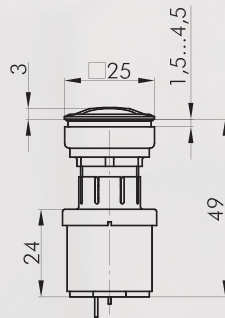


Interval buzzer

operating voltage: 12 ... 24V DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 75 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm
front bezel: black

OKJNSG+SGL-24V

IP65

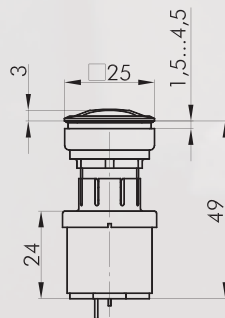


Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
operating current: approx. 30mA
signal frequency: 3.5 +/- 0.5 Hz
volume: max. 85 db (10cm, 24V)
max. 75 db (10cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm
front bezel: black

OKJNSGL+SGLR-24V

IP65



Illuminated interval buzzer

operating voltage: 12 ... 24V DC
operating current: abt. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 85 db (10 cm, 24V)
max. 75 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm
front bezel: black

OKJNSGL+SGLR-24V

Accessories



Faston clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

Panel Mount Jacks

Illustration

Dimensions

Description

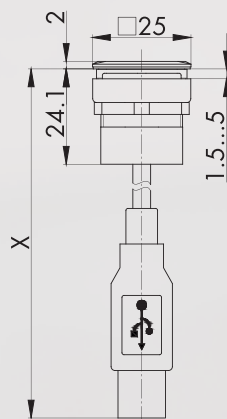
Type



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8



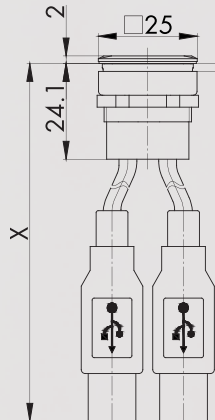
USB2.0 jack A/connector A (60 cm)

front:
USB2.0 jack type A
rear:
USB2.0 cable (length X=600 mm) with plug type A

front bezel: black



OKJ_USB



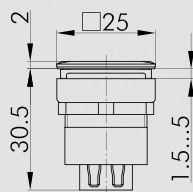
Double USB2.0 jack A/connector A (60 cm)

front:
2x USB3.0 jack type A
rear:
2x USB2.0 cable (length X=600 mm) with plug type A

front bezel: black



OKJ_2USB



USB2.0 jack A/jack A

front:
USB2.0 jack type A
rear:
USB2.0 jack type A

front bezel: black



OKJ_USB_AA

For panel mount jacks, please refer to page 572



Pilot Lights

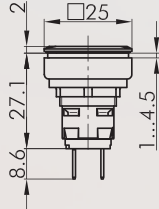
Illustration

Dimensions

Description

Type

IP65



Pilot light with Faston terminals 2.8x0.8 mm

W2x4.6d socket

Connection type:

Faston terminals 2.8x0.8 mm

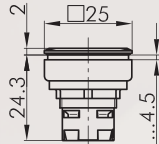
front bezel:

black



OKJL4

IP65



Pilot light head

suitable lampholders:

ASI B B...K CT CTF CTP CZ

front bezel:

black



OKJN

Accessories



Convex lens, transparent

colour:

blue



KOKJFBL

yellow



KOKJFGB

green



KOKJFGN

clear



KOKJFKL

red

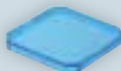


KOKJFRT

white



KOKJFWS



Flat lens, transparent

colour:

blue



TOKJFBL

yellow



TOKJFGB

green



TOKJFGN

clear



TOKJFKL

red

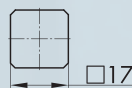


TOKJFRT

white



TOKJFWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

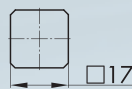
BSOKJ...



Nameplate with special imprint

according to customer's specification

BSOKJB



Blank nameplate

BSOKJU

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Mounting tool 16 with torque limitation for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting aperture 23 x 23 mm colour: yellow 	NAS_23
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting aperture 23 x 23 mm colour: yellow 	NAS_23_548
		Protective lid for pushbuttons and jacks of the OKTRON-JUWEL series colour: transparent 	KDOKJ
		Universal lens remover	USK
		Dummy to close unused mounting apertures colour: black 	BVOKJ

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

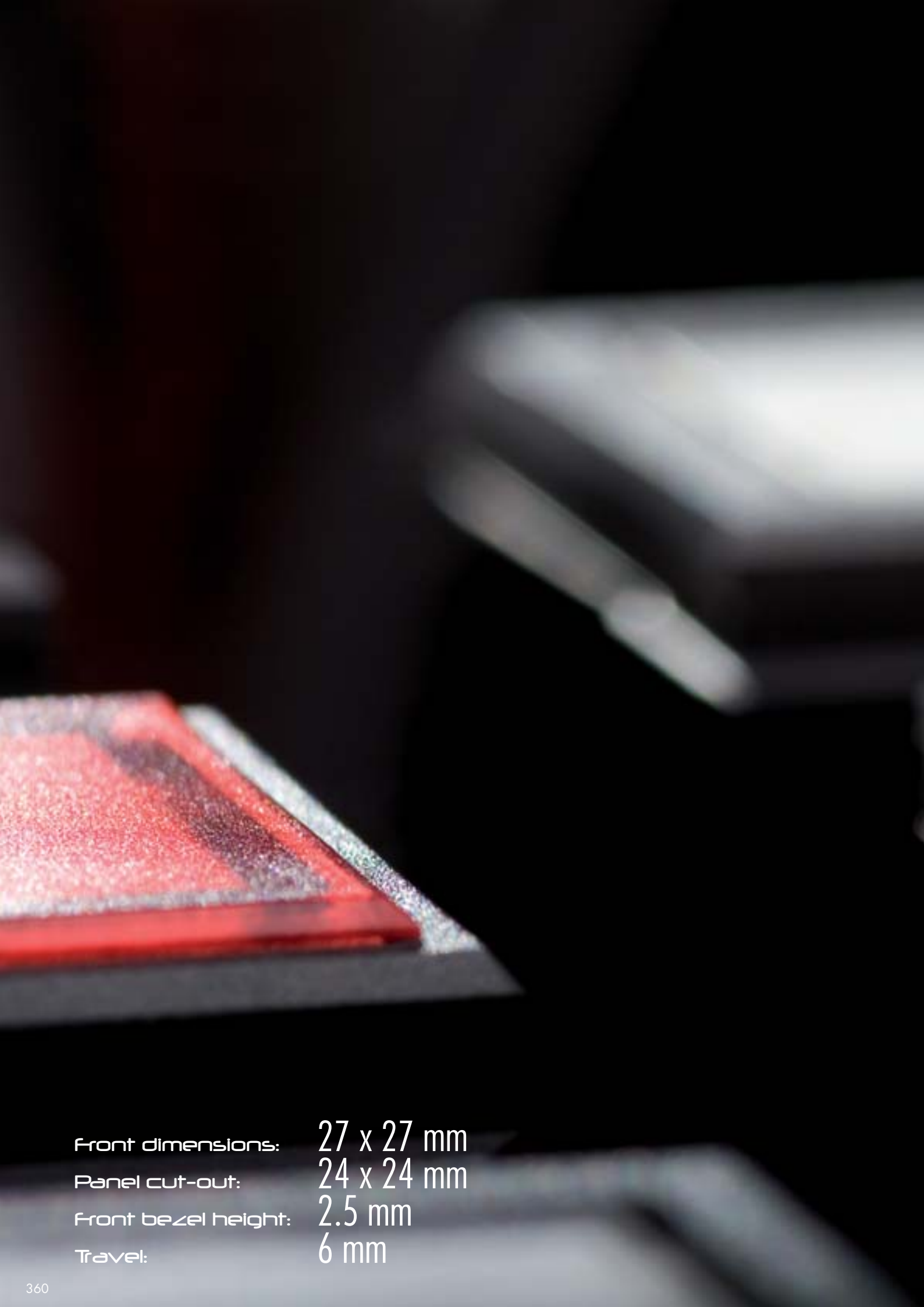
RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Front dimensions: 27 x 27 mm
Panel cut-out: 24 x 24 mm
Front bezel height: 2.5 mm
Travel: 6 mm



QUARTRON-JUWEL

 Product configurator



Overview QUARTRON-JUWEL series



01 Pushbutton heads	page 366	07 Key actuators	page 372
02 Emergency-stop heads	page 369	08 Buzzers	page 375
03 Mushroom heads	page 370	09 Pilot light heads / pilot lights	page 377
04 Knob set for potentiometers	page 370	Contact blocks/lampholders	page 414
05 Selector heads	page 370		
06 Toggle heads	page 371		

Housing colours



degree of protection



operating travel



tactile

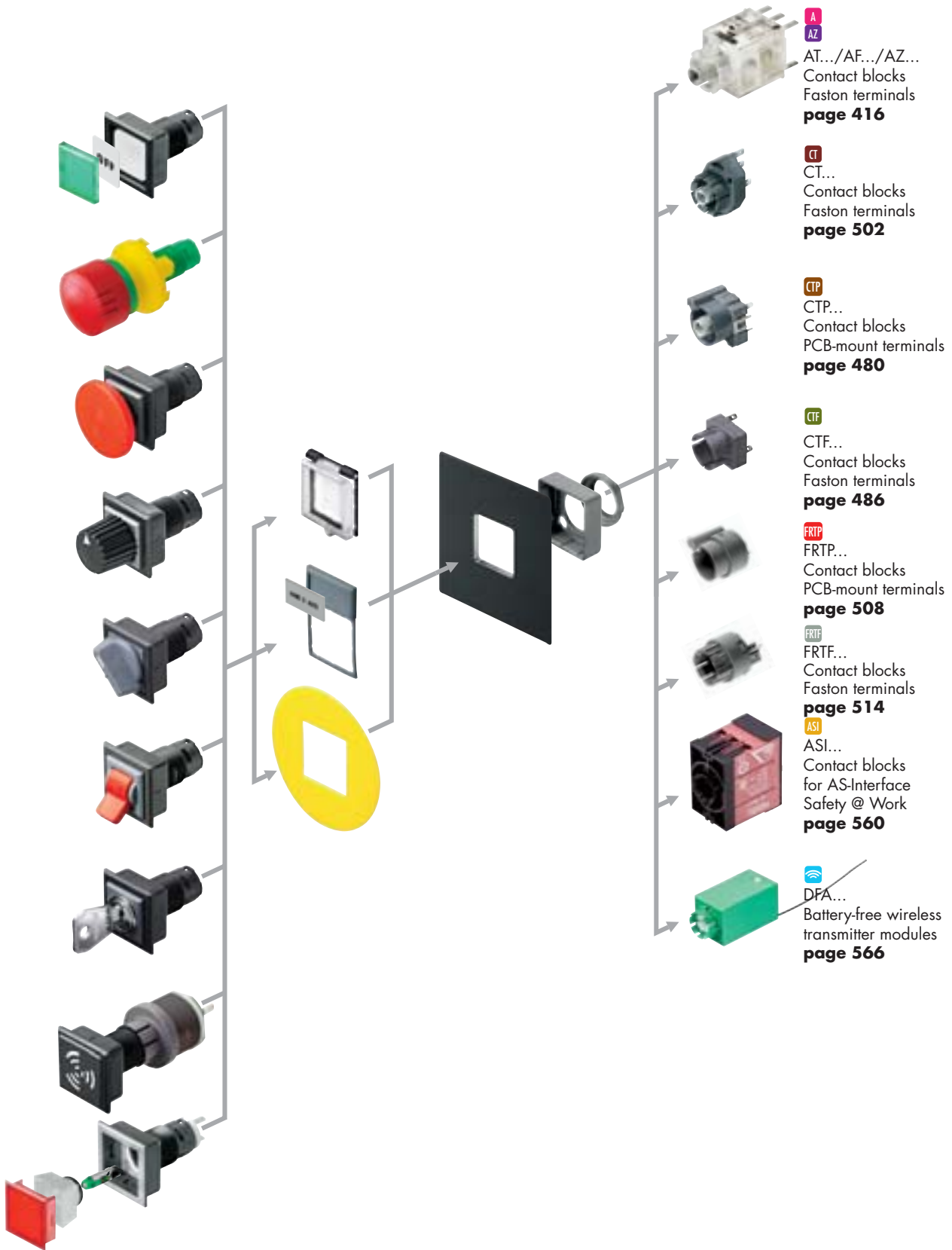


illuminating option



labelling option





A
AZ
AT.../AF.../AZ...
Contact blocks
Faston terminals
page 416

CT
CT...
Contact blocks
Faston terminals
page 502

CTP
CTP...
Contact blocks
PCB-mount terminals
page 480

CTF
CTF...
Contact blocks
Faston terminals
page 486

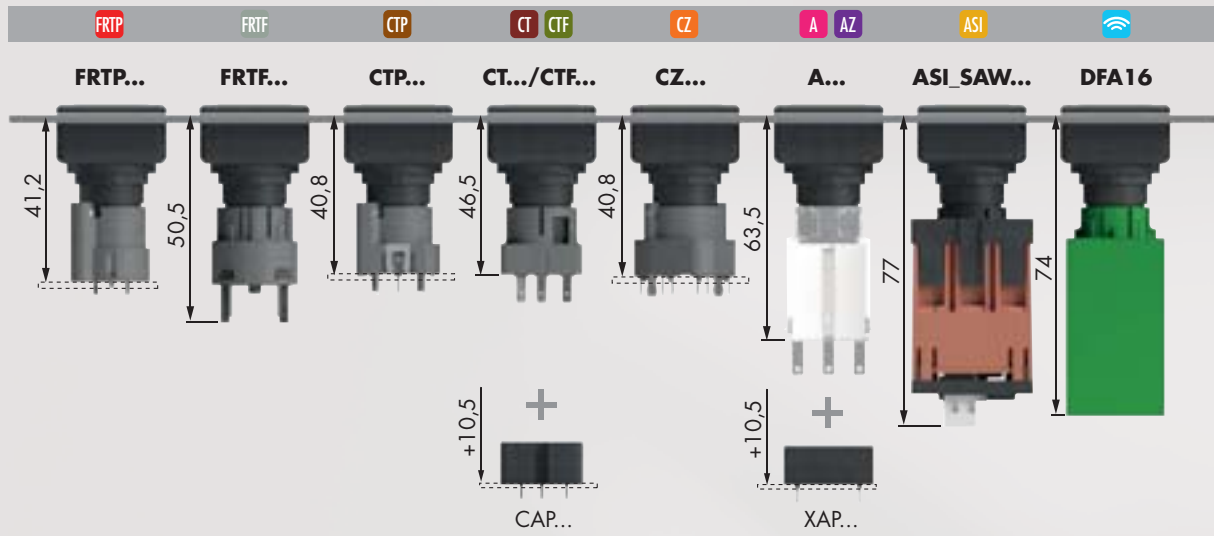
FRTF
FRTF...
Contact blocks
PCB-mount terminals
page 508

FRTF
FRTF...
Contact blocks
Faston terminals
page 514

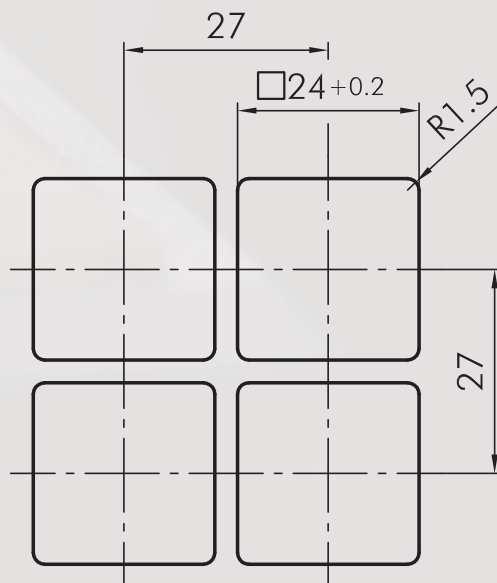
ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

DFA
DFA...
Battery-free wireless
transmitter modules
page 566

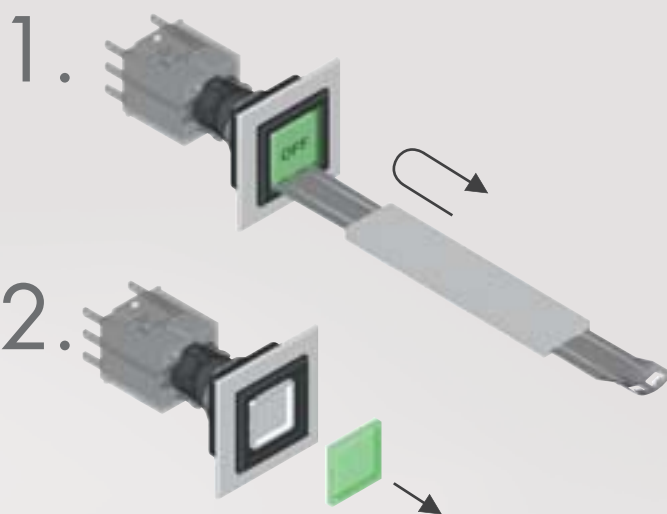
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



QUARTRON-JUWEL®

24 x 24 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pushbuttons

Illustration

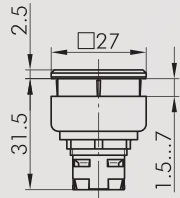
Dimensions

Description

Type

IP66

6 mm



Pushbutton head

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel:

black

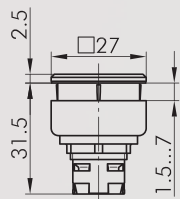
charcoal

QXJT

QXJTDG

IP65

6 mm



Pushbutton head with light conductor

two prisms reflect the light from the center to a "window" at the edge of the lens

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel:

black

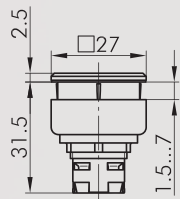
charcoal

QXJTL

QXJTLLDG

IP65

3 mm



Short-stroke pushbutton head

suitable contact blocks:

ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel:

black

charcoal

QXJD

QXJDDG

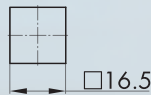
Accessories



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

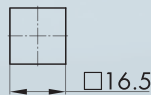
BSQX...



Nameplate with special imprint

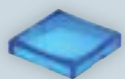
according to customer's specification

BSQXB



Blank nameplate

BSQXU



Concave lens, transparent

colour:

blue

yellow

green

clear

red

opal white



T25DBL

T25DGB

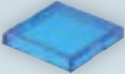



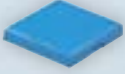







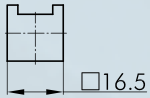
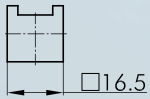
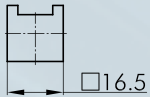
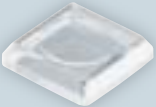
T25DGN

T25DKL

T25DRT

T25DWS

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Flat lens, transparent colour: blue  yellow  green  clear  red  opal white 	T25FBL T25FGB T25FGN T25FKL T25FRT T25FWS
		Flat lens, non-transparent for pushbuttons without inscription and illumination colour: blue  yellow  green  black  red  white 	T25FGBL T25FGGB T25FGGN T25FGSW T25FGRT T25FGWS
		High lens, transparent colour: blue  yellow  green  clear  red  opal white 	T25HBL T25HGB T25HGN T25HKL T25HRT T25HWS
		Nameplate with standard imprint please specify index number(see nameplates from page 634)	BSQXLL...
			BSQXLLB
		Blank nameplate	BSQXLLU
		Sealing cap made of silicone rubber, -50°C to +60°C	TK27S

IP67

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

QUARTRON-JUWEL®

24 x 24 mm

MADE IN GERMANY



About Us

Pushbuttons

← Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

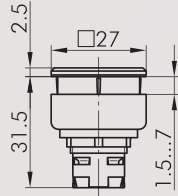
Dimensions

Description

Type

IP67

3 mm



Short-stroke membrane pushbutton head

- with transparent silicone protection cap, down to -50° C
- with transparent, flat lens, add code letter to type number, e.g. QXJDMRT (red-RT, green-GN, yellow-GB, blue-BL, clear-KL)
- with illuminating option, blank nameplate included standard or special imprints on request

suitable contact blocks:

ASI AZ B B... BZ BZ... B439 CT CTF CTP CZ

front bezel:

black

charcoal



QXJDM...

QXJMDG...

Emergency-Stops

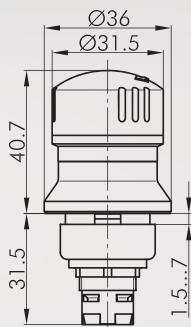
Illustration

Dimensions

Description

Type

IP65



Emergency-stop head

Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



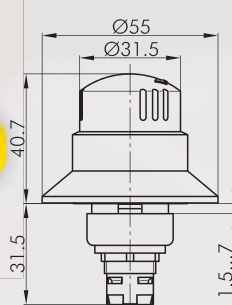
suitable contact blocks:

ASI A AZ FRTP PTP

front bezel:	yellow	
Mushroom head:	red	

QXJUV

IP65



Emergency-stop head with anti-lock collar

Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI A AZ FRTP PTP

front bezel:	yellow	
Mushroom head:	red	

QXJBUV



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Mushroom Pushbuttons

I = Switching position
> = Spring return

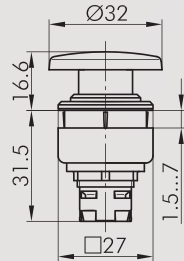
Illustration

Dimensions

Description

Type

IP65



Mushroom head, momentary

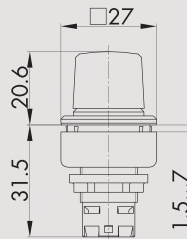
other mushroom colours on request
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no

suitable contact blocks:



front bezel:	black		
Mushroom head:	red		QXJS
front bezel:	charcoal		
Mushroom head:	red		QXJSDG

IP65

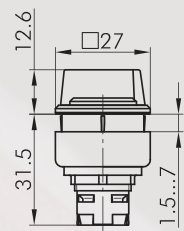


Knob set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10x0.75
delivery without potentiometer
shaft length: approx. 50 mm ± 4 mm

front bezel:	black		
Knob colour:	black		QXJR
front bezel:	charcoal		
Knob colour:	black		QXJRDG

IP65



Selector head, maintained

suitable contact blocks:



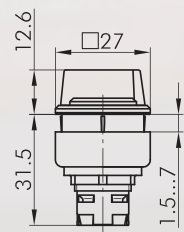
front bezel:	black			QXJWA
--------------	-------	--	--	--------------

suitable contact blocks:



front bezel:	black			QXJWB
--------------	-------	--	--	--------------

IP65



Selector head, momentary

suitable contact blocks:



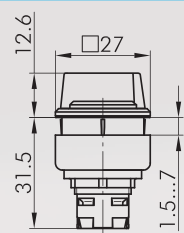
front bezel:	black			QXJSTA
--------------	-------	--	--	---------------

suitable contact blocks:



front bezel:	black			QXJSTB
--------------	-------	--	--	---------------

IP65



Selector head, left maintained, right momentary

suitable contact blocks:



front bezel:	black			QXJWC
--------------	-------	--	--	--------------

Toggle Switches

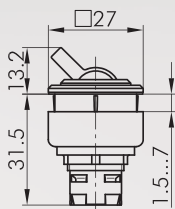
Illustration

Dimensions

Description

Type

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

A **AZ** **CT** **CTF** **CTP** **CZ**

front bezel: black

Knob colour: red

front bezel: charcoal

Knob colour: red

QXJK

QXJKDG

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

QUARTRON-JUWEL®

24 x 24 mm

MADE IN GERMANY



About Us

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

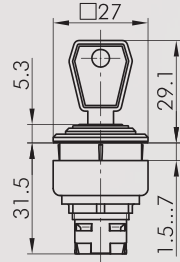
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black charcoal



suitable contact blocks:

A AZ

front bezel: black charcoal



suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



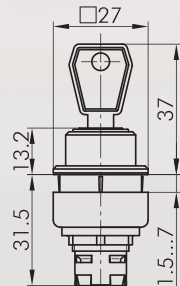
suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



IP65



Key actuator, momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

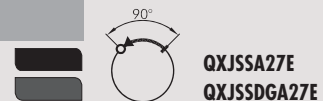
front bezel: black charcoal



suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black charcoal



Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

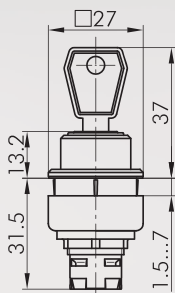
Illustration

Dimensions

Description

Type

IP65



Key actuator, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black charcoal



QXJSSA24E
QXJSSDGA24E

suitable contact blocks:

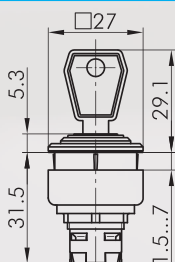
A AZ

front bezel: black charcoal



QXJSSA25E
QXJSSDGA25E

IP65



Key actuator with protection cap, maintained

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black



QXJSSKA12E

suitable contact blocks:

A AZ

front bezel: black



QXJSSKA13E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXJSSKA14E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXJSSKA15E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXJSSKA17E

suitable contact blocks:

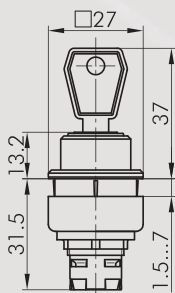
A AZ CT CTF CTP CZ

front bezel: black



QXJSSKA18E

IP65



Key actuator with protection cap, momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black



QXJSSKA23E

suitable contact blocks:

A AZ CT CTF CTP CZ

front bezel: black



QXJSSKA27E

QUARTRON-JUWEL®

24 x 24 mm

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About Us

→ Pushbuttons
and Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

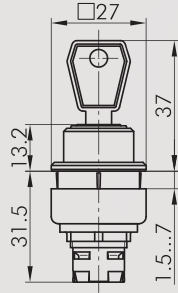
Illustration

Dimensions

Description

Type

IP65



Key actuator with protection cap, left maintained, right momentary

including two keys
other lock types on request

suitable contact blocks:

A AZ

front bezel: black



QXJSSKA24E

suitable contact blocks:

A AZ

front bezel: black



QXJSSKA25E

Accessories



Spare key (standard)

standard spare key, specify key number for special locks

ESE845

Buzzers

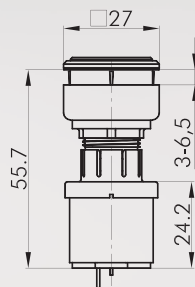
Illustration

Dimensions

Description

Type

IP65



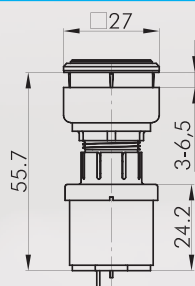
Buzzer

operating voltage: 12 ... 24V AC/DC
operating current: 5mA (12V DC)
16mA (12V DC)
signal frequency: 3.8 +/- 0.5 kHz
volume: max. 90 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXJNSG+SG-24V

IP65



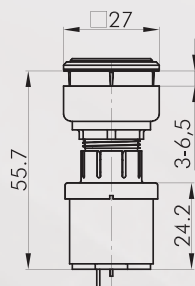
Interval buzzer

operating voltage: 12 ... 24V DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 Hz
volume: max. 90 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXJNSG+SGL-24V

IP65



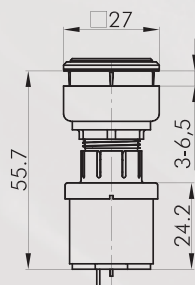
Illuminated buzzer

operating voltage: 12 ... 24V AC/DC
operating current: max. 30mA
signal frequency: 3.5 +/- 0.5 Hz
volume: max. 90 db (10cm, 24V)
max. 80 db (10cm, 12V)
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXJNSGL+SGLR-24V

IP65



Illuminated interval buzzer

operating voltage: 12 ... 24V DC
operating current: abt. 30mA
signal frequency: 3.5 +/- 0.5 kHz
volume: max. 90 db (10 cm, 24V)
max. 80 db (10 cm, 12V)
intervall: 1s
operating temperature: -20°C ... 60°C
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black

QXJNSGL+SGLR-24V

Accessories



Faston clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

Accessories for Contact Blocks

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8



VGA jack/connector

front:

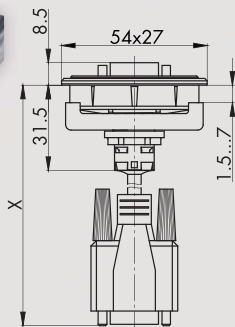
VGA jack

rear:

VGA -cable (length X=1000 mm) with connector

front bezel: black

LXJ_VGA_100CM



RS232 jack/connector

front:

RS232 jack

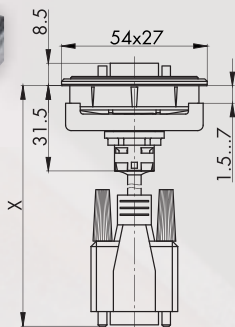
rear:

RS232 cable (length X=1000 mm) with connector

9-pole through-connected also suitable for RS485

front bezel: black

LXJ_RS232_100CM



For panel mount jacks, please refer to page 572



Pilot Lights

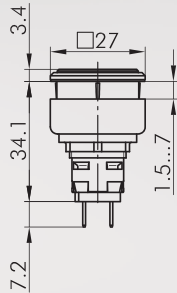
Illustration

Dimensions

Description

Type

IP65



Pilot light with Faston terminals 2.8x0.8 mm

T5.5K socket

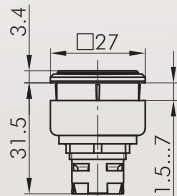
Connection type: Faston terminals 2.8x0.8 mm

front bezel: black charcoal



QXJL5
QXJL5DG

IP65



Pilot light head

suitable lampholders:

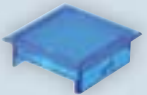
A CT CTF CTP CZ

front bezel: black charcoal



QXJN
QXJNDG

Accessories

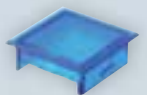


Flat lens, depolished

colour: blue yellow green red opal white



KF25BL
KF25GB
KF25GN
KF25RT
KF25WS



Flat lens, transparent

colour: blue yellow green clear red



KF25KSBL
KF25KSGB
KF25KSGN
KF25KSKL
KF25KSRT



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

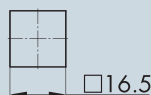
BSQX...



Nameplate with special imprint

according to customer's specification

BSQXB



Blank nameplate

BSQXU

7-Segment Displays

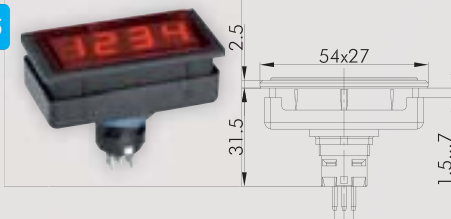
Illustration

Dimensions

Description

Type

IP65



4-digit 7-segment display with serial interface

operating temperature: -30 bis +70°C
 operating voltage: 24V DC (18-28V)
 current consumption: 70mA at 24V
 inputs (enable, clock, data): 24V PLC level
 clock pulse rate: 0...10kHz
 data telegram: 20 bit, serial
 available character set: 0...9, A, I, II, U, -, blank
 connection: via integrated 6-pole diode plug acc. to DIN 45322
 option: parallel control (8 bit) via additional module

front bezel: black



LXJLASCE-SPS



DIN female connector

serves to connect the 7-segment displays in compliance with DIN 45322

MAK6

Accessories



Mounting tool 16

with torque limitation
 for the series OKTRON, OKTRON-JUWEL, OKTRON-R,
 RONTRON-RJUWEL, RONTRON-QJUWEL, QUARTRON,
 QUARTRON-JUWEL, RX-JUWEL

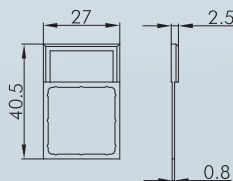
S16



Mounting tool adapter with 1/4" connections

for mounting tools S16 and S22

SRA



External nameplate holder

for outside marking of the actuators of the QUARTRON-JUWEL series
 accepts self-adhesive nameplates

colour: charcoal






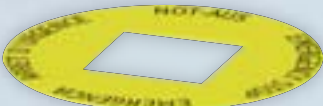


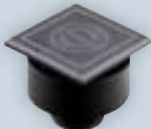
QXJABT

Self-adhesive nameplate laser-printed

inscription according to customer's specification
 dimensions: 22 x 11 mm

BZ16L...

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Self-adhesive nameplate blank dimensions: 22 x 11 mm	BZ16U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions: 22 x 11 mm	BZ16B...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting aperture 24 x 24 mm colour: yellow 	NAS_24
		Yellow nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting aperture 24 x 24 mm colour: yellow 	NAS_24_548
		Lead-sealable protective lid fits on the pushbuttons of the QUARTRON-JUWEL series Attention: mounting grid 30 x 30mm	KDP24
		Universal lens remover	USK
		Dummy to close unused mounting apertures colour: black 	QX24

IP65

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Front dimensions: 30 x 30 mm
Panel cut-out: 26 x 26 mm
Front bezel height: 6 mm
Travel: 6 mm





QUARTEX-R-JUWEL



Product configurator



Overview QUARTEX-R-JUWEL series



01 Pushbutton heads	page 386	07 Pilot light heads / pilot lights	page 392
02 Emergency-stop heads	page 387	Contact blocks/lampholders	page 414
03 Knob set for potentiometers	page 388		
04 Selector heads/knob set for rotary switches	page 389/388		
05 Toggle heads	page 389		
06 Key actuators	page 390		

Housing colour



degree of protection



operating travel



tactile

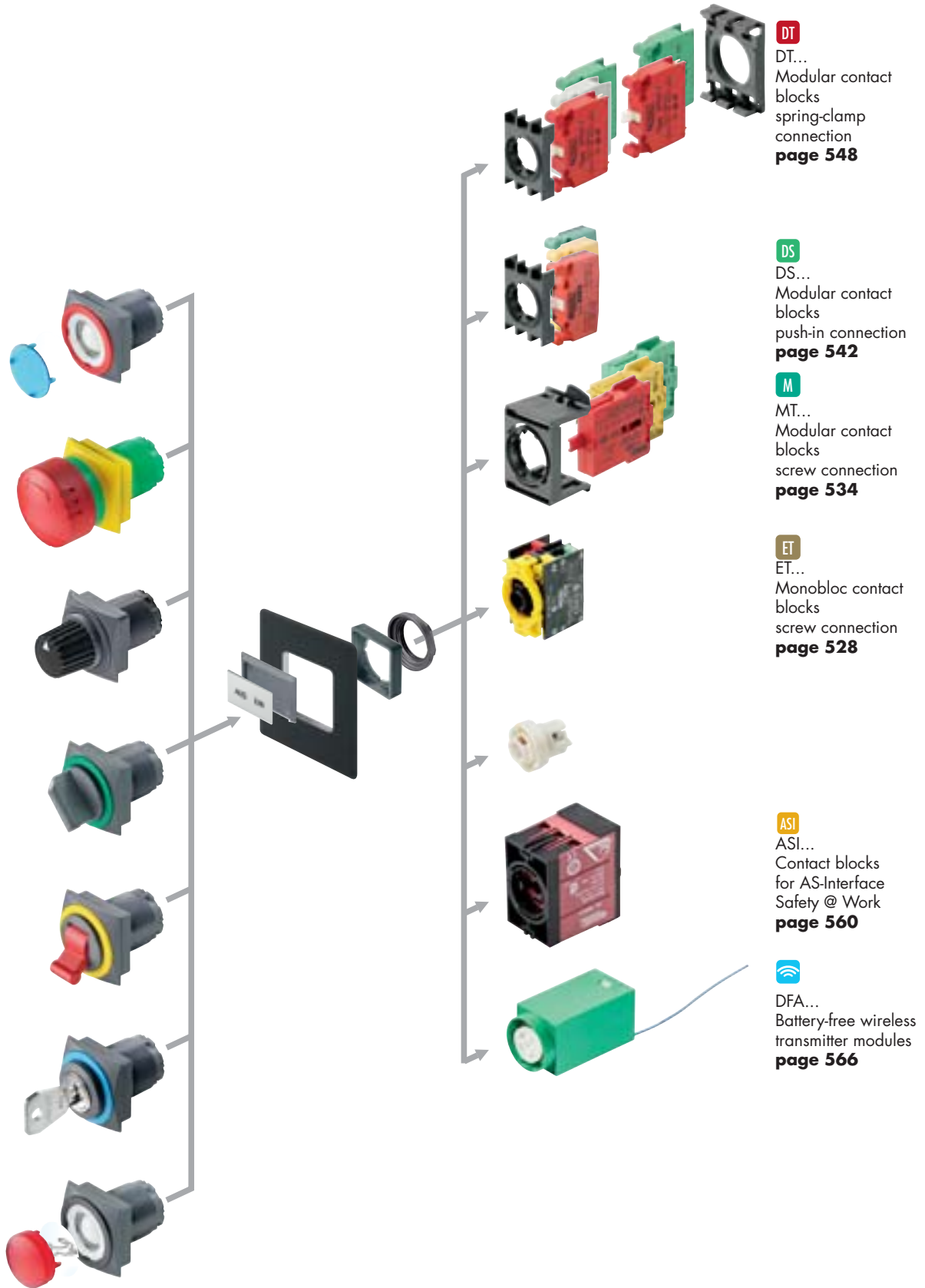


illuminating option



labelling option





DT
DT...
Modular contact
blocks
spring-clamp
connection
page 548

DS
DS...
Modular contact
blocks
push-in connection
page 542

M
MT...
Modular contact
blocks
screw connection
page 534

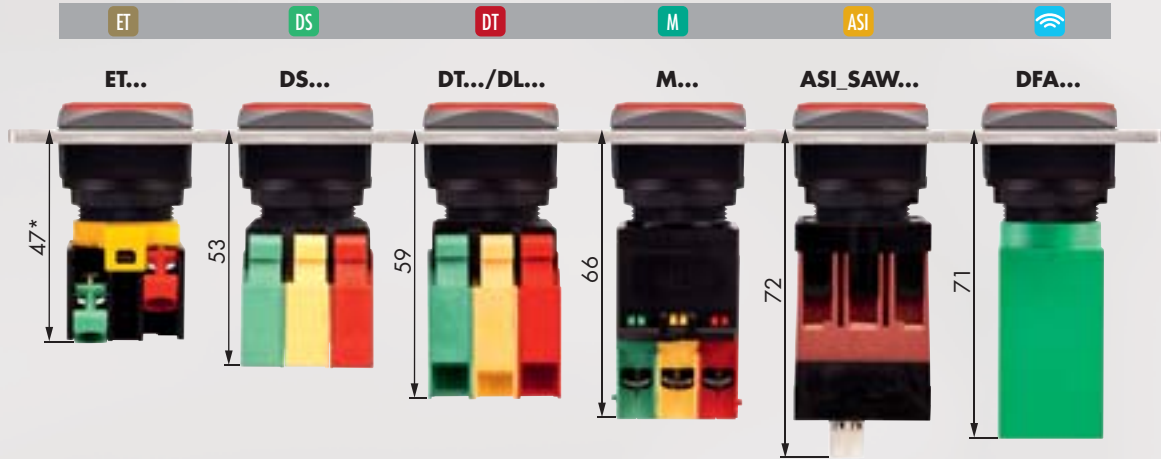
ET
ET...
Monobloc contact
blocks
screw connection
page 528

ASI
ASI...
Contact blocks
for AS-Interface
Safety @ Work
page 560

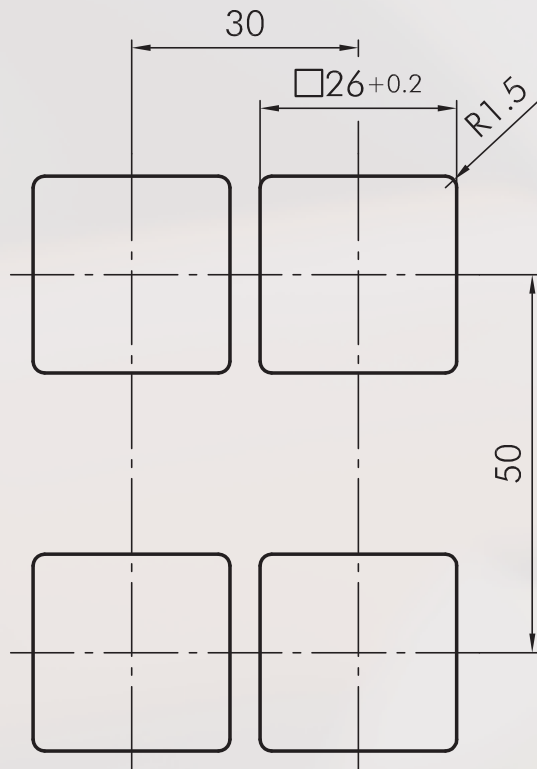
DFA
DFA...
Battery-free wireless
transmitter modules
page 566

When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

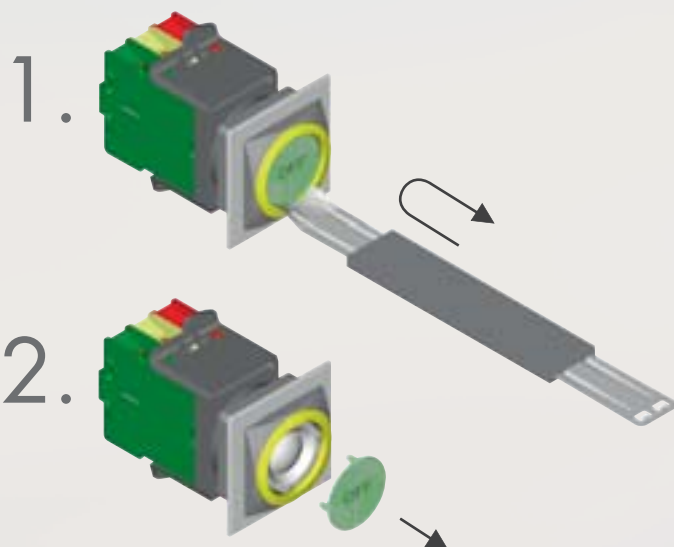
Mounting depth dimensions



Cutout dimensions



Mounting and service instructions



Pushbuttons

Illustration

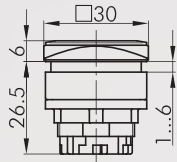
Dimensions

Description

Type

IP65

6 mm



Pushbutton head

suitable contact blocks:



front bezel:

charcoal



QRJT...

Accessories



Concave lens, transparent

colour:

blue



T26DBL

yellow



T26DGB

blue



T26DGN

clear



T26DKL

red



T26DRT

opal white



T26DWS



Concave lens, non-transparent

used for pushbuttons without inscription and illumination

colour:

blue



T26DGBL

yellow



T26DGGB

green



T26DGGN

black



T26DGSW

red

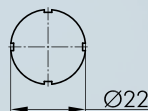


T26DGRT

white



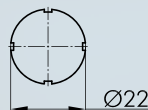
T26DGWS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

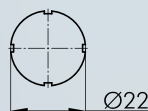
BSK...



Nameplate with special imprint

according to customer's specification

BSKB

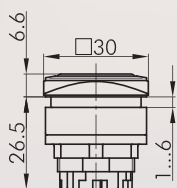


Blank nameplate

BSKU

IP67

6 mm



Membrane pushbutton head

with tightly closed, transparent silicone cap, down to -50° C

suitable contact blocks:



front bezel:

charcoal



QRJTM...

Emergency-Stops

Illustration

Dimensions

Description

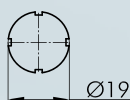
Type

Accessories



Flat lens, transparent

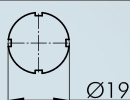
colour:	blue		T20FBL
	yellow		T20FGB
	green		T20FGN
	clear		T20FKL
	red		T20FRT
	opal white		T20FWS



Nameplate with standard imprint

please specify index number(see nameplates from page 634)

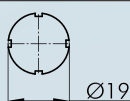
BSRX...



Nameplate with special imprint

according to customer's specification

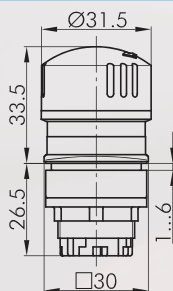
BSRXB



Blank nameplate

BSRXU

IP65



Emergency-stop head

Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:



front bezel:	yellow		QRJUV
Mushroom head:	red		



For further emergency-stops, please refer to the chapter "Emergency-Stop Head" starting on page 594

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID


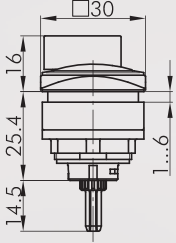


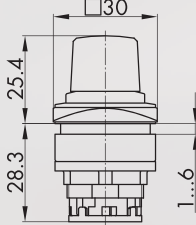
Enclosures

Pedal Switches

Terminal Blocks

Type Index

Knob Sets for Rotary Switches

Illustration	Dimensions	Description	Type
		<p>Knob set for rotary switches, without inscription for Kraus & Naimer types CG4 and CA4 other versions on request</p> <p>front bezel: charcoal</p>	QRJDAU...
		<p>Knob set for rotary switches, with inscription for Kraus & Naimer types CG4 and CA4 other versions on request</p> <p>front bezel: charcoal</p>	QRJDAB...
		<p>Knob set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75 delivery without potentiometer shaft length: approx. 50 mm ± 2 mm incl. fastening thread</p> <p>front bezel: charcoal</p>	QRJR...

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

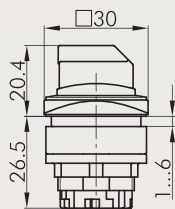
Illustration

Dimensions

Description

Type

IP65



Selector head, maintained

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRJWA...

suitable contact blocks:

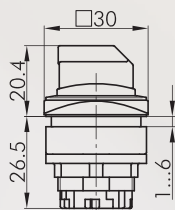
DT ET M

front bezel: charcoal



QRJWB...

IP65



Selector head, momentary

suitable contact blocks:

DS DT ET M

front bezel: charcoal

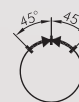


QRJSTA...

suitable contact blocks:

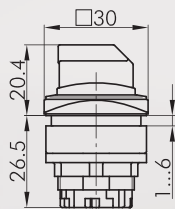
DT ET M

front bezel: charcoal



QRJSTB...

IP65



Selector head, left maintained, right momentary

suitable contact blocks:

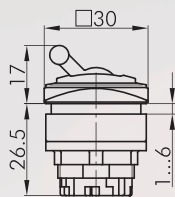
DT ET M

front bezel: charcoal



QRJWC...

IP65



Toggle head

red toggle (other colours on request)

suitable contact blocks:

DS DT ET M

front bezel: charcoal

QRJK...

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

QUARTEX®-R-JUWEL

26 x 26 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Key Switches (momentary/maintained)

I = Switching position
> = Spring return
O = Key removable position

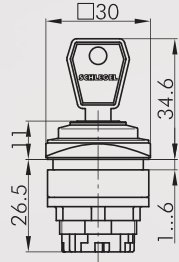
Illustration

Dimensions

Description

Type

IP65



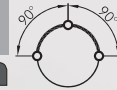
Key actuator, maintained

including two keys other lock types on request

suitable contact blocks:

DT ET M

front bezel: charcoal

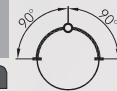


QRJSSA12E...

suitable contact blocks:

DT ET M

front bezel: charcoal



QRJSSA13E...

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRJSSA14E...

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRJSSA15E...

suitable contact blocks:

DS DT ET M

front bezel: charcoal



QRJSSA17E...

suitable contact blocks:

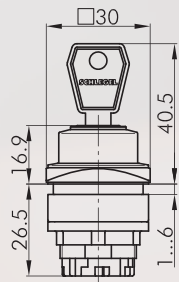
DS DT ET M

front bezel: charcoal



QRJSSA18E...

IP65



Key actuator, momentary

including two keys other lock types on request

suitable contact blocks:

DT ET M

front bezel: charcoal



QRJSSA23E...

suitable contact blocks:

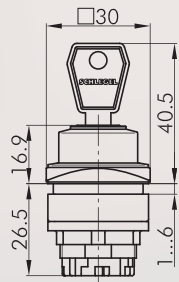
DS DT ET M

front bezel: charcoal



QRJSSA27E...

IP65



Key actuator, left maintained, right momentary

including two keys other lock types on request

suitable contact blocks:

DT ET M

front bezel: charcoal



QRJSSA24E...

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Description

Type

Accessories



Spare key (standard)

standard spare key, specify key number for special locks

ESE845

About Us

→ Pushbuttons
and Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

QUARTEX®-R-JUWEL

26 x 26 mm

MADE IN GERMANY



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Pilot Lights

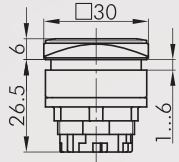
Illustration

Dimensions

Description

Type

IP65



Pilot light head

suitable lampholders:

DS DT ET M

front bezel:

charcoal



QRJN...

Accessories



Convex lens

colour:

blue



KF23BL

yellow



KF23GB

green



KF23GN

clear



KF23KL

red



KF23RT

opal white



KF23WS



High lens, transparent

colour:

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red

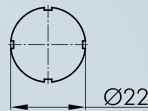


KH23RT

opal white



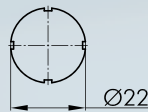
KH23WS



Nameplate with standard imprint

please specify index number (see nameplates from page 634)

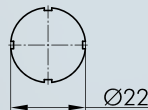
BSK...



Nameplate with special imprint

according to customer's specification

BSKB



Blank nameplate

BSKU





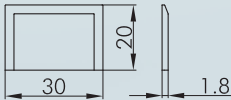


Mounting tool 22

S22

with torque limitation

for the series QUARTEX-R-(JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic, SHORTRON, jacks of the ranges RONTRON-R/-QJUWEL

Accessories for Pushbuttons and Switches

Illustration	Dimensions	Description	Type
		Mounting tool adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External nameplate holder for outside marking of the actuators of the QUARTEX-R-JUWEL series, accepts self-adhesive nameplates colour: charcoal	QRJABT
		Self-adhesive nameplate laser-printed inscription according to customer's specifications dimensions: 17 x 24 mm	BZ26G
		Self-adhesive nameplate blank dimensions: 17 x 24 mm	BZ26U
		Self-adhesive nameplate with standard imprint please specify index number(see nameplates from page 634) dimensions 17 x 24 mm	BZ26L...
		Yellow nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting aperture 26 x 26 mm colour: yellow	NAS_26
		couleur: jaune	NAS_26_548
IP00		Protective lid for pushbutton of the range QUARTEX®-R-JUWEL maximum opening angle 120°, with spring return Lid: transparent	KDQRJ

QUARTEX®-R-JUWEL

26 x 26 mm

MADE IN GERMANY



About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Accessories for Pushbuttons and Switches

Illustration

Dimensions

Description

Type



Universal lens remover

USK

IP65



Dummy

to close unused mounting apertures

colour:

charcoal



BVQRJ

About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

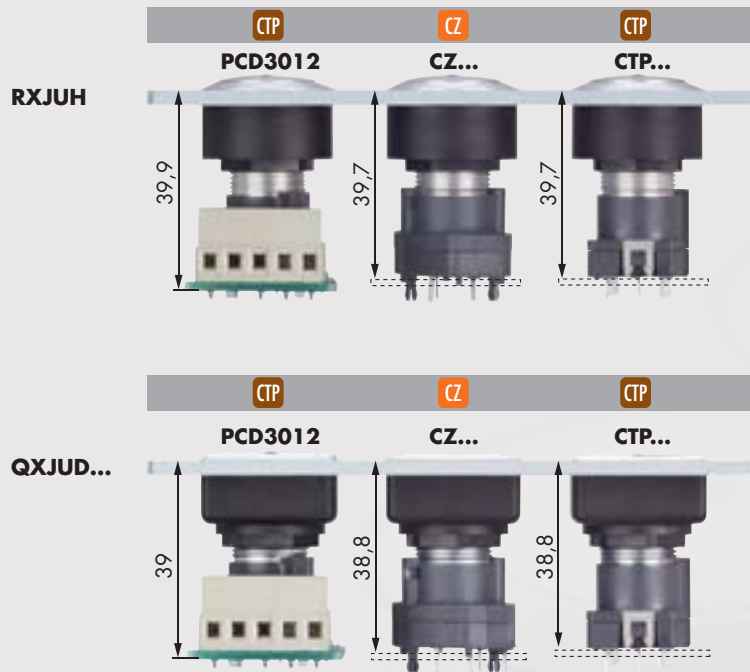
Type Index



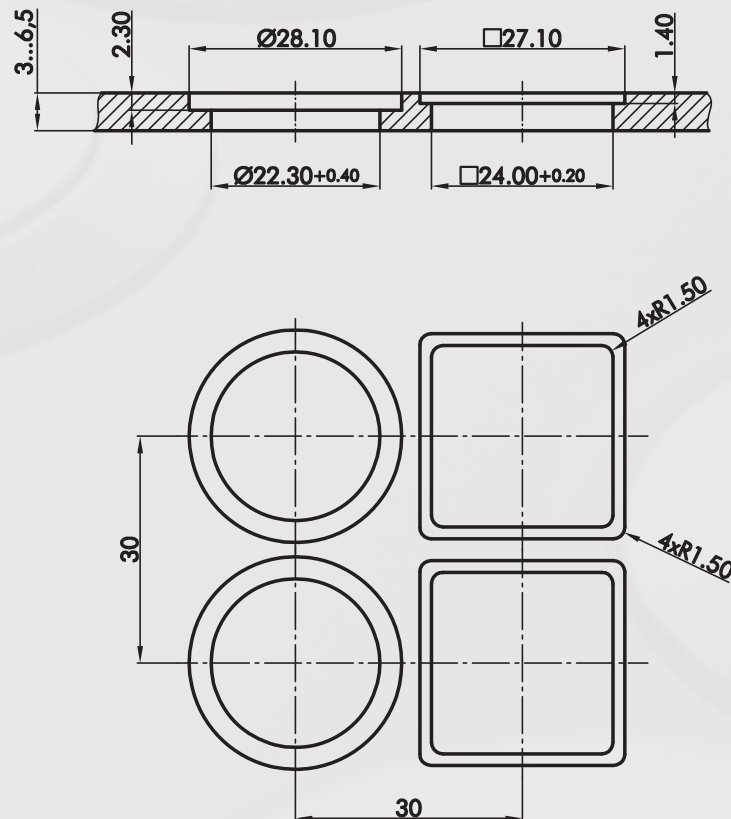


Vandalism-proof

Mounting depth dimensions



Cutout dimensions



Pushbuttons


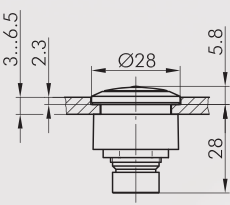
Illustration

Dimensions

Description

Type

IP65
2.3mm
☀️


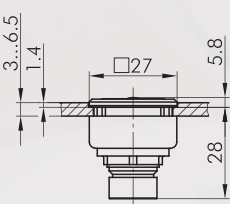
Round short-stroke pushbutton head (momentary)
all-metal (anodised aluminium)

suitable contact blocks:
CTF CTP CZ

front bezel: silver-coloured

RXJUH

IP65
2.3mm
☀️

Square short-stroke pushbutton head (momentary)
all-metal (zinc-die casting, mat chromium plated)

suitable contact blocks:
CTF CTP CZ

front bezel: silver-coloured

QXJUDIP65_CR



Front dimensions: \varnothing 23.5 mm
Panel cut-out: \varnothing 16.2 mm
Front bezel height: 4 mm



 Product configurator



myritron

→ mYnitron® - tactile, robust, elegant

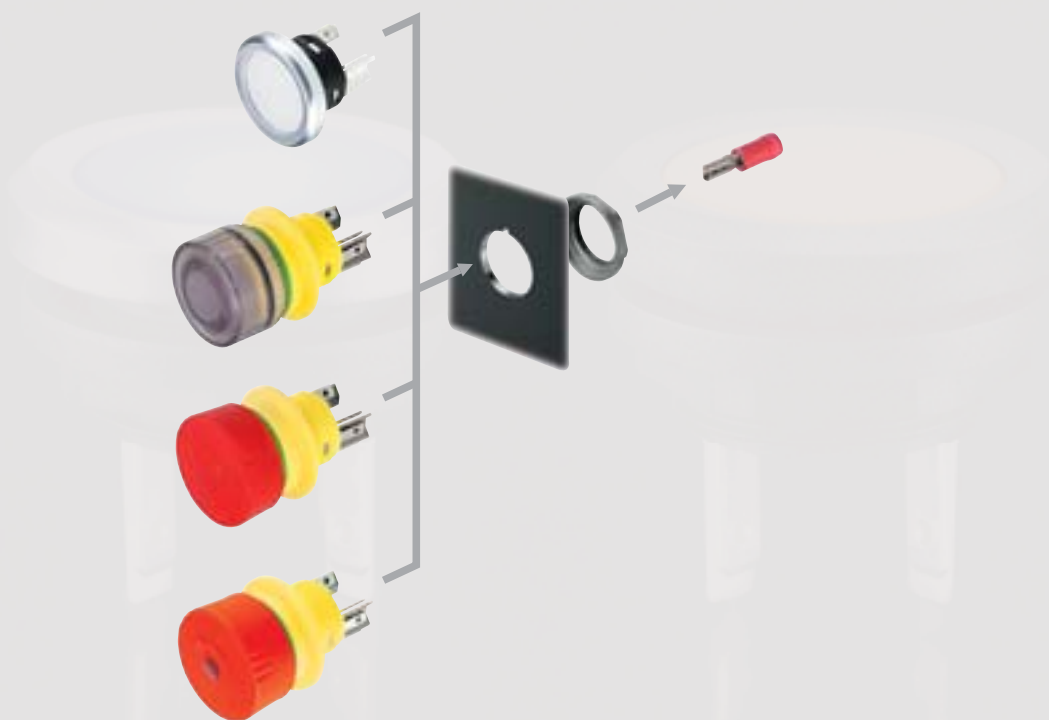
Thanks to its very compact shape the new series mYnitron is ideal for applications with less space. It is designed not only for the classic use in the plant and machine engineering, but also for mobile operating units or small devices. The mYnitron pushbuttons not only convince by their flat shape and the very low mounting depth, but also by a pleasant switching feel and the appealing design. Beside the very short operating travel, particular importance was attached to the tactile feeling by a clear perceptible switching point of the pushbutton. A real new feature in the mYnitron series is the active/inactive emergency-stop acc. to the actual standard EN ISO 13850:2015. The standard allows to indicate the status of an emergency-stop by a corresponding illumination. The mushroom of the active/inactive mYnitron emergency-stop is only illuminated in red in the status of functional operation, otherwise it is colourless and can no longer be recognised as emergency-stop. This makes it easy to identify inactive plant parts or deactivated operating units and thus it considerably improves the safety against a wrong operation in case of an emergency.

- no space problem - mounting depth only 18.0 mm
- panel cut-out Ø 16.2 mm
- good perceptible switching point
- degree of protection IP65 and IP67
- illuminated active/inactive and foolproof emergency-stop acc. to IEC 60 947-5-5



01	Pushbuttons	Seite 408
02	Emergency-stops	Seite 411
03	Emergency-stops active/inactive	Seite 411

Housing colour



About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

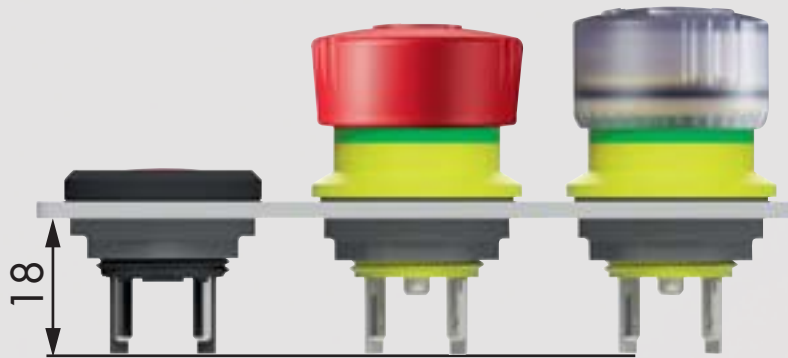
Enclosures

Pedal Switches

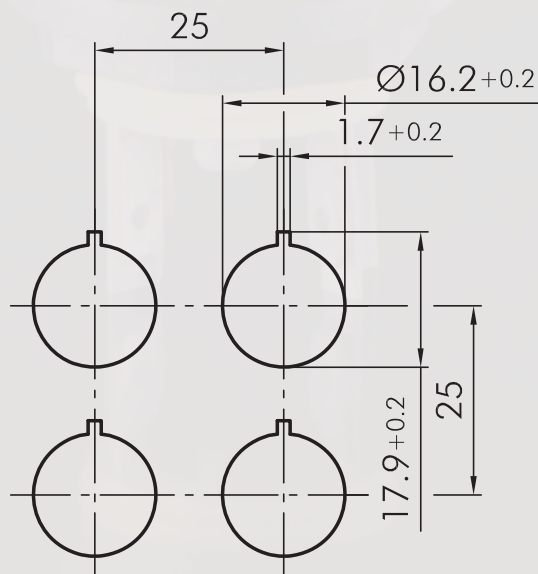
Terminal Blocks

Type Index

Mounting depth dimensions



Cutout dimensions



General Data

Type reference:	Y(M)T(L)(G)(x)(L_yyyy)(zzzzzz_zz)
Description:	Short-stroke pushbutton mYnitron
Approvals:	CE, cURus
Contact type:	1NO
Degree of protection:	IP65 / IP67
Operation travel:	1,0 mm
Connection type:	Faston terminals 2.8 mm x 0.5 mm
Contact material:	snap disk: stainless steel 1.4310 gold-plat. counter contact: CuZn37, gold-plat
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	500.000 switching cycles
Electrical life (rated load):	500,000 switching cycles at rated load
Contact resistance NO:	< 100 mOhm
Min. current:	10 uA
Min. voltage:	20 mV
Bouncing time NO:	< 5ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	42 V	42 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	100 mA	100 mA
Breaking capacity:	1 W (ohmic load)	1 W (ohmic load)
Continuous thermal current:	100mA	100mA

Technical Data - Lamp

Lamp socket:	none, with integrated LED
Max. lamp voltage:	10...32V
Max. lamp output:	20 mA (18...22 mA)
Definition:	+ ...anode, - ...cathode

Additional data

Mounting aperture:	16.2 mm
Tightening torque (mounting nut):	max. 0.7 Nm
Mounting grid:	25mm x 25mm
Mounting position:	any
Standards:	IEC/EN 60947-5-1
Oversvoltage category:	II
Pollution degree :	2

Electrical features

B10:	600.000
------	---------

Note

Type variants:	Y(M)T(L)(G)(x)(L_yyyy)(zzzzzz_zz)
(M)	... front ring titanium lacquered
(L)	... with illuminating option, LED
(G)	... non-transparent lens
(x)	... available lens colours x = {R...red, Y...yellow, B...blue, G...green, W...white, S...black}
(L_yyyy)	... printed with standard symbol
(zzzzzz_zz)	...customised printing

- Use partially insulated Faston terminals!

Recommended Schlegel type:	"FHT12,8x0.5_01" 0.5-1.5mm ² (AWG 20-16)
----------------------------	--

- The Faston terminals are not suitable for hand soldering
- The max. tightening torque mounting nut to be observed (0.7 Nm)!

Data acc. to UL 60947-5-1

Ratings:	max. 30 Vac or 42.4 V peak, 100 mA, Class 2
Illumination:	10-32V DC 20 mA

Remark

- For Class 2 Power Source or Limited Voltage / Limited Current only
- Pour classe 2 source d'alimentation ou tension limitée / courant limitée uniquement

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

General Data

Type reference:	YV(O)(OO)(H)(OOI)(LOO)(LO)(_LAU)(_R0)(_674)
Description:	Emergency-stop head, foolproof
Approvals:	CE, cURus, TÜV_Süd
Contact type:	2NC / 2NC+1NO / 1NC
Degree of protection:	IP65 / IP67 / IP69K
Connection type:	Faston terminals 2.8 mm x 0.5 mm / soldering lug
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50.000
Electrical life (rated load):	50,000 switching cycles at rated load
Contact resistance NO:	< 20 mOhm / < 50 mOhm (Au)
Contact resistance NC:	< 20 mOhm / < 50 mOhm (Au)
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	Technical Data - Lamp
Lamp socket:	none, with integrated LED	
Max. lamp voltage:	30 V AC/DC	
Max. lamp output:	8mA/4.5mA (at 24 V DC/AC)	
Definition:	X1...anode, X2...cathode	
Additional data		
Mounting aperture:	16.2 mm	
Tightening torque (mounting nut):	0.8 ... 1.5 Nm	
Release:	twist release, left or right	
Mounting position:	any	
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850	
Material group:	I	
Overvoltage category:	II	
Pollution degree :	2	

Electrical features - 5µm gold-plating, type addition ...AU

Operational voltage:	20 mV...35 V AC/DC
Operational current AC/DC:	1mA ... 100mA
:	1mA ... 100mA
Ld:	20% (NC)
B10d:	250.000

Note

- with switching position indicator
- O= NC contact, I = NO contact, L = lamp
- H = version with soldering lug for manual soldering (YVOH..., YVOOH...)
- _674 ...with aluminum fixing nut for panel thickness: 1.5...3.0 mm
tightening torque fixing nut: 1.2 Nm
- _R0 ...0 ohm series resistor, with protective diode (series-connected)
- LED cut-off voltage: max. 75 V (with protective diode)
- If LED, max: 25 mA
- Uf LED, typical: 3.2 V (20mA)
- Use partially insulated Faston clamps (for versions with Faston connections)!
- Recommended Schlegel type: "FHTI2,8x0,5_01"
0.5-1.5mm² (AWG 20-16)
-30°C - 75°C

Additional data for versions without assignment of 3rd contact/illumination (type YVOO):

acc. to IEC/EN 60947-5-1 (VDE 0660 Part 200)	
AC15 B300:	Ue/Ie 240V 1.5A
DC13 Q300:	Ue/Ie 250V 0.27A

Note for version "H" (soldering lug):

When soldering the strands to the soldering lugs make sure that during the soldering process the necessary air and creepage distances between soldering lug and fixing nut are not reduced (possibly caused by solder splashes or protruding strands).

Note for version "_R0" (0 ohm series resistor):

The LED must not be operated without series resistor.

Do not connect terminals X1-X2 directly to voltage. Observe LED data!

Data acc. to UL508, IEC60947-5-5

Tightening torque (mounting nut): 0.8 ... 1.5 Nm (plastic nut)

Rating contact block:	1,2 Nm (metal nut)
Lamp rating:	Silver: 35V AC/DC, 2A; Gold: 35VDC/100mA
Rated power max.:	30 V AC/DC;
	8mA/4.5mA (at 24 V DC/AC)

General Data

Type reference: YVD(O)(OO)(AU)_R0
 Description: Emergency-stop, active/inactive (without diagnostic device), LED without series resistor
 Approvals: CE, cURus, TÜV_Süd
 Contact type: 1NC / 2NC
 Degree of protection: IP65 / IP67
 Connection type: Faston terminals 2.8 mm x 0.5 mm
 Contact material: AgNi / AgNi, gold-plated 5µm (AU)
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 55°C
 Mechanical life: 30.000
 Electrical life (rated load): 30.000 at rated load
 Contact resistance NC: < 20 mOhm/< 50 mOhm (Au)
 Bouncing time NC: < 10ms
 Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5 A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5 A	

Technical Data - Lamp

Lamp socket: none, with integrated 3 mm LED, without series resistor, with protective diode in series
 Definition: X1...anode, X2...cathode
 Additional data
 Mounting aperture: 16.2 mm
 Tightening torque (mounting nut): 0.8 ... 1.5 Nm
 Release: twist release, left or right
 Mounting position: any
 Standards: ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
 Material group: I
 Overvoltage category: II
 Pollution degree: 2

Electrical features - 5µm gold-plating, type addition AU

Operational voltage: 20 mV...35 V AC/DC
 Operational current AC/DC: 1mA ... 100mA
 Id: 20% (NC)
 B10d: 250.000

Note

- O = NC contact
- LED: 0-Ohm series resistor, with protective diode (series-connected)
- with switching position indicator
- diagnostic unit not included
- use partially insulated Faston clamps
- recommended Schlegel type

"FHT12,8x0,5_01"
 0.5-1.5mm² (AWG 20-16)
 -30°C - 75°C

Illuminated version, status indication active/inactive:

Mushroom "grey": "inactive", no emergency stop
 Mushroom "red": "active" emergency stop

Technical data of LED:

The LED must not be operated without series resistor.
 Do not connect terminals X1-X2 directly to voltage. Observe LED data!
 LED type: (Data sheet_LED_YVD_161220.pdf)
 Protective diode (series-connected): Taiwan Semiconductor, TS4148 RYG, forward voltage max. 1.0V
 LED series resistor: 0-Ohm Typical data at IF=20mA, Tu=25°C: (=recommended amperage)
 Luminous intensity: typ. 450 mcd
 Beam angle: typ. 90°
 Dominant wave length: 618...627 nm, typ. 623 nm
 Average life at 20mA:
 Brightness loss: approx. 11% (after 10,000h at IF=20mA, 15-30°C)
 LED cut-off voltage: max. 70V (with protective diode)
 Max. forward current: 30mA
 Forward voltage LED: typical 2.0V (1.8V...2.3V)

- Safety Instructions:
- The emergency stop must only be used when lighting conditions ensure clear and distinct visibility of the red illuminated (active) mushroom, e.g. in interiors or roofed places without direct sunlight (normal industrial environment).
 - Before using the emergency stop, a systematic safety review of the overall system is required.
 - Depending on the designer's risk assessment, the illumination of the emergency stop must be monitored by means of a "diagnostic unit", and in case of error one has to react in accordance with the risk evaluation.
 - The emergency stop lighting must be checked at regular intervals to ensure its clear and distinct visibility.
 - The emergency stop must be replaced if the clear visibility is no longer guaranteed.
 - Please observe the operation manual
- Standard compliant applications:
- pluggable operator stations
 - wireless operator stations
 - pluggable system components (fixed system components which are only temporarily in operation)

- About Us
- Pushbuttons and Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFID
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index

Pushbuttons

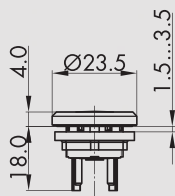
Illustration

Dimensions

Description

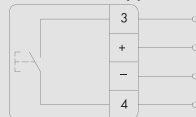
Type

IP65
IP67



Pushbutton, transparent lens

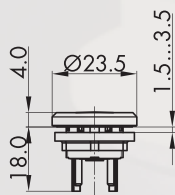
Connection type: Faston terminals 2.8 mm x 0.5 mm



front bezel:	silver-coloured		
lens:	white		YMTW
lens:	red		YMTR
lens:	green		YMTG
lens:	blue		YMTB
lens:	yellow		YMTY

front bezel:	black		
lens:	white		YTW
lens:	red		YTR
lens:	green		YTG
lens:	blue		YTB
lens:	yellow		YTY

IP65
IP67

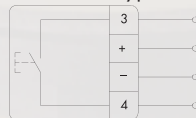


Pushbutton with inscription

standard imprints see nameplates from page 634 (please specify index number)

special inscription on request

Connection type: Faston terminals 2.8 mm x 0.5 mm



front bezel:	silver-coloured		
Lens:	white		YMTW_...

front bezel:	black		
Lens:	white		YTW_...

Pushbuttons

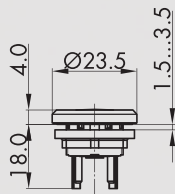
Illustration

Dimensions

Description

Type

IP65
IP67

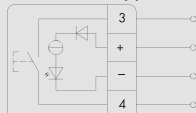


Illuminated pushbutton

incl. white LED

Connection type:

Faston terminals 2.8 mm x 0.5 mm



front bezel: silver-coloured
 Lens: white
 Lens: red
 Lens: green
 Lens: blue
 Lens: yellow



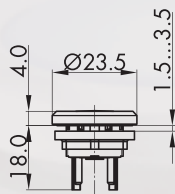
YMTLW
YMTLR
YMTLG
YMTLB
YMTLY

front bezel: black
 Lens: white
 Lens: red
 Lens: green
 Lens: blue
 Lens: yellow



YTLW
YTLR
YTLG
YTLB
YTLY

IP65
IP67



Illuminated pushbutton with inscription

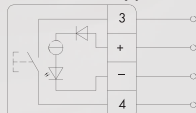
standard imprints see nameplates from page 634 (please specify index number)

special inscription on request

incl. white LED

Connection type:

Faston terminals 2.8 mm x 0.5 mm



front bezel: silver-coloured
 Lens: white
 Lens: red
 Lens: green
 Lens: blue
 Lens: yellow



YMTLW_...
YMTLR_...
YMTLG_...
YMTLB_...
YMTLY_...

front bezel: black
 Lens: white
 Lens: red
 Lens: green
 Lens: blue
 Lens: yellow



YTLW_...
YTLR_...
YTLG_...
YTLB_...
YTLY_...

Pushbuttons

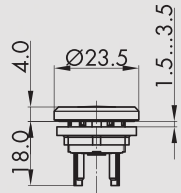
Illustration

Dimensions

Description

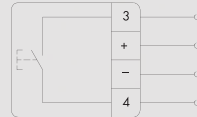
Type

IP65
IP67



Pushbutton, non-transparent lens

Connection type: Faston terminals 2.8 mm x 0.5 mm



front bezel:	silver-coloured		
Lens:	white		YMTGW
Lens:	red		YMTGR
Lens:	green		YMTGG
Lens:	blue		YMTGB
Lens:	yellow		YMTGY
Lens:	black		YMTGS
front bezel:	black		
Lens:	white		YTGW
Lens:	red		YTGR
Lens:	green		YTGG
Lens:	blue		YTGB
Lens:	yellow		YTG Y
Lens:	black		YTGS

Accessories



Faston clamp 2.8 x 0.5, partially insulated, with snap-in pin

FHT12,8x0,5_01

cross section: 0.5-1.5mm²
 AWG: 20-16
 material: brass, partially insulated, with snap-in pin
 max. current: 10A
 max. voltage: 300V
 temperature: -30°C - 70°C
 UL Listed E70188

Emergency-Stops

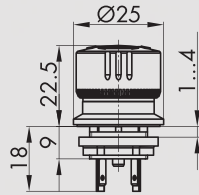
Illustration

Dimensions

Description

Type

IP65
IP67



Active illuminated emergency-stop with status indication active (illuminated) / inactive (non-illuminated)

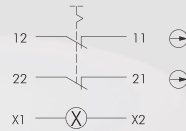
- red illuminated emergency-stop (active) acc. to DIN EN ISO 13850:2016-05
- LED with 0-ohm resistor
- delivery without external LED monitoring
- less mounting depth
- 2 NC

Possible applications, e.g.:

- pluggable or wireless operator stations
- pluggable system components which are stationary available but only temporarily in operation

Not suitable for applications with direct sunlight.

Foolproof:	yes
Switching position indicator:	yes
Anti-lock collar:	no
Release:	twist right or left
Standard:	ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
Connection type:	Faston terminals 2.8 mm x 0.5 mm

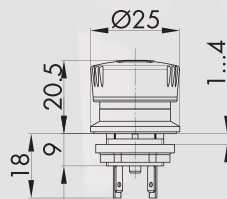


front bezel: yellow
Mushroom head: red/grey



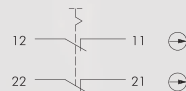
YV000_R0

IP65
IP67
IP69K



Emergency-stop - 2NC

Foolproof:	yes
Switching position indicator:	yes
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Connection type:	Faston terminals 2.8 mm x 0.5 mm



front bezel: yellow
Mushroom head: red



YV00

Emergency-Stops

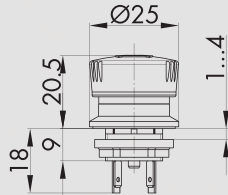
Illustration

Dimensions

Description

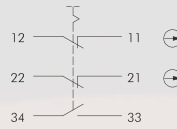
Type

IP65
IP67
IP69K



Emergency-stop - 2NC+1NO

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Connection type: Faston terminals 2.8 mm x 0.5 mm

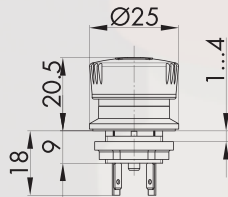


front bezel: yellow
Mushroom head: red



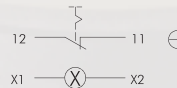
YV001

IP65
IP67



Illuminated emergency-stop - 1NC

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Connection type: Faston terminals 2.8 mm x 0.5 mm

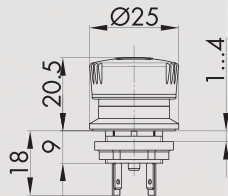


front bezel: yellow
Mushroom head: red



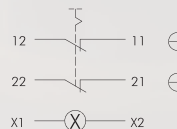
YV10

IP65
IP67



Illuminated emergency-stop - 2NC

Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Connection type: Faston terminals 2.8 mm x 0.5 mm



front bezel: yellow
Mushroom head: red



YV100

Accessories for Contact Blocks

Illustration

Dimensions

Description

Type

Accessories



Faston clamp 2.8 x 0.5, partially insulated, with snap-in pin

FHT12,8x0,5_01

cross section: 0.5-1.5mm²
 AWG: 20-16
 material: brass, partially insulated, with snap-in pin
 max. current: 10A
 max. voltage: 300V
 temperature: -30°C - 70°C
 UL Listed E70188

About Us

→ Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID


Enclosures

Pedal Switches








Terminal Blocks

Type Index

➔ with PCB-mount terminals





Type	Page	Contact configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. switching capacity
			U _e	I _e	U _e ~	I _e	
 CTP...	480	1 inverter					48V AC/DC 100mA
 CZ...	494	1...2 inverters					48V AC/DC 100mA
 P...	520	NC / NO	250V~	6(4)A	240V / 120V	1.5A / 3A	120V~ / 3A 240V~ / 1.5A
 PC...	520	1 inverter					48V AC/DC 100mA
 FRTP...	508	NC / NO			240V / 120V	1.5A / 3A	120V~ / 3A 240V~ / 1.5A

➔ with Faston terminals



Type	Page	Contact configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. switching capacity
			U _e	I _e	U _e ~	I _e	
 AT... / AF...	416	NC/NO	250V~	6(3)A	250V	3A	250V~ / 6(3)A
 AZ...	426	NC/NCIb/NO/ NOem/CC	250V~	6(4)A	250V	3A	250V~ / 6(4)A
 BF...	436	NC/NO	250V~	6(4)A	250V	1.5A	250V~ / 6(4)A
 B... 439	452	2NC/2NO			60V	3A (inductive)	60V~/3A and 60V DC/1A
 BZ...	460	NC/NO	250V~	6(4)A	250V	1.5A	250V~/6(4)A
 CTF... / CTLE...	486	1 inverter					48V AC/DC 100mA
 CT...	502	1...2 inverters					48V AC/DC 100mA

FRTF... 	514	NC / NO			240V / 120V	1.5A / 3A	120V~ / 3A 240V~ / 1.5A
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→ with screw connection

Type	Page	Contact configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. switching capacity
			Ue	Ie	Ue ~	Ie	
BF...K 	444	NC / NO	250V~	6(4)A	250V	1.5A	250V~ / 6(4)A
BZ...K 	472	NC / NO	250V~	6(4)A	250V	1.5A	250V~/6(4)A
ET... 	528	NC / NO	250V~ / 440V~	10(6)A / 6(3)A	250V / 400V	5A / 3A	250V~ / 10(6)A 440V~ / 6(3)A
MT... 	534	NC/NClb/NO/ NOem/NO- NOem/NOem- NClb/NC-NOem	250V~ / 440V~	16(10)A / 10(6)A	250V / 440V	3A / 1.6A	250V~ / 16(10)A 440V~ / 10(6)A


→ with spring-cage resp. push-in connection

Type	Page	Contact configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. switching capacity
			Ue	Ie	Ue ~	Ie	
DS... 	542	1NC/1NO	250V~ / 400V~	16(10)A / 10(5)A	240V / 380V	3A / 1.9A	250V~ / 16(10)A 400V~ / 10(5)A
DT... 	548	NC/NClb/NO/ NOem	250V~ / 400V~	16(10)A / 10(5)A	240V / 380V	3A / 1.9A	250V~ / 16(10)A 400V~ / 10(5)A


→ battery-free transmitter modules

	Page	
	566	The transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building technology, the industrial automation, the automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel.

→ contact blocks for AS-Interface

	Page	
	554	The AS-Interface and AS-Interface Safety at Work components are based on the standard AS-i protocol. Instead of 10 connecting cables per pushbutton or switch only two wires need to be connected with the IDC technology and looped through from slave to slave. Up to 62 pushbuttons and switches can be connected to one single two-wire cable. The modular SCHLEGEL ASI operating concept acc. to specification 3.0 allows the integration of various combinations of SCHLEGEL pushbuttons and switches into AS-Interface.

→ bus systems

	Page	
	638	CANopen, Profibus, EtherCAT, Profinet I/O, Ethernet IP, AS-Interface

The current ratings in brackets refer to the inductive load acc. to EN61058-1.



General Data

Type reference:	AT..., AF...
Description:	Contact block, positive opening contact
Approvals:	CCC, CSA, DNVGL, ENEC10, VDE, CE, UR
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A300	DC13 Q300
Rated insulation voltage Ui:	250 V	300 V
Rated operating voltage Ue:	250 V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(3) A

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

O = NC contact; I = NO contact

Notice for emergency-stop contact blocks:

For inverters of the Za type (as defined in EN 60947-5-1), only the NC contact must be used for remotely controlled safety circuits.

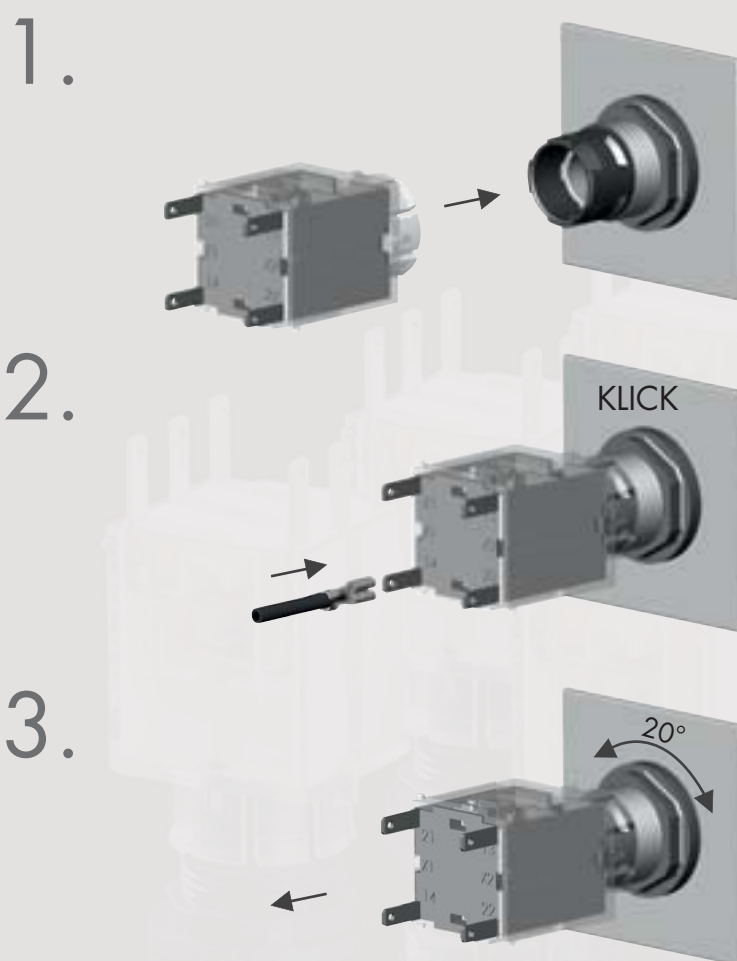




Illustration Description Type


IP00

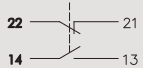
↓ 6 mm



0 1 2 3 4 5 6


22/21 

14/13 

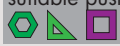


Contact block, momentary
1NC + 1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4



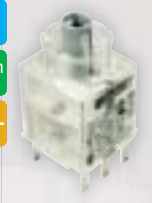
suitable pushbuttons and switches:




Contact material: AgNi **AT**
AgNi, gold-plated **AT_AU**


IP00

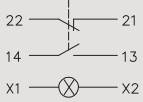
↓ 6 mm



0 1 2 3 4 5 6


22/21 

14/13 




Illuminated contact block, momentary
1NC + 1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP6
Lamp socket T5,5K



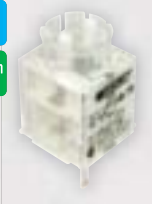
suitable pushbuttons and switches:



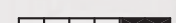
Contact material: AgNi **ATL**
AgNi, gold-plated **ATL_AU**

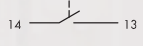
IP00

↓ 6 mm




0 1 2 3 4 5 6

14/13 

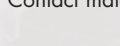


Contact block, momentary
1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4




suitable pushbuttons and switches:




Contact material: AgNi **ATI**
AgNi, gold-plated **ATI_AU**

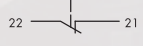
IP00

↓ 6 mm




0 1 2 3 4 5 6

22/21 




Contact block, momentary
1NC

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4



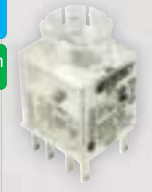
suitable pushbuttons and switches:




Contact material: AgNi **ATO**
AgNi, gold-plated **ATO_AU**


IP00

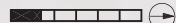
↓ 6 mm

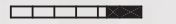


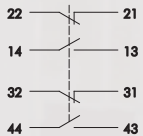
0 1 2 3 4 5 6

22/21 

14/13 


32/31 

44/43 

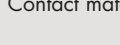


Contact block, momentary
2NC + 2NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8



suitable pushbuttons and switches:



Contact material: AgNi **AT2**
AgNi, gold-plated **AT2_AU**

Contact blocks A...

flat-plug connections

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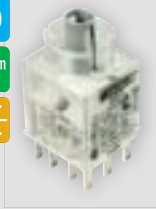
Illustration

Description

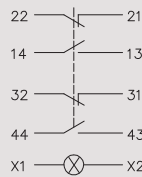
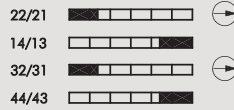
Type

IP00

6 mm



0 1 2 3 4 5 6



Illuminated contact block, momentary

2NC + 2NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket T5,5K

suitable pushbuttons and switches:



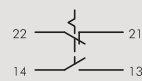
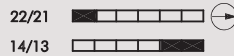
Contact material: AgNi **ATL2**
AgNi, gold-plated **ATL2_AU**

IP65

6 mm



0 1 2 3 4 5 6



Contact block, maintained

1NC + 1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4

suitable pushbuttons and switches:



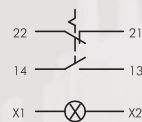
Contact material: AgNi **AF**
AgNi, gold-plated **AF_AU**

IP00

6 mm



0 1 2 3 4 5 6



Illuminated contact block, maintained

1NC + 1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP6
Lamp socket T5,5K

suitable pushbuttons and switches:



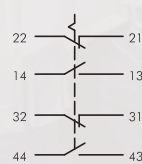
Contact material: AgNi **AFL**
AgNi, gold-plated **AFL_AU**

IP00

6 mm



0 1 2 3 4 5 6



Contact block, maintained

2NC + 2NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

suitable pushbuttons and switches:



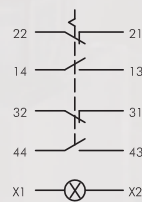
Contact material: AgNi **AF2**
AgNi, gold-plated **AF2_AU**

IP00

6 mm



0 1 2 3 4 5 6



Illuminated contact block, maintained

2NC + 2NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket T5,5K

suitable pushbuttons and switches:



Contact material: AgNi **AFL2**
AgNi, gold-plated **AFL2_AU**

About Us

Busbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type

IP00



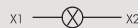
Lampholder

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP2
Lamp socket T5,5K

suitable pilot light heads:



AL5



Lampholder

Faston terminals 2.8x0.8 mm
Lamp socket T5,5K

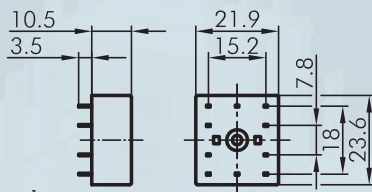
suitable pilot light heads:



L5

L5

Accessories



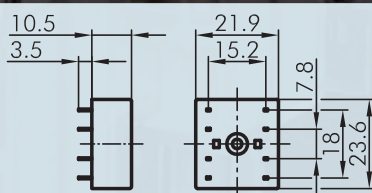
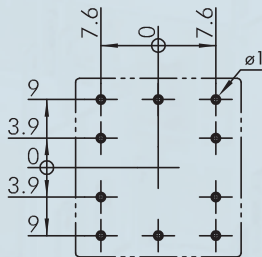
Plug-in socket with 10 contacts

Connection type: PCB-mount terminals

suitable contact blocks:



XAP10



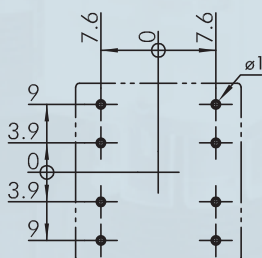
Plug-in socket with 8 contacts

Connection type: PCB-mount terminals

suitable contact blocks:



XAP8



Contact blocks A...

flat-plug connections

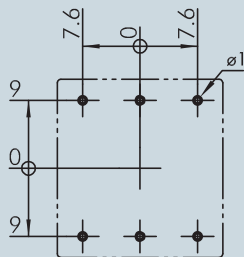
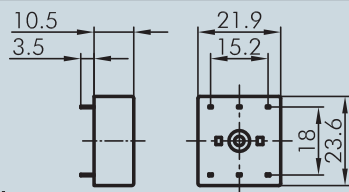
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Illustration

Description

Type



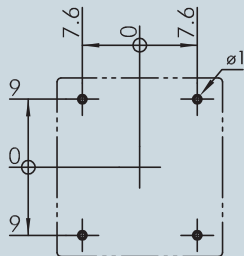
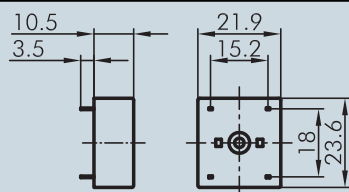
Plug-in socket with 6 contacts

Connection type: PCB-mount terminals

suitable contact blocks:

A BZ

XAP6



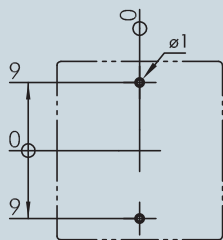
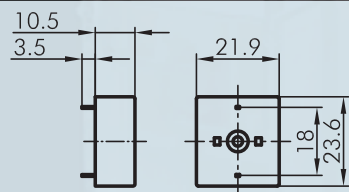
Plug-in socket with 4 contacts

Connection type: PCB-mount terminals

suitable contact blocks:

A AZ BZ

XAP4



Plug-in socket with 2 contacts

fits the lampholders

Connection type: PCB-mount terminals

suitable contact blocks:

A B

XAP2



Insulating case

for Faston clamp FH2,8,
slip on from the front

IH2,8



Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated
brass, with pin to snapfit into the sockets
XA, XAL and the insulating case IH2.8

FH2,8

About Us

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology







RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type																				
	<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	<p>FD2,8</p>																				
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p> <p>colour: white</p>	<p>L5,5K12UW</p>																				
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p> <p>colour: white</p>	<p>L5,5K24UW</p>																				
	<p>Two-colour LED, T5,5K socket - 24V with built-in series resistor colour depending on the polarity storage temperature: -25°C ... +80°C+80°C ambient temperature: -20°C ... +60°C+60°C voltage tolerance + 10 %+ 10 %</p> <table border="0"> <tr> <td>colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>dominant wave length [nm]:</td> <td>625</td> <td>525</td> </tr> </table> <p>colour: red/green</p>	colour:	red	green	rated current [mA]:	14	13	brightness [mcd]:	2300	650	dominant wave length [nm]:	625	525	<p>L5,5K24RG</p>								
colour:	red	green																				
rated current [mA]:	14	13																				
brightness [mcd]:	2300	650																				
dominant wave length [nm]:	625	525																				
 	<p>LED adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets an external resistor must be provided</p> <p>suitable contact blocks:</p> <table border="1"> <tr> <td>A</td> <td>AZ</td> <td>B</td> <td>B...t</td> <td>BZ</td> <td>BZ.k</td> <td>B439</td> <td>CT</td> <td>CTF</td> <td>CTP</td> </tr> <tr> <td>CZ</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	A	AZ	B	B...t	BZ	BZ.k	B439	CT	CTF	CTP	CZ										<p>LA5,5</p>
A	AZ	B	B...t	BZ	BZ.k	B439	CT	CTF	CTP													
CZ																						

Contact blocks A...

flat-plug connections

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About Us

Bushbuttrons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Voltage reducer to operate an LED at 230V AC

- max. 12mA with LD9-24V/L5,5K24...
- with overvoltage protection
- attention: no electrical isolation
- there could be a dangerous voltage on the lampholder

Connection type: Faston terminals
2.8x0.8 mm

VE_LED230_S



Cable set with Faston connections

suitable for VE_LED230

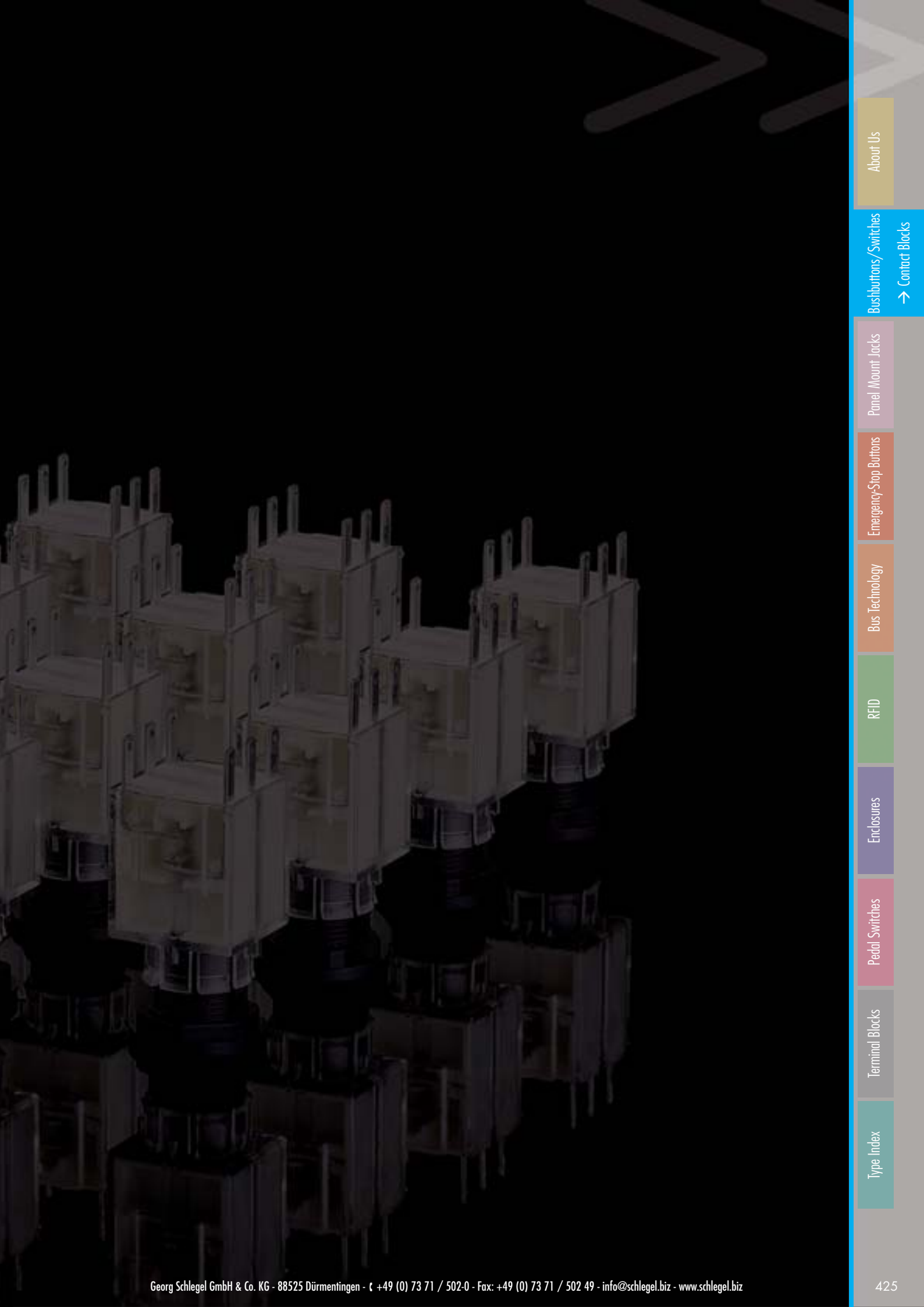
VE_VK2,8



Cable set with wire end ferrules

suitable for VE_LED230

VE_VKAE



About Us

Bushbuttons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference:	AZ...
Description:	Twin contact block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, DNVGL, ENEC05, KEMA, CE, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A300	DC13 Q300
Rated insulation voltage Ui:	250 V	300 V
Rated operating voltage Ue:	250 V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1, 1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Electrical features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

O = NC contact; I = NO contact

Notice for emergency-stop contact blocks:

For inverters of the Za type (as defined in EN 60947-5-1), only the NC contact must be used for remotely controlled safety circuits.

The electrical data acc. to UL/CSA may deviate.

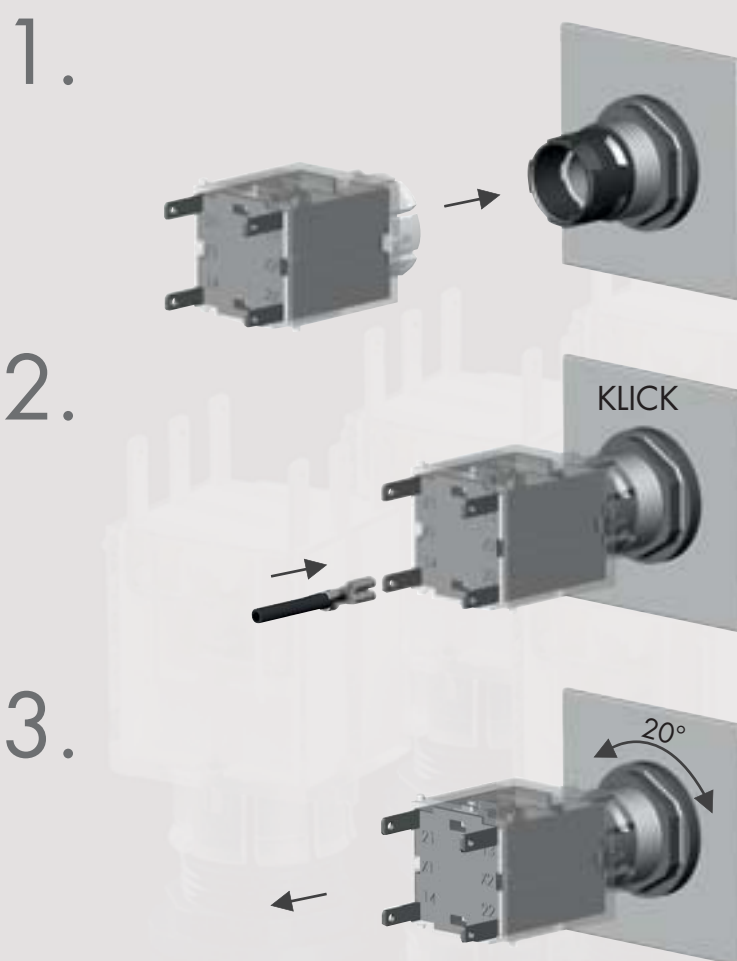


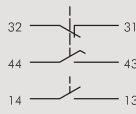


Illustration Description Type

IP00
6 mm



0 1 2 3 4 5 6
32/31
44/43
14/13


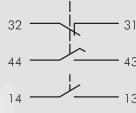
Contact block, momentary
1NC + 1NO + 1NO early make
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

KEMA EUR 05 TUV SUD cRU US

suitable pushbuttons and switches:

Contact material: AgNi **AZ011**
AgNi, doré **AZ011_AU**

IP00
6 mm


Two-step contact block, momentary
1NC + 1NO + 1NO early make
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10

KEMA EUR 05 cRU US

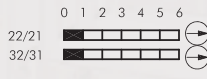
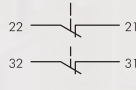
suitable pushbuttons and switches:

Contact material: AgNi **AZ011_97**

IP00
6 mm



0 1 2 3 4 5 6
22/21
32/31


Contact block, momentary
2NC
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4

KEMA EUR 05 TUV SUD cRU US

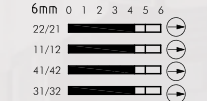
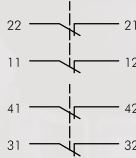
suitable pushbuttons and switches:

Contact material: AgNi **AZ00**
AgNi, gold-plated **AZ00_AU**

IP00
3/6 mm



3mm 0 1 2 3
6mm 0 1 2 3 4 5 6
22/21
11/12
41/42
31/32

Contact block, momentary
4NC
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

TUV SUD cRU US

suitable pushbuttons and switches:

Contact material: AgNi **AZ40**

Contact blocks AZ...

flat-plug connections

MADE IN GERMANY



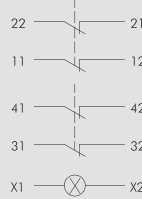
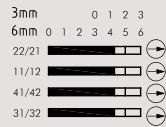
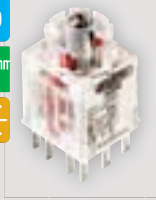
Illustration

Description

Type

IP00

3/6mm



Illuminated contact block, momentary

4NC

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket T5,5K



suitable pushbuttons and switches:

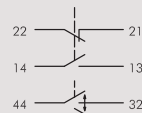
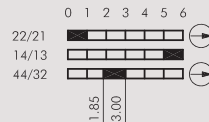


Contact material: AgNi

AZL40

IP00

6mm



Contact block, momentary

1NC + 1NO + 1centre contact

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8



suitable pushbuttons and switches:



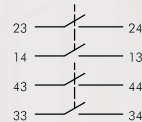
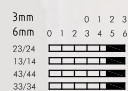
Contact material: AgNi

AZL11

AgNi, gold-plated **AZL11_AU**

IP00

3/6mm



Contact block, momentary

4NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8



suitable pushbuttons and switches:

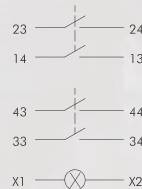
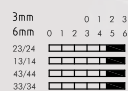


Contact material: AgNi

AZL4I

IP00

3/6mm



Illuminated contact block, momentary

4NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket T5,5K



suitable pushbuttons and switches:



Contact material: AgNi

AZL4I

About Us

Busbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches


Terminal Blocks

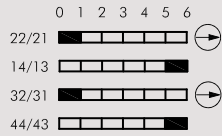
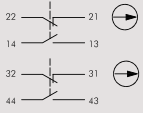
Type Index

Illustration	Description	Type
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IP00

↓ 6mm

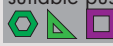


Contact block, momentary
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

KEMA **05** **TUV** **us**


suitable pushbuttons and switches:


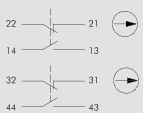


Contact material: AgNi **AZ2**

IP00

↓ 3/6mm




Contact block, momentary
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

KEMA **05** **TUV** **us**

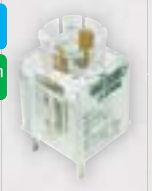
suitable pushbuttons and switches:

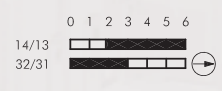
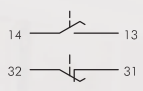


Contact material: AgNi **AZ2N**

IP00

↓ 6mm




Contact block, momentary
1 NO early make + 1 NC late break
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

KEMA **05**


suitable pushbuttons and switches:


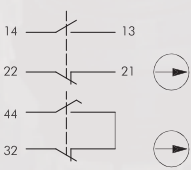


Contact material: AgNi **AZVN**
AgNi, gold-plated **AZVN_AU**

IP00

↓ 3/6mm




Momentary contact block for emergency-stops, with failure switch-off *)
2NC + 1NO
Faston terminals 2.8x0.8 mm
*) 1 NC, 1 NO and 1 safety circuit, consisting of 1 NC for emergency-stop connected in series with 1 NO, which is always closed during operation but opens automatically once the actuator and contact block are separated from each other.
suitable plug-in socket XAP8

KEMA **05** **TUV** **us**

suitable pushbuttons and switches:



Contact material: AgNi **AZOSOI**
AgNi, gold-plated **AZOSOI_AU**

Contact blocks AZ...

flat-plug connections

MADE IN GERMANY



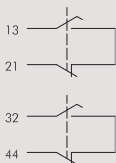
Illustration

Description

Type

IP00

3/6mm



Momentary contact block for emergency-stops with failure switch-off *)

2NC

Faston terminals 2.8x0.8 mm

*) 2 safety circuits, consisting of 1 NC for emergency-stop connected in series with 1 NO, which is always closed during operation but opens automatically once the actuator and contact block are separated from each other.

suitable plug-in socket XAP8



suitable pushbuttons and switches:



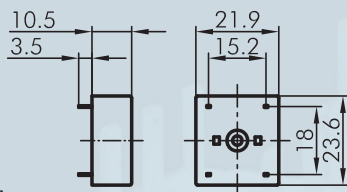
Contact material: AgNi

AZSOSO

AgNi, gold-plated

AZSOSO_AU

Zubehör



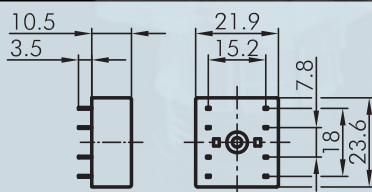
Steckfassung mit 4 Kontakten

Anschlussart: Printanschluss

suitable contact blocks:



XAP4



Steckfassung mit 8 Kontakten

Anschlussart: Printanschluss

suitable contact blocks:

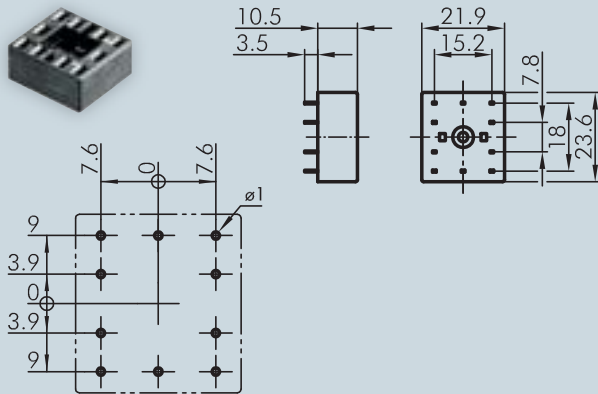


XAP8

Illustration

Description

Type



Steckfassung mit 10 Kontakten

Anschlussart: Printanschluss

suitable contact blocks:

A AZ B439

XAP10



Isolierstoffhülse

für Flachsteckhülse FH2,8,
von vorne aufsteckbar

IH2,8



Flachsteckhülse 2,8 x 0,8 mm mit Rastzunge

Querschnittsbereich 0,75 - 1,50 mm², Messing verzinkt, mit Rastzunge zum Einrasten in Anschlussstecker XA, XAL und IH2,8

FH2,8



Double Faston

for the connection of 2 Faston clamps
FH2.8

FD2,8



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

Colour: white

L5,5K12UW

About Us

Bushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

→ Contact Blocks

Contact blocks AZ...

flat-plug connections

MADE IN GERMANY



Illustration

Description

Type



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

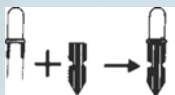
Colour: white **L5,5K24UW**



Two-colour LED, T5,5K socket - 24V

with built-in series resistor
colour depending on the polarity
storage temperature:
-25°C ... +80°C+80°C
ambient temperature:
-20°C ... +60°C+60°C
voltage tolerance
+ 10 %+ 10 %
rated current [mA]: 14 13
brightness [mcd]: 2300 650
dominant wave length [nm]: 625 525

Colour: red/green **L5,5K24RG**



LED adapter

for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets
an external resistor must be provided

suitable contact blocks:



LA5,5



Voltage reducer to operate an LED at 230V AC

- max. 12mA with LD9-24V/L5,5K24...
- with overvoltage protection
- attention: no electrical isolation
- there could be a dangerous voltage on the lampholder

Connection type: Faston terminals
2.8x0.8 mm

VE_LED230_S



Cable set with Faston connections

suitable for VE_LED230

VE_VK2,8



Cable set with wire end ferrules

suitable for VE_LED230

VE_VKAE

About Us

Bushings/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

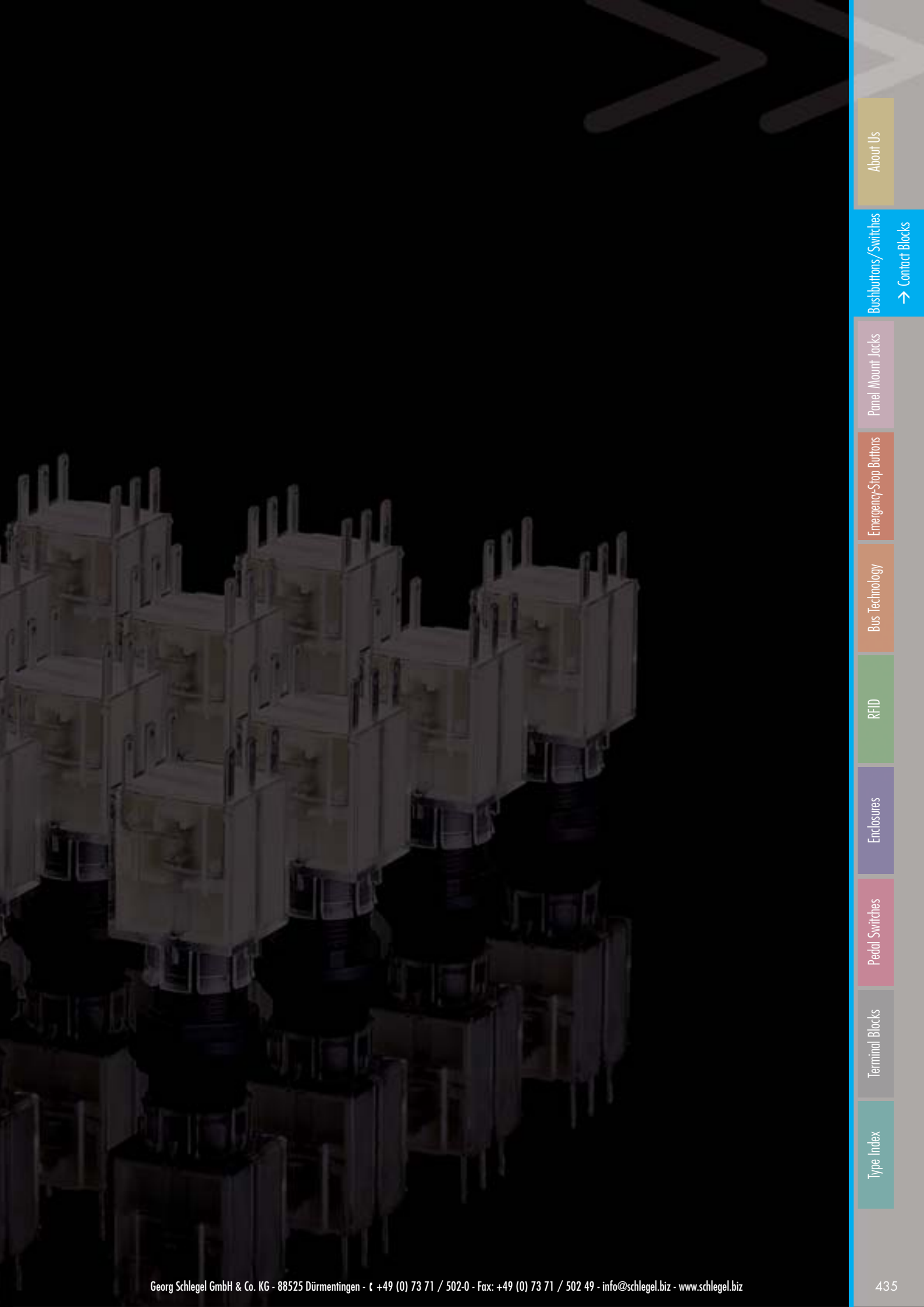
RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index



About Us

Bushbuttons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference:	BF... (without screw connection)
Description:	Contact block
Approvals:	CCC, cCSAus, DNVGL, ENEC10, VDE, CE, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	300 V
Rated operating voltage Ue:	250 V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A
Technical Data - Lamp	
Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

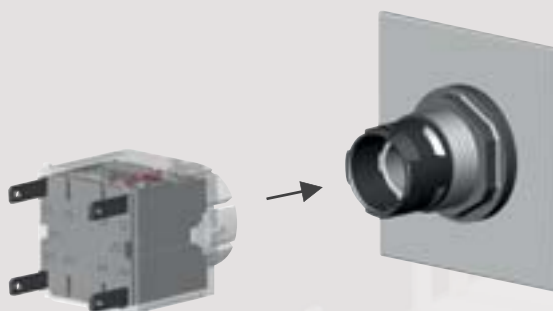
Electrical features - 5µm gold-plating, type addition _AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm
Additional electrical data	
Overvoltage category:	II

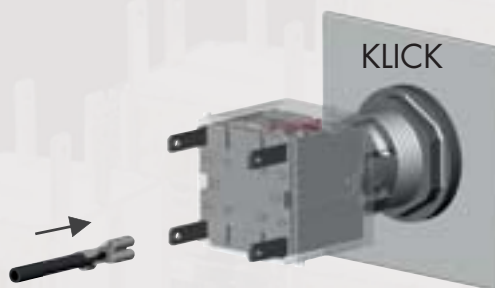
Note

O = NC contact; I = NO contact

1.



2.



3.

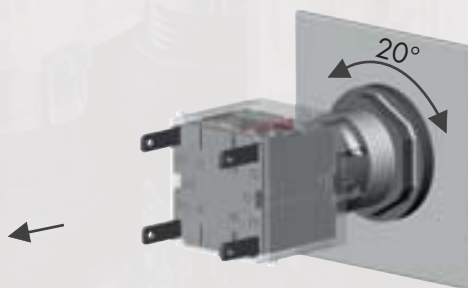




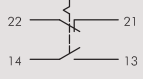


Illustration	Description	Type
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IP00




0 1 2 3
 22/21 
 14/13 




Contact block, maintained
1NC + 1NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP601

suitable pushbuttons and switches:


Contact material: AgNi **BF**
 AgNi, gold-plated **BF_AU**

IP00







0 1 2 3
 22/21 
 14/13 





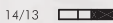
**Illuminated contact block, main-
 tained, W2x4,6d**
1NC + 1NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP601
 Lamp socket W2x4,6d

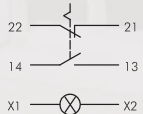
suitable pushbuttons and switches:


Contact material: AgNi **BFL**
 AgNi, gold-plated **BFL_AU**


IP00






0 1 2 3
 22/21 
 14/13 





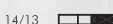
**Illuminated contact block, main-
 tained, T5,5K**
1NC + 1NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP601
 Lamp socket T5,5K

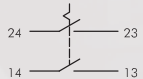
suitable pushbuttons and switches:


Contact material: AgNi **BFL5**
 AgNi, gold-plated **BFL5_AU**


IP00






0 1 2 3
 24/23 
 14/13 






Contact block, maintained
2NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP611

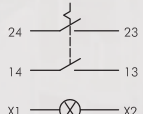
suitable pushbuttons and switches:


Contact material: AgNi **BFI**
 AgNi, gold-plated **BFI_AU**


IP00





0 1 2 3
 24/23 
 14/13 



**Illuminated contact block, main-
 tained, W2x4,6d**
2NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP611
 Lamp socket W2x4,6d

suitable pushbuttons and switches:


Contact material: AgNi **BFLI**
 AgNi, gold-plated **BFLI_AU**

Contact blocks BT/BF...

flat-plug connections

MADE IN GERMANY



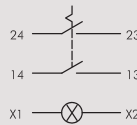
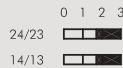
Illustration

Description

Type

IPOO

3 mm



Illuminated contact block, maintained, T5,5K

2NO

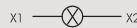
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP611
Lamp socket T5,5K

suitable pushbuttons and switches:



Contact material: AgNi **BFL15**
AgNi, gold-plated **BFL15_AU**

IPOO



Lampholder W2x4,6d

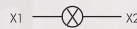
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP2
Lamp socket W2x4,6d

suitable pilot light heads:



BL4

IPOO



Lampholder T5,5K

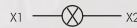
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP2
Lamp socket T5,5K

suitable pilot light heads:



BL5

IPOO



Lampholder

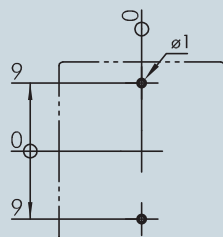
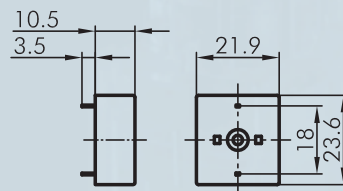
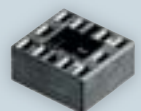
Faston terminals 2.8x0.8 mm
suitable protection plug XAL
Lamp socket W2x4,6d

suitable pilot light heads:



L4

Accessories



Plug-in socket with 2 contacts

fits the lampholders
Connection type: PCB-mount terminals

suitable contact blocks:

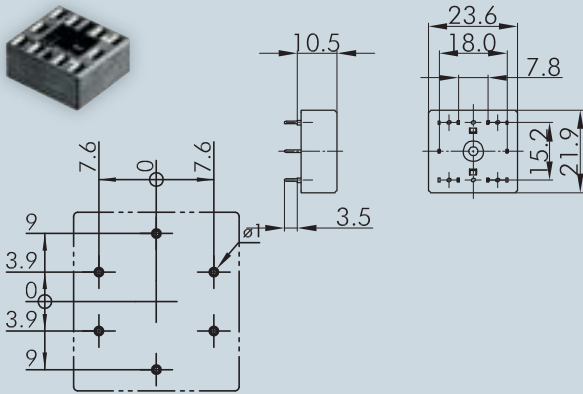


XAP2

Illustration

Description

Type



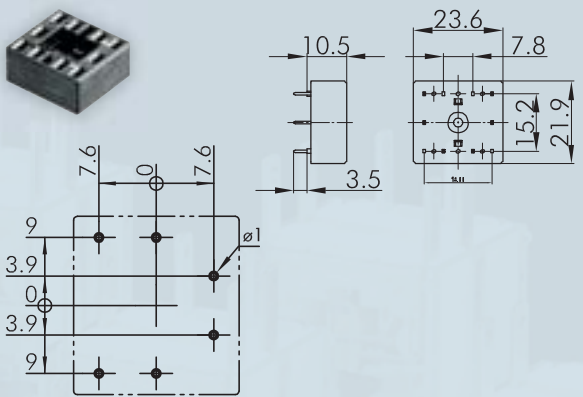
Plug-in socket with 6 contacts

Connection type: PCB-mount terminals

suitable contact blocks:

B **BZ**

XAP611



Plug-in socket with 6 contacts

Connection type: PCB-mount terminals

suitable contact blocks:

B **BZ**

XAP601



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8



Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

FH2,8



Double Faston

for the connection of 2 Faston clamps FH2.8

FD2,8

Contact blocks BT/BF...

flat-plug connections

MADE IN GERMANY

SCHLEGEL
ELEKTROKONTAKT

About Us

Bushburners/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Ultra-bright LED, W2x4,6d socket, 12V

with half-wave rectifier, for 12 V AC/DC (6/12 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white

L2X4,6-12UW



Ultra-bright LED, W2x4,6d socket, 24V

with half-wave rectifier, for 24 V AC/DC (2/4 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white

L2X4,6-24UW



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white

L5,5K12UW



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white

L5,5K24UW

Illustration

Description

Type



Two-colour LED, T5,5K socket - 24V

with built-in series resistor
 colour depending on the polarity
 storage temperature:
 -25°C ... +80°C+80°C
 ambient temperature:
 -20°C ... +60°C+60°C
 voltage tolerance
 + 10 %+ 10 %
 colour: red green
 rated current [mA]: 14 13
 brightness [mcd]: 2300 650
 dominant wave length [nm]: 625 525

Colour: red/green **L5,5K24RG**



LED adapter

for LEDs of 3 and 5 mm Ø to be used in
 T5.5K sockets
 an external resistor must be provided

suitable contact blocks:



LA5,5



Ultra-bright LED

ready-made for CTP_485
 Connection type: solder pins, grid 2.54
 mm

Colour: white **LED30W**



Voltage reducer to operate an LED at 230V AC

- max. 12mA with LD9-24V/L5,5K24...
- with overvoltage protection
- attention: no electrical isolation
- there could be a dangerous voltage on the lampholder

Connection type: Faston terminals
 2.8x0.8 mm

VE_LED230_S



Cable set with Faston connections

suitable for VE_LED230

VE_VK2,8



Cable set with wire end ferrules

suitable for VE_LED230

VE_VKA8



General Data

Type reference:	BF...K Description: Contact block
Approvals:	CCC, cCSAus, DNVGL, ENEC10, VDE, CE, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage U_i :	AC15 B300	DC13 Q300
Rated operating voltage U_e :	250 V	300 V
Rated operating current I_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A
Technical Data - Lamp	
Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm
Tightening torque (screw terminal):	0.4 Nm
Additional electrical data	
Overvoltage category:	II

Note

O = NC contact; I = NO contact

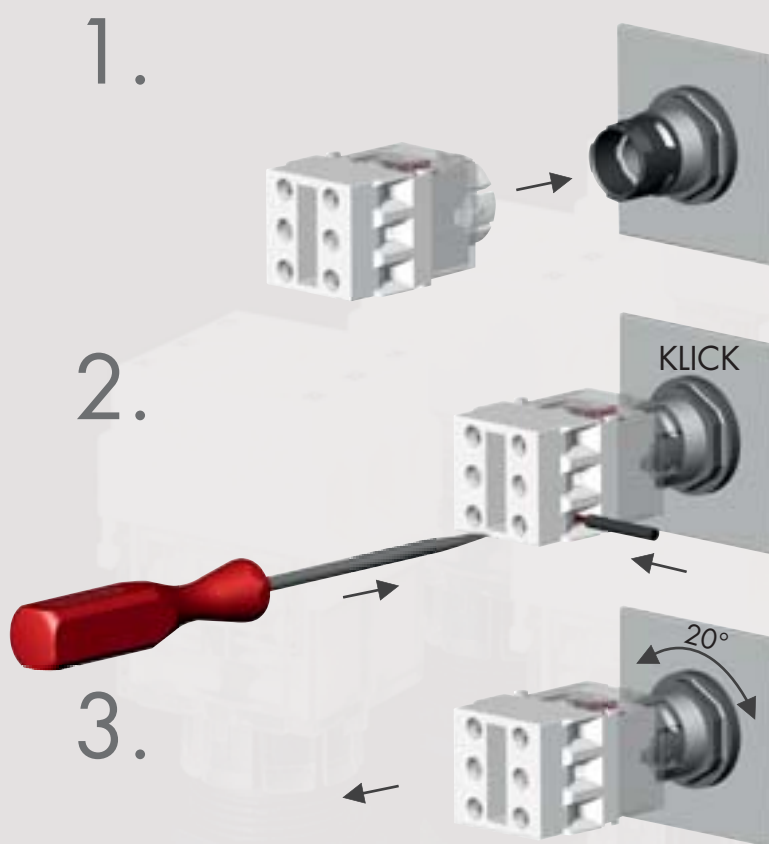

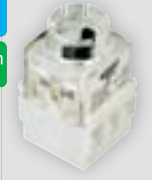
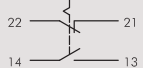


Illustration	Description	Type
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IP00





0	1	2	3
22/21	█	█	█
14/13	█	█	█






Contact block, maintained
1NC + 1NO
 screw connection 2.5 mm²

suitable pushbuttons and switches:

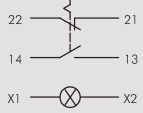


Contact material: AgNi **BFK**

IP00






0	1	2	3
22/21	█	█	█
14/13	█	█	█






Illuminated contact block, maintained, W2x4,6d
1NC + 1NO
 screw connection 2.5 mm²
 Lamp socket W2x4,6d

suitable pushbuttons and switches:

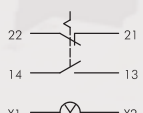


Contact material: AgNi **BFLK**

IP00






0	1	2	3
22/21	█	█	█
14/13	█	█	█




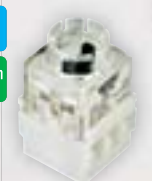
Illuminated contact block, maintained, T5,5K
1NC + 1NO
 screw connection 2.5 mm²
 Lamp socket T5,5K

suitable pushbuttons and switches:

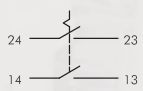


Contact material: AgNi **BFL5K**

IP00





0	1	2	3
24/23	█	█	█
14/13	█	█	█





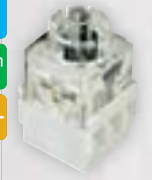
Contact block, maintained
2NO
 screw connection 2.5 mm²

suitable pushbuttons and switches:

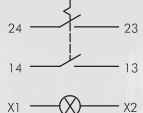


Contact material: AgNi **BFLIK**

IP00






0	1	2	3
24/23	█	█	█
14/13	█	█	█






Illuminated contact block, maintained, W2x4,6d
2NO
 screw connection 2.5 mm²
 Lamp socket W2x4,6d

suitable pushbuttons and switches:

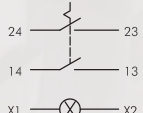


Contact material: AgNi **BFLIK**

IP00






0	1	2	3
24/23	█	█	█
14/13	█	█	█



Illuminated contact block, maintained, T5,5K
2NO
 screw connection 2.5 mm²
 Lamp socket T5,5K

suitable pushbuttons and switches:



Contact material: AgNi **BFL5K**

Contact blocks BT/BF...K

screw connections

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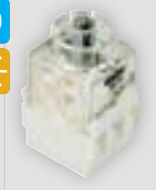


Illustration

Description

Type

IP00



Lampholder W2x4,6d lampholder

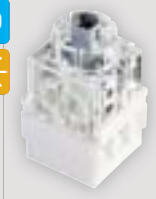
screw connection 2.5 mm²
Lamp socket W2x4,6d

suitable pilot light heads:



BL4K

IP00



Lampholder T5,5K lampholder

screw connection 2.5 mm²
Lamp socket T5,5K

suitable pilot light heads:



BL5K

Accessories



Ultra-bright LED, W2x4,6d socket, 12V

with half-wave rectifier, for 12 V AC/DC
(6/12 mA)
when connecting to DC, the correct polarity
must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white

L2X4,6-12UW



Ultra-bright LED, W2x4,6d socket, 24V

with half-wave rectifier, for 24 V AC/DC
(2/4 mA)
when connecting to DC, the correct polarity
must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white

L2X4,6-24UW

About Us

Bushbuttrons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white **L5,5K12UW**



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white **L5,5K24UW**



Two-colour LED, T5,5K socket - 24V

mit eingebautem Vorwiderstand
Farbe abhängig von der Polarität
Lagertemperatur:
-25°C ... +80°C
Umgebungstemperatur:
-20°C ... +60°C
Spannungstoleranz:
+ 10 %

Farbe:	rot	grün
Nennstrom [mA]:	14	13
Lichtstärken [mcd]:	2300	650
Dom. Wellenlänge [nm]:	625	525

Colour: red/green **L5,5K24RG**



Ultra-bright LED

ready-made for CTP_485
Connection type: solder pins, grid 2.54 mm

Colour: white **LED3UW**



LED adapter

for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets
an external resistor must be provided



LA5,5

Kontaktgeber BF...K

screw connections

MADE IN GERMANY



About Us

Bushings/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Voltage reducer to operate an LED at 230V AC

- max. 12mA with LD9-24V/L5,5K24...
- with overvoltage protection
- attention: no electrical isolation
- there could be a dangerous voltage on the lampholder

Connection type: Faston terminals
2.8x0.8 mm

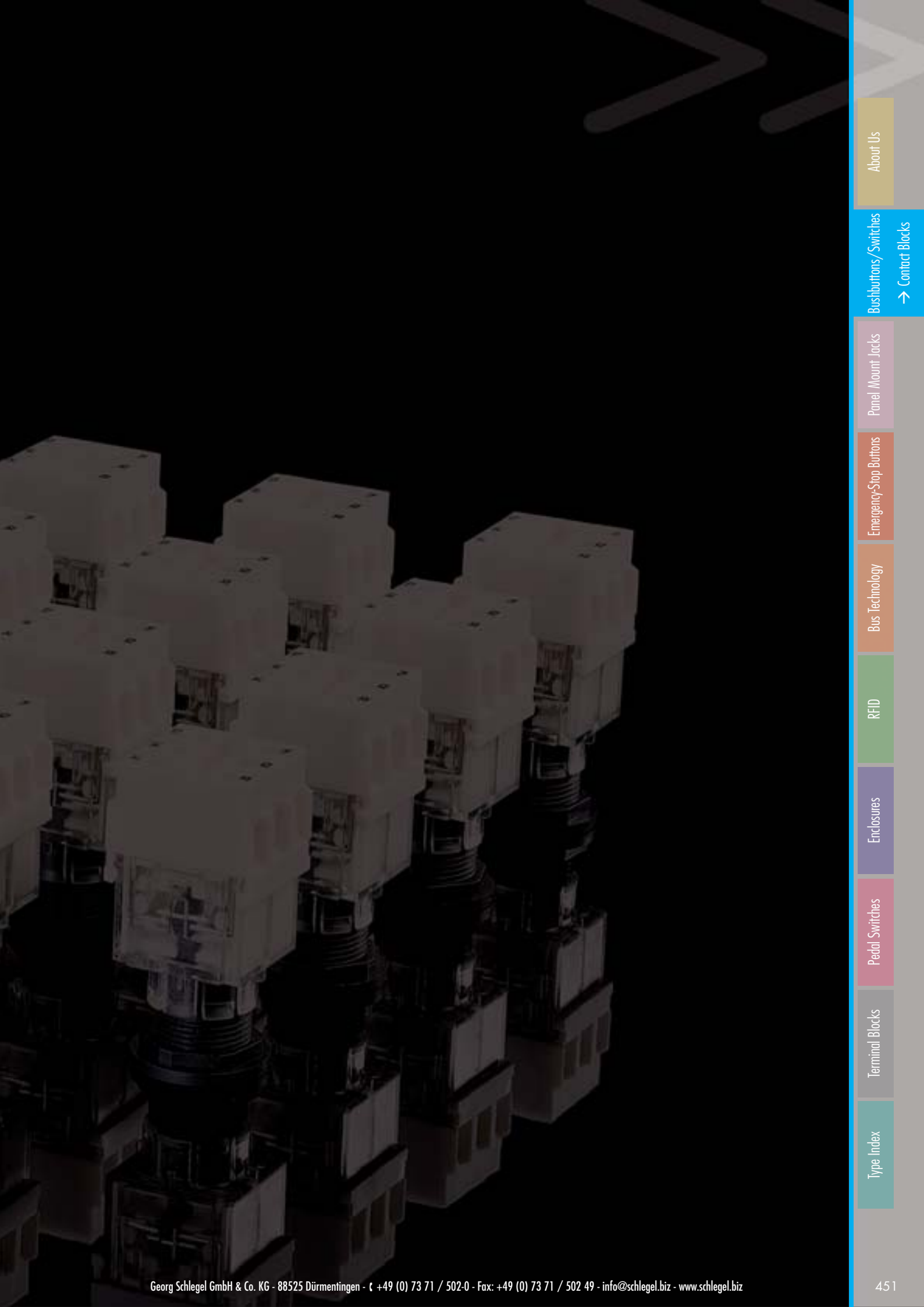
VE_LED230_S



Cable set with wire end ferrules

suitable for VE_LED230

VE_VKAE



[About Us](#)

[Bushbuttons/Switches](#)

[→ Contact Blocks](#)

[Panel Mount Jacks](#)

[Emergency-Stop Buttons](#)

[Bus Technology](#)

[RFID](#)

[Enclosures](#)

[Pedal Switches](#)

[Terminal Blocks](#)

[Type Index](#)



General Data

Type reference:	B..._439
Description:	Contact Block
Approvals:	CCC, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	60V~	60V(ind.) / 60V (R) / 50V(R) / 40V(R)
Rated operating current Ie:	3A (inductive)	1A / 3A / 4A / 5A
Continuous thermal current:	6 A	

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features Rated voltage:	20mV ... 42V AC/DC
Rated current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm
Additional Electrical Data	
Overvoltage category:	II

Note

O = NC contact; I = NO contact; BZ..._439 with two-piece plunger

Electrical lifetime data:	
AC15 60V/3A	1000.000
DC13 24V/5A	50.000
DC13 60V/1A	100.000
DC 40V/5A	100.000 (ohmic load)
DC 50V/4A	100.000 (ohmic load)
DC 60V/3A	100.000 (ohmic load)

Using a flyback diode, the DC lifetime can be considerably increased at inductive load.

The contacts of the "BZ...439" are, as defined in EN 60947-5-1 app. K, not designed as positive opening contacts. Hence, they are not suitable for emergency-stop applications.

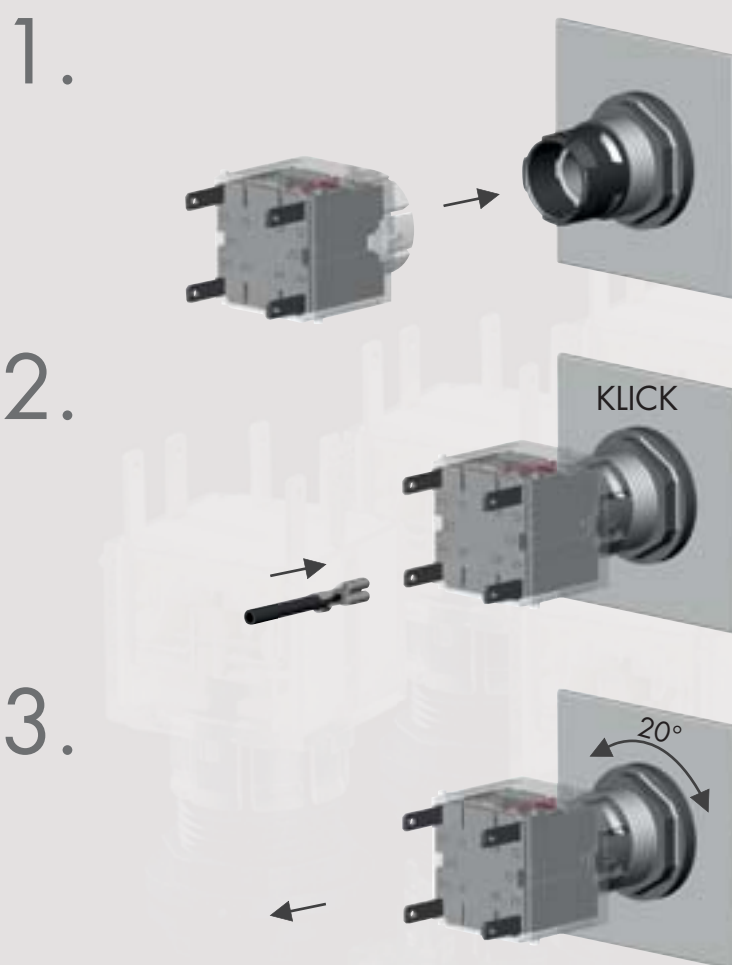
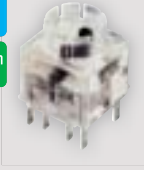
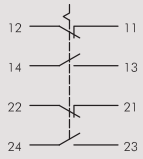


Illustration Description Type

IP00
3mm



0 1 2 3
12/11 14/13 22/21 24/23

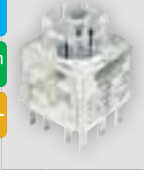


Contact block, maintained
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

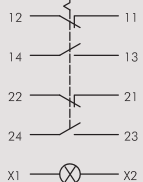
suitable pushbuttons and switches:

Contact material: AgNi **BFL_439**
AgNi, gold-plated **BFL_439_AU**

IP00
3mm



0 1 2 3
12/11 14/13 22/21 24/23




Illuminated contact block, maintained, W2x4,6d
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket W2x4,6d

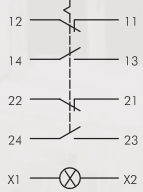
suitable pushbuttons and switches:

Contact material: AgNi **BFL_439**
AgNi, gold-plated **BFL_439_AU**

IP00
3mm



0 1 2 3
12/11 14/13 22/21 24/23

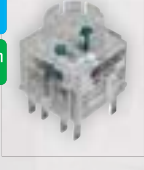


Illuminated contact block, maintained, T5,5K
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket T5,5K

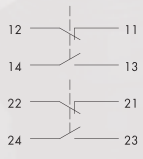
suitable pushbuttons and switches:

Contact material: AgNi **BFL5_439**
AgNi, gold-plated **BFL5_439_AU**

IP00
3mm



0 1 2 3
12/11 14/13 22/21 24/23




Contact block, momentary
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP8

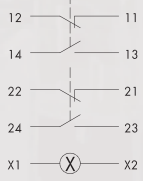
suitable pushbuttons and switches:

Contact material: AgNi **BZ_439**
AgNi, gold-plated **BZ_439_AU**

IP00
3mm



0 1 2 3
12/11 14/13 22/21 24/23



Illuminated contact block, momentary, W2x4,6d
2NC + 2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket W2x4,6d

suitable pushbuttons and switches:

Contact material: AgNi **BZL_439**
AgNi, gold-plated **BZL_439_AU**

Contact blocks B..._439

flat-plug connections

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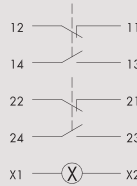
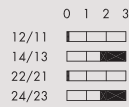
Illustration

Description

Type

IP00

3 mm



Illuminated contact block, momentary, T5,5K 2NC + 2NO

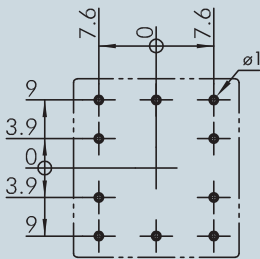
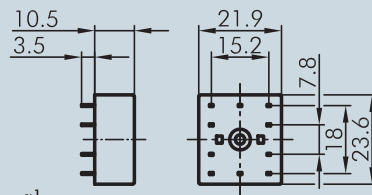
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP10
Lamp socket T5,5K

suitable pushbuttons and switches:



Contact material: AgNi **BZL5_439**
AgNi, gold-plated **BZL5_439_AU**

Accessories



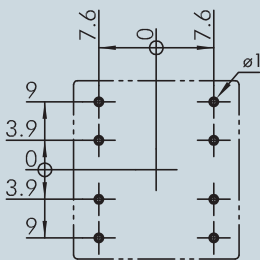
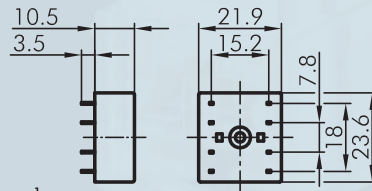
Plug-in socket with 10 contacts

Connection type: PCB-mount terminals

suitable lampholders:



XAP10



Plug-in socket with 8 contacts

Connection type: PCB-mount terminals

suitable lampholders:



XAP8



Insulating case

for Faston clamp FH2,8, slip on from the front


IH2,8



Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

FH2,8

Illustration	Description	Type
	<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	<p>FD2,8</p>
	<p>Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p> <p>coulour:</p>	<p>L2X4,6-12UW</p>
	<p>Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p> <p>coulour:</p>	<p>L2X4,6-24UW</p>
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p> <p>coulour:</p>	<p>L5,5K12UW</p>
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p> <p>coulour:</p>	<p>L5,5K24UW</p>

About Us

Bushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

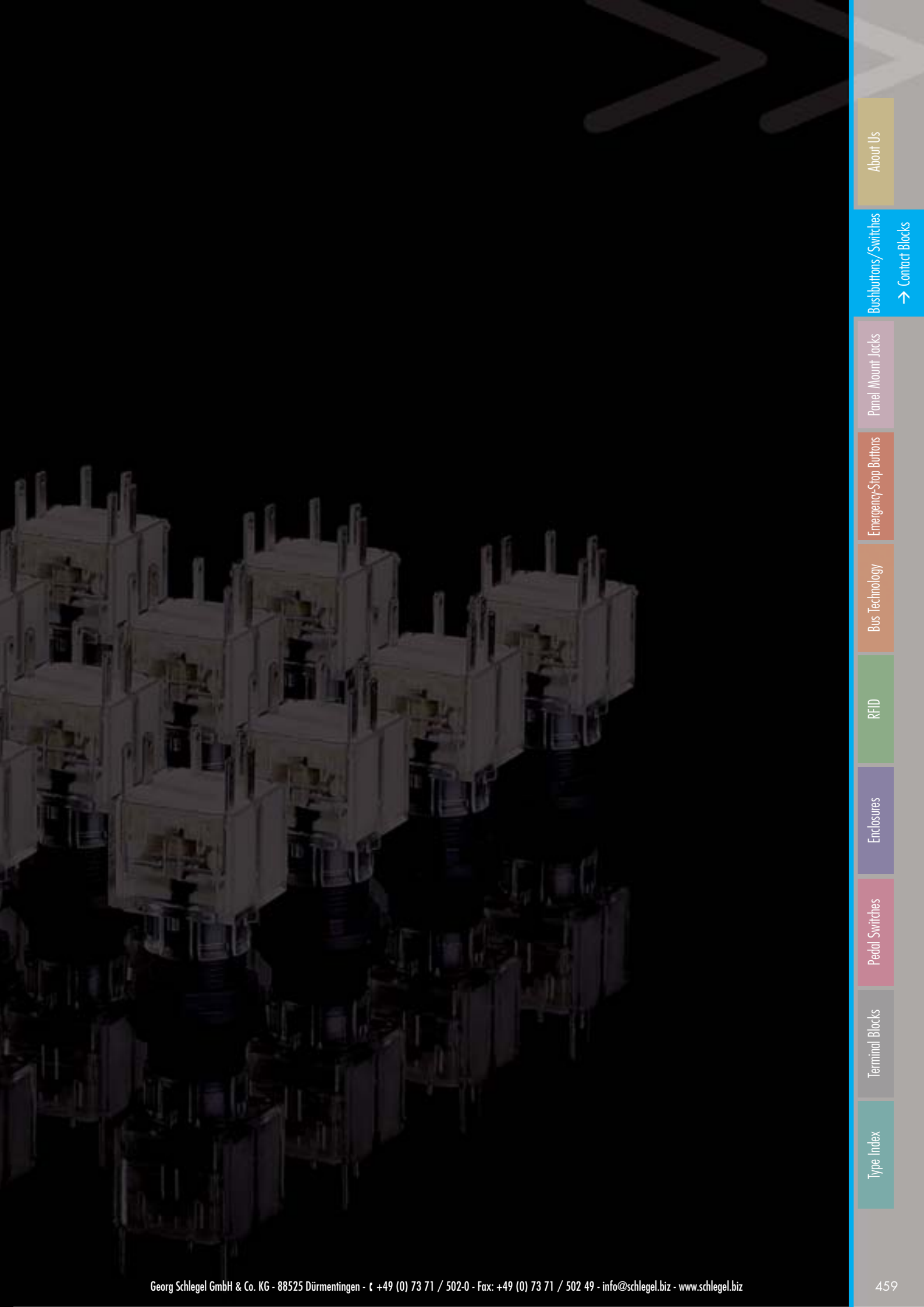
Enclosures

Pedal Switches

Terminal Blocks

Type Index

↑ Contact Blocks



About Us

Bushbuttons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference:	BZ... (without screw connection)
Description:	Twin contact block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, DNVGL, ENEC10, VDE, CE, TÜV_Süd, Zwangsöffnung, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	300 V
Rated operating voltage Ue:	250 V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

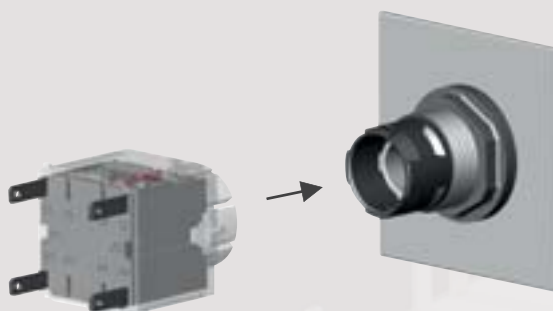
Electrical features - 5µm gold-plating, type addition AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

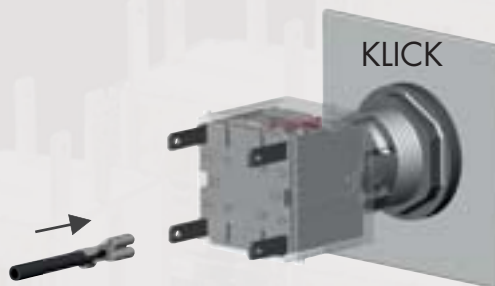
Note

O = NC contact; I = NO contact

1.



2.



3.

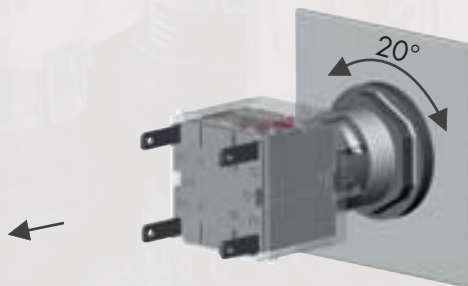

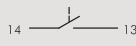


Illustration Description Type

IP00
3mm




14/13 0 1 2 3




Contact block, momentary
1NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP411

suitable pushbuttons and switches:

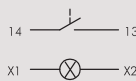


Contact material: AgNi **BZI**
AgNi, gold-plated **BZI_AU**

IP00
3mm




14/13 0 1 2 3




Illuminated contact block, momentary, W2x4,6d
1NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP611
Lamp socket W2x4,6d

suitable pushbuttons and switches:

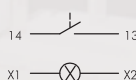


Contact material: AgNi **BZLI**
AgNi, gold-plated **BZLI_AU**

IP00
3mm




14/13 0 1 2 3




Illuminated contact block, momentary, T5,5K
1NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP611
Lamp socket T5,5K

suitable pushbuttons and switches:

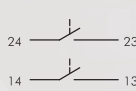


Contact material: AgNi **BZLI5**
AgNi, gold-plated **BZLI5_AU**

IP00
3mm

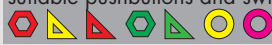


24/23 0 1 2 3
14/13 0 1 2 3




Contact block, momentary
2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP411

suitable pushbuttons and switches:

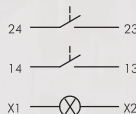


Contact material: AgNi **BZII**
AgNi, gold-plated **BZII_AU**

IP00
3mm




24/23 0 1 2 3
14/13 0 1 2 3



Illuminated contact block, momentary, W2x4,6d
2NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP611
Lamp socket W2x4,6d

suitable pushbuttons and switches:



Contact material: AgNi **BZLII**
AgNi, gold-plated **BZLII_AU**

Contact blocks BZ...

flat-plug connections

MADE IN GERMANY



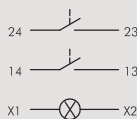
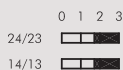
Illustration

Description

Type

IP00

3 mm



Illuminated contact block, momentary, T5,5K

2NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP611
Lamp socket T5,5K

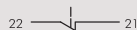
suitable pushbuttons and switches:



Contact material: AgNi **BZLI5**
AgNi, gold-plated **BZLI5_AU**

IP00

3 mm



Contact block, momentary

1NC

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4



suitable pushbuttons and switches:



Contact material: AgNi **BZO**
AgNi, gold-plated **BZO_AU**

IP00

3 mm



Illuminated contact block, momentary, W2x4,6d

1NC

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP6
Lamp socket W2x4,6d



suitable pushbuttons and switches:



Contact material: AgNi **BZLO**
AgNi, gold-plated **BZLO_AU**

IP00

3 mm



Illuminated contact block, momentary, T5,5K

1NC

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP6
Lamp socket T5,5K



suitable pushbuttons and switches:



Contact material: AgNi **BZLO5**
AgNi, doré **BZLO5_AU**

About Us

Busbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures


Pedal Switches




Terminal Blocks

Type Index

Illustration Description Type


IP00
↓ 3mm




0 1 2 3
22/21  
12/11 

22 — 21
12 — 11


Contact block, momentary
2NC
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP4







suitable pushbuttons and switches:



Contact material: AgNi **BZ00**
AgNi, gold-plated **BZ00_AU**


IP00
↓ 3mm





0 1 2 3
22/21  
12/11 

22 — 21
12 — 11
X1 — X2


Illuminated contact block, momentary, W2x4,6d
2NC
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP6
Lamp socket W2x4,6d






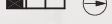
suitable pushbuttons and switches:



Contact material: AgNi **BZL00**
AgNi, gold-plated **BZL00_AU**


IP00
↓ 3mm





0 1 2 3
22/21  
12/11 

22 — 21
12 — 11
X1 — X2

Illuminated contact block, momentary, T5,5K
2NC
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP6
Lamp socket T5,5K





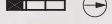
suitable pushbuttons and switches:



Contact material: AgNi **BZL005**
AgNi, gold-plated **BZL005_AU**


IP00
↓ 3mm




0 1 2 3
22/21 
14/13 

22 — 21
14 — 13

Contact block, momentary
1NC + 1NO
Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP601



suitable pushbuttons and switches:



Contact material: AgNi **BZ01**
AgNi, gold-plated **BZ01_AU**

Contact blocks BZ...

flat-plug connections

MADE IN GERMANY



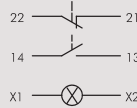
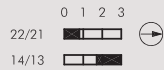
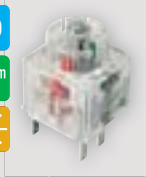
Illustration

Description

Type

IP00

3 mm



Illuminated contact block, momentary, W2x4,6d 1NC + 1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP601
Lamp socket W2x4,6d



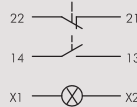
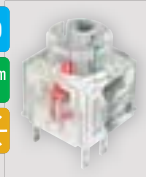
suitable pushbuttons and switches:



Contact material: AgNi **BZL01**
AgNi, gold-plated **BZL01_AU**

IP00

3 mm



Illuminated contact block, momentary, T5,5K 1NC + 1NO

Faston terminals 2.8x0.8 mm
suitable plug-in socket XAP601
Lamp socket T5,5K



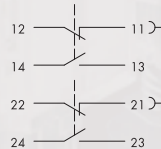
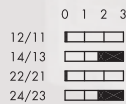
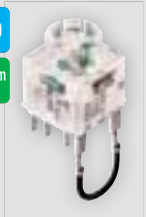
suitable pushbuttons and switches:



Contact material: AgNi **BZL015**
AgNi, gold-plated **BZL015_AU**

IP00

3 mm



Contact block, momentary 1NC + 2NO

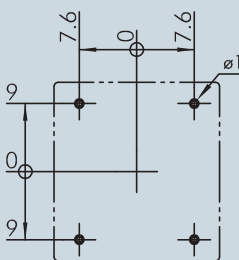
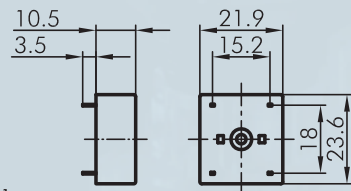
Faston terminals 2.8x0.8 mm

suitable pushbuttons and switches:



Contact material: AgNi **BZ_494**

Accessories



Plug-in socket with 4 contacts

Connection type: PCB-mount terminals



XAP4

Contact blocks BZ...

flat-plug connections

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About Us

Bushings/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
	<p>Insulating case for Faston clamp FH2,8, slip on from the front</p>	IH2,8
	<p>Faston clamp 2.8 x 0.8 mm with snap-in pin cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	FH2,8
	<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	FD2,8
	<p>Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>Colour white L2X4,6-12UW</p>
	<p>Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>Colour: white L2X4,6-24UW</p>

Illustration

Description

Type



Ultra-bright LED, T5,5K socket, 12V
with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white **L5,5K12UW**



Ultra-bright LED, T5,5K socket, 24V
with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white **L5,5K24UW**



Two-colour LED, T5,5K socket - 24V
with built-in series resistor
colour depending on the polarity
storage temperature:
-25°C ... +80°C+80°C
ambient temperature:
-20°C ... +60°C+60°C
voltage tolerance
+ 10 %+ 10 %

colour:	red	green
rated current [mA]:	14	13
brightness [mcd]:	2300	650
dominant wave length [nm]:	625	525

Colour: red/green **L5,5K24RG**



LED adapter

for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets
an external resistor must be provided

suitable contact blocks:



LA5,5



Ultra-bright LED

ready-made for CTP_485
Connection type: solder pins, grid 2.54 mm

Colour: white **LED3UW**

Contact blocks BZ...

flat-plug connections

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SCHLEGEL
ELEKTROKONTAKT

About Us

→ Contact Blocks
Bushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Voltage reducer to operate an LED at 230V AC

- max. 12mA with LD9-24V/L5,5K24...
- with overvoltage protection
- attention: no electrical isolation
- there could be a dangerous voltage on the lampholder

Connection type: Faston terminals
2.8x0.8 mm

VE_LED230_S



Cable set with Faston connections

suitable for VE_LED230

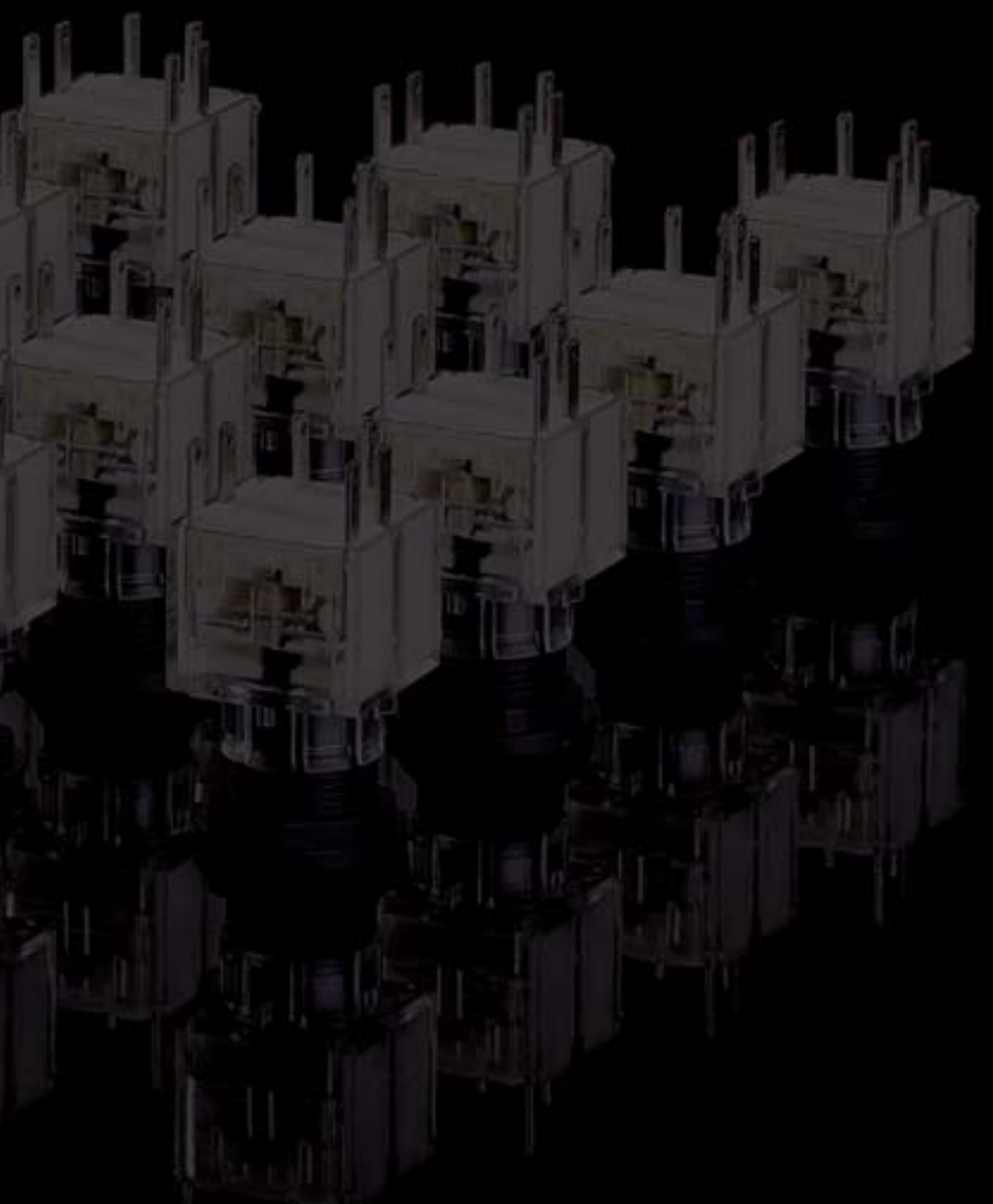
VE_VK2,8



Cable set with wire end ferrules

suitable for VE_LED230

VE_VKAE



About Us

Bushbuttons / Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference:	BZ...K
Description:	Twin contact block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, DNVGL, ENEC10, VDE, CE, TÜV_Süd, Zwangsöffnung, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A
Technical Data - Lamp	
Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition _AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm
Additional data	
Tightening torque (screw terminal):	0.4 Nm

Note

O = NC contact; I = NO contact

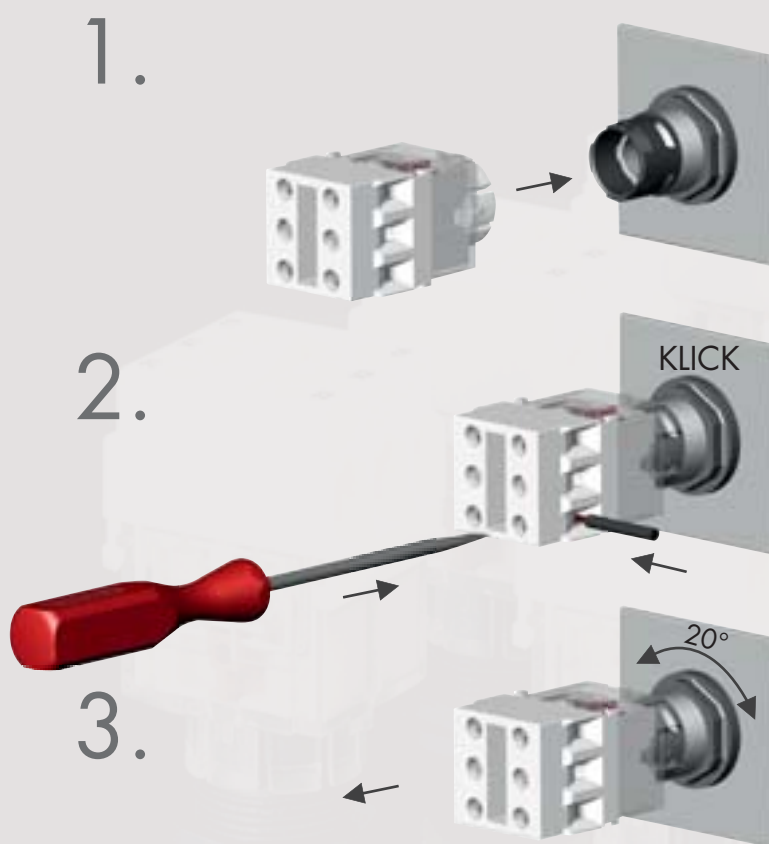


Illustration	Description	Type
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	<p>Contact block, momentary 1NO screw connection 2.5 mm²</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	<p>BZIK</p>
--	---	--------------------

	<p>Illuminated contact block, momentary, W2x4,6d 1NO screw connection 2.5 mm² Lamp socket W2x4,6d</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	<p>BZLIK</p>
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	<p>Illuminated contact block, momentary, T5,5K 1NO screw connection 2.5 mm² Lamp socket T5,5K</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	<p>BZLIK</p>
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	<p>Contact block, momentary 2NO screw connection 2.5 mm²</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	<p>BZIIK</p>
--	---	---------------------

	<p>Illuminated contact block, momentary, W2x4,6d 2NO screw connection 2.5 mm² Lamp socket W2x4,6d</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	<p>BZIIK</p>
--	---	---------------------

	<p>Illuminated contact block, momentary, T5,5K 2NO screw connection 2.5 mm² Lamp socket T5,5K</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	<p>BZIIK</p>
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Contact blocks BZ...K

screw connections

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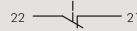
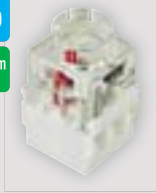
Illustration

Description

Type

IP00

3 mm



Contact block, momentary

1NC

screw connection 2.5 mm²



suitable pushbuttons and switches:

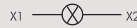
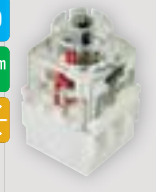


Contact material: AgNi

BZOK

IP00

3 mm



Illuminated contact block, momentary, W2x4,6d

1NC

screw connection 2.5 mm²

Lamp socket W2x4,6d



suitable pushbuttons and switches:

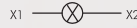
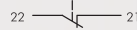
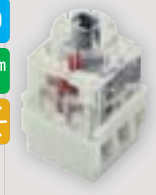


Contact material: AgNi

BZLOK

IP00

3 mm



Illuminated contact block, momentary, T5,5K

1NC

screw connection 2.5 mm²

Lamp socket T5,5K



suitable pushbuttons and switches:

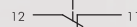
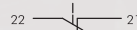
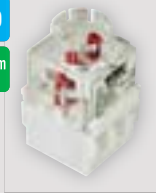


Contact material: AgNi

BZLO5K

IP00

3 mm



Contact block, momentary

2NC

screw connection 2.5 mm²



suitable pushbuttons and switches:

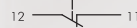
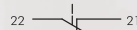
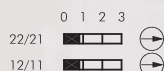
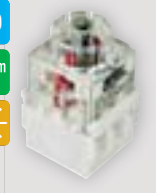


Contact material: AgNi

BZOOK

IP00

3 mm



Illuminated contact block, momentary, W2x4,6d

2NC

screw connection 2.5 mm²

Lamp socket W2x4,6d



suitable pushbuttons and switches:



Contact material: AgNi

BZLOOK

Illustration	Description	Type
--------------	-------------	------

IP00

↓ 3mm

0 1 2 3

22/21

12/11

22 — 21

12 — 11

X1 — X2

Illuminated contact block, momentary, T5,5K
2NC
 screw connection 2.5 mm²
 Lamp socket T5,5K

suitable pushbuttons and switches:

Contact material: AgNi **BZL005K**

IP00

↓ 3mm

0 1 2 3

22/21

14/13

22 — 21

14 — 13

Contact block, momentary
1NC + 1NO
 screw connection 2.5 mm²

suitable pushbuttons and switches:

Contact material: AgNi **BZ0IK**

IP00

↓ 3mm

0 1 2 3

22/21

14/13

22 — 21

14 — 13

X1 — X2

Illuminated contact block, momentary, W2x4,6d
1NC + 1NO
 screw connection 2.5 mm²
 Lamp socket W2x4,6d

suitable pushbuttons and switches:

Contact material: AgNi **BZL0IK**

IP00

↓ 3mm

0 1 2 3

22/21

14/13

22 — 21

14 — 13

X1 — X2

Illuminated contact block, momentary, T5,5K
1NC + 1NO
 screw connection 2.5 mm²
 Lamp socket T5,5K

suitable pushbuttons and switches:

Contact material: AgNi **BZL015K**

Contact blocks BZ...K

screw connections

MADE IN GERMANY



Illustration

Description

Type

Accessories



Ultra-bright LED, W2x4,6d socket, 12V

with half-wave rectifier, for 12 V AC/DC (6/12 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white L2X4,6-12UW



Ultra-bright LED, W2x4,6d socket, 24V

with half-wave rectifier, for 24 V AC/DC (2/4 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white L2X4,6-24UW



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white L5,5K12UW



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white L5,5K24UW

About Us

Bushings/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
--------------	-------------	------



Two-colour LED, T5,5K socket - 24V

with built-in series resistor
 colour depending on the polarity
 storage temperature:
 -25°C ... +80°C+80°C
 ambient temperature:
 -20°C ... +60°C+60°C
 voltage tolerance
 + 10 %+ 10 %

colour:	red	green
rated current [mA]:	14	13
brightness [mcd]:	2300	650
dominant wave length [nm]:	625	525

Colour: red/green **L5,5K24RG**



LED adapter

for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets
 an external resistor must be provided

suitable contact blocks:



LA5,5



Ultra-bright LED

ready-made for CTP_485
 Connection type: solder pins, grid 2.54 mm

Colour: white **LED3UW**



Voltage reducer to operate an LED at 230V AC

- max. 12mA with LD9-24V/L5,5K24...
- with overvoltage protection
- attention: no electrical isolation
- there could be a dangerous voltage on the lampholder

Connection type: Faston terminals
 2.8x0.8 mm

VE_LED230_S



Cable set with wire end ferrules

suitable for VE_LED230

VE_VKAE

About Us

Bushbuttons/Switches
 → Contact Blocks

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Approvals:	CCC, cCSAus, CE, cURus, DNVGL
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48V	48V
Rated operating current Ie:	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)

Electrical data acc. to C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

About Us

Bushbuttrons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

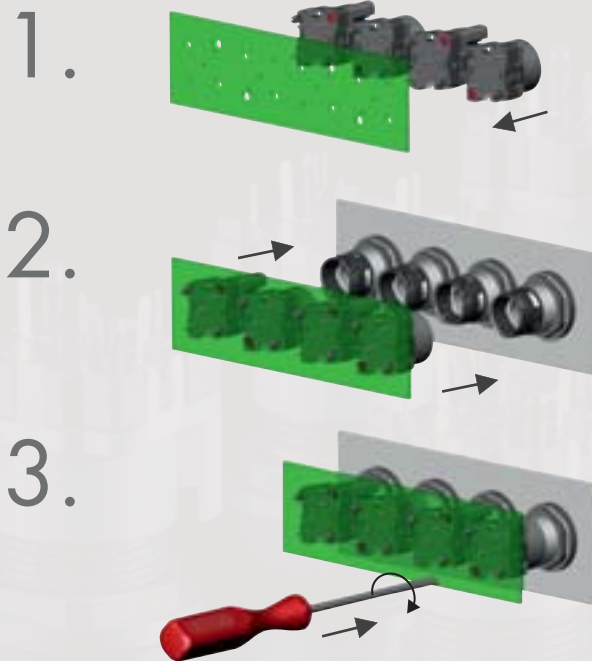
RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



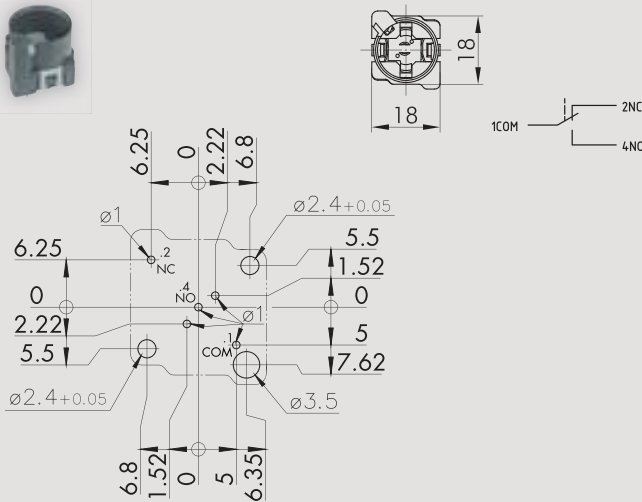
Illustration

Description

Type

IP00

3mm



Contact block, momentary

1 inverter

PCB-mount terminals
2 holes allow direct soldering of an LED into the PCB



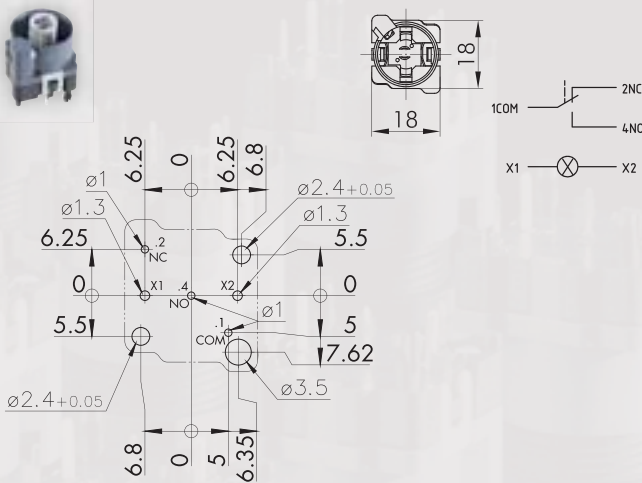
suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CTP_485**

IP00

3mm



Illuminated contact block, momentary

1 inverter

PCB-mount terminals
Lamp socket T5,5K

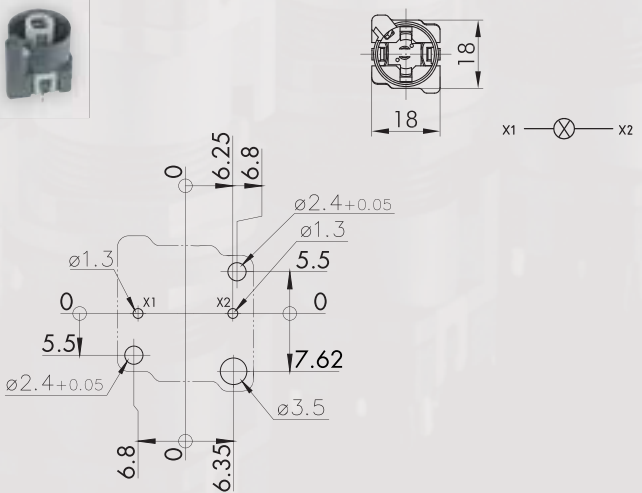


suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CTLP_485**

IP00



Lampholder

PCB-mount terminals
Lamp socket T5,5K

suitable pilot light heads:



CLP_485

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

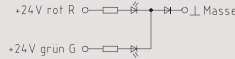
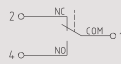
Terminal Blocks

Type Index

Illustration

Description

Type



Contact block, momentary, with 2-coloured LED red/green 1 inverter

spring-clamp connection

single-wire
0.5 mm²... 2.5 mm²

ferrule with collar
0.25 mm²... 1 mm²

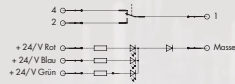
ferrule without collar
0.25 mm²... 1 mm²
Lamp socket none, with integrated LED



suitable pushbuttons and switches



Contact material gold-plated 1.5µm **CTFS_24R_G**



Contact block, momentary, incl. RGB LED 1 inverter

spring-clamp connection

single-wire
0.5 mm²... 2.5 mm²

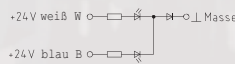
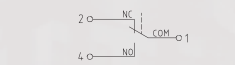
ferrule with collar
0.25 mm²... 1 mm²

ferrule without collar
0.25 mm²... 1 mm²
Lamp socket none, with integrated LED

suitable pushbuttons and switches



Contact material gold-plated 1.5µm **CTFS_24RGB**



Contact block, momentary, with 2-coloured LED white/blue 1 inverter

spring-clamp connection

single-wire
0.5 mm²... 2.5 mm²

ferrule with collar
0.25 mm²... 1 mm²

ferrule without collar
0.25 mm²... 1 mm²
Lamp socket none, with integrated LED

suitable pushbuttons and switches



Contact material gold-plated 1.5µm **CTFS_24W_B**

About Us

Bushings/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
Accessories		
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	
	Colour white	L5,5K12UW
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) when connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	
	Colour white	L5,5K24UW
	<p>Two-colour LED, T5,5K socket - 24V with built-in series resistor colour depending on the polarity storage temperature: -25°C ... +80°C+80°C ambient temperature: -20°C ... +60°C+60°C voltage tolerance + 10 %+ 10 % colour: red green rated current [mA]: 14 13 brightness [mcd]: 2300 650 dominant wave length [nm]: 625 525</p>	
	Colour red/green	L5,5K24RG
 	<p>LED adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets an external resistor must be provided</p> <p>suitable contact blocks:</p> <p>A AZ B B..t BZ BZ.k B439 CT CTF CTP CZ</p>	
		LA5,5
	<p>Ultra-bright LED ready-made for CTP_485 Connection type solder pins, grid 2.54 mm</p>	
	Colour white	LED3UW

About Us

Bushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

→ Contact Blocks



General Data

Type reference:	CTLF, CTF, CTF_250, CTF_250
Approvals:	cCSAus, CE, cURus, DNVGL
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to EN 61058-1 "micro disconnection", µ

Rated voltage:	250V~
Rated current:	max. 100 mA
Contact opening distance:	< 3 mm (µ)
Creepage resistance:	II / PTI 400V
Insulation resistance:	> 100 MOhm/500 V
Test voltage:	500V (61058-1 Tab.12)
Pollution degree :	2
Electrical life (additional test):	50000

Note

types CTF_250, CTF_250:
The applicability of the "micro disconnection" (µ) acc. to EN 61058-1 is regulated in the relative product standards which have to be observed by the customer (product designer).
Faston terminals 2.8x0.8mm are not suitable for manual soldering.

Electrical data acc. to C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

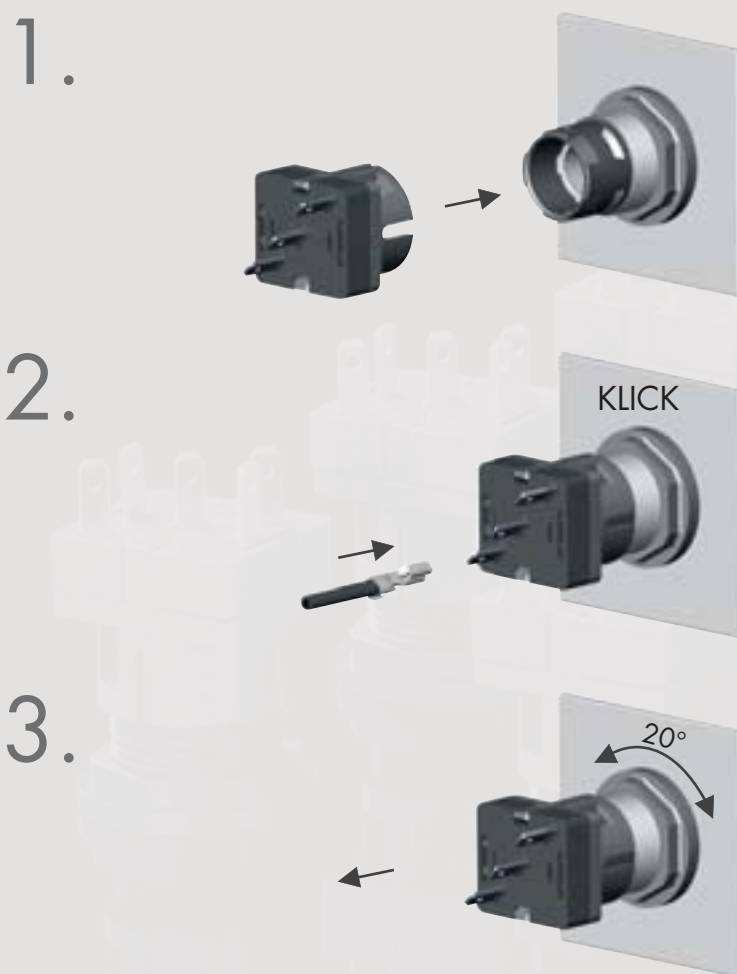

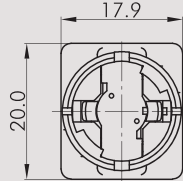
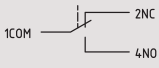


Illustration	Description	Type
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IP00
3mm








Contact block, momentary
1 inverter
Faston terminals 2.8x0.8 mm


 C US

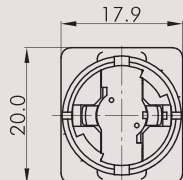
suitable pushbuttons and switches:

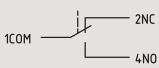


Contact material: gold-plated 1.5µm **CTF**



IP00
3mm



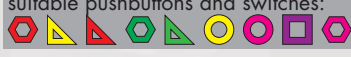




Contact block, momentary, for 250V~
1 inverter
Faston terminals 2.8x0.8 mm
EN 61058-1 µ
250V~/100mA
switching-off with small contact opening (µ)


 C US  US

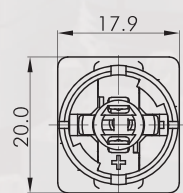
suitable pushbuttons and switches:

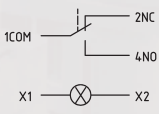


Contact material: gold-plated 1.5µm **CTF_250**



IP00
3mm



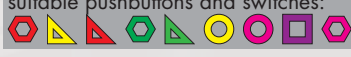




Illuminated contact block, momentary
1 inverter
Faston terminals 2.8x0.8 mm
Lamp socket T5,5K


 C US  US

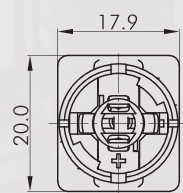
suitable pushbuttons and switches:

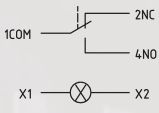


Contact material: gold-plated 1.5µm **CTLF**



IP00
3mm



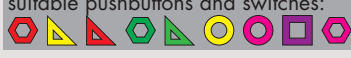




Illuminated contact block, momentary, for 250V~
1 inverter
Faston terminals 2.8x0.8 mm
EN 61058-1 µ
250V~/100mA
switching-off with small contact opening (µ)
LED max. 60V
Lamp socket T5,5K

 C US  US

suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CTLF_250**

Contact blocks C...F

flat-plug connections

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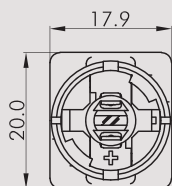


Illustration

Description

Type

IP00



Lampholder

lampholder

Faston terminals 2.8x0.8 mm
Lamp socket T5,5K



suitable pilot light heads:



CLF

Accessories



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8



Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

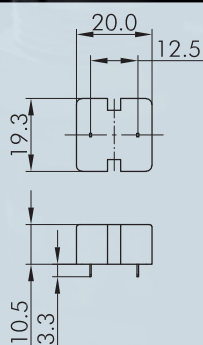
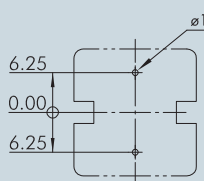
FH2,8



Double Faston

for the connection of 2 Faston clamps FH2.8

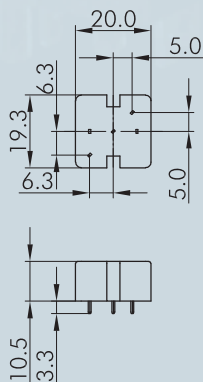
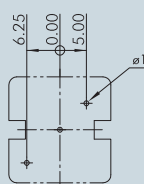
FD2,8



Plug-in socket with 2 contacts

for CLF
Connection type PCB-mount terminals

CAFP2



Plug-in socket with 3 contacts

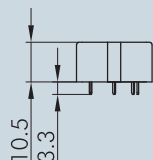
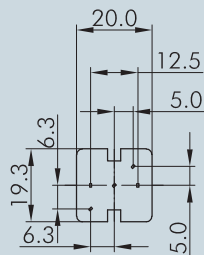
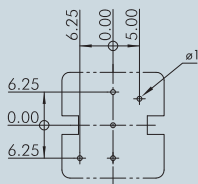
for CTF
Connection type PCB-mount terminals

CAFP3

Illustration

Description

Type



Plug-in socket with 5 contacts

for CTLF

Connection type: PCB-mount terminals

CAFP5



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)

when connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

Colour: white

L5,5K12UW



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)

when connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

Colour: white

L5,5K24UW



Two-colour LED, T5,5K socket - 24V

mit eingebautem Vorwiderstand

Farbe abhängig von der Polarität

Lagertemperatur:

-25°C ... +80°C

Umgebungstemperatur:

-20°C ... +60°C

Spannungstoleranz:

+ 10 %

Farbe: rot grün

Nennstrom [mA]: 14 13

Lichtstärken [mcd]: 2300 650

Dom. Wellenlänge [nm]: 625 525

Colour: red/green

L5,5K24RG

Contact blocks C...F

flat-plug connections

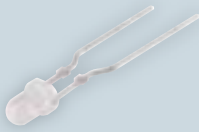
MADE IN GERMANY



Illustration

Description

Type



Ultra-bright LED

ready-made for CTP_485

Connection type: solder pins, grid 2.54 mm

Colour: white

LED3UW



LED adapter

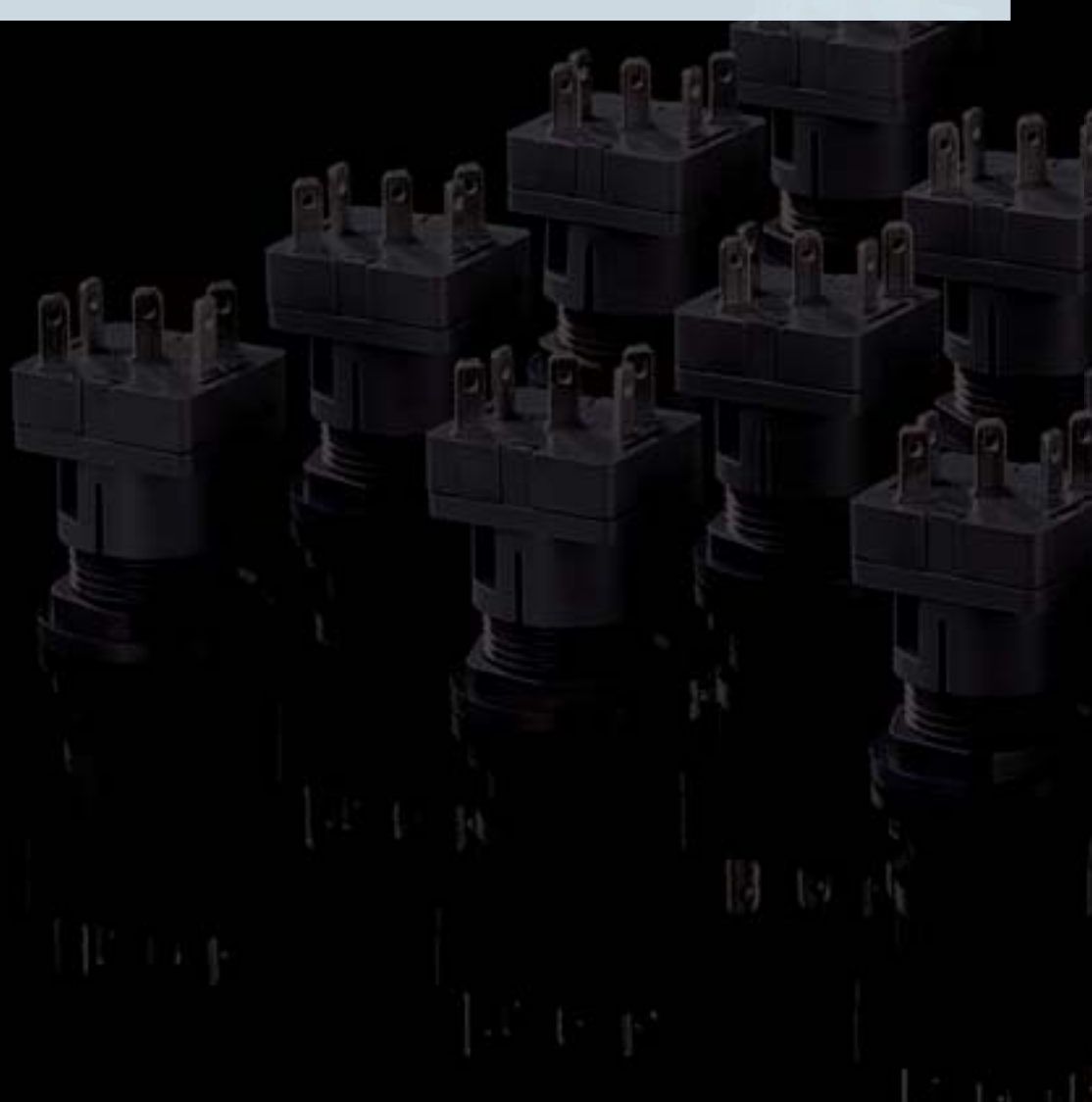
for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets

an external resistor must be provided

suitable contact blocks:



LA5,5



About Us

Bushbuttrons/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

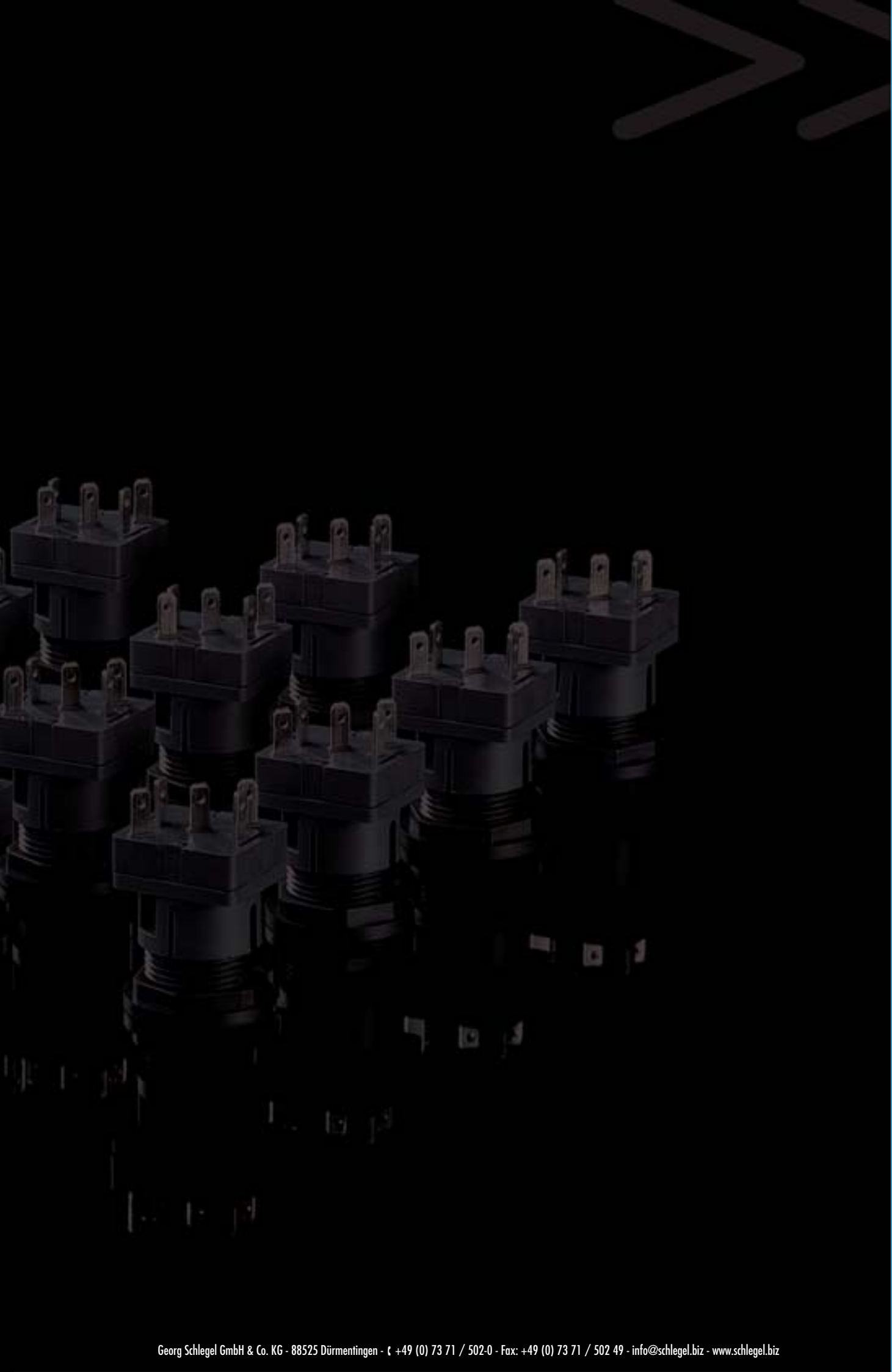
RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index



About Us

Bushbuttons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference:	CZ...
Approvals:	CCC, cCSAus, cURus, DNVGL
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48V	48V
Rated operating current Ie:	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)

Electrical data acc. to C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

About Us

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

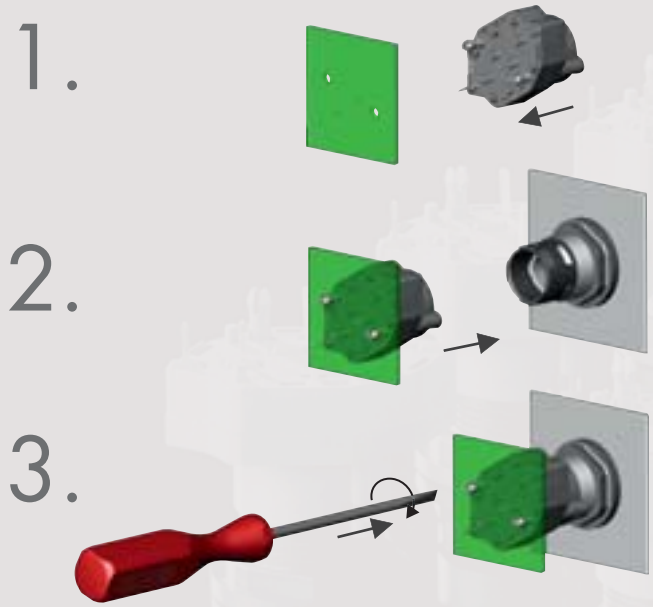
RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

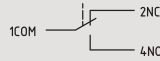
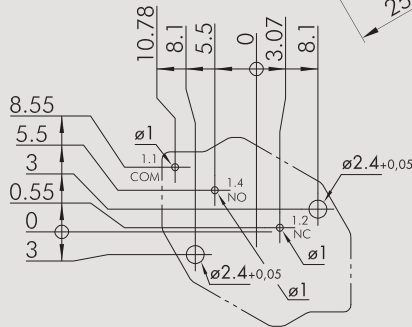
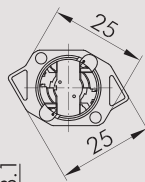


Illustration

Description

Type

IP00
3mm



Contact block, momentary

1 inverter

PCB-mount terminals
only combinable with the contact blocks
FRTP... and C..._485

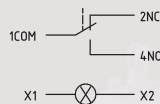
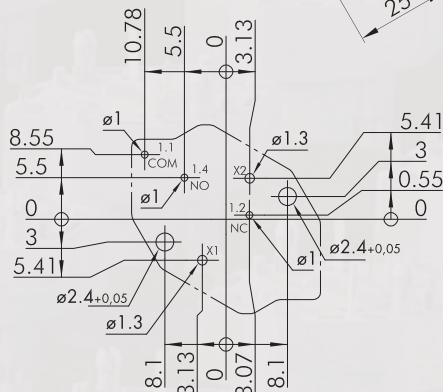
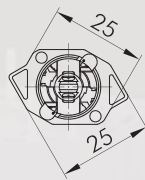


suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CZTP**

IP00
3mm



Illuminated contact block, momentary

1 inverter

PCB-mount terminals
only combinable with the contact blocks
FRTP... and C..._485
Lamp socket T5,5K

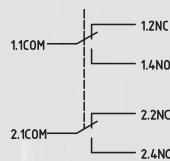
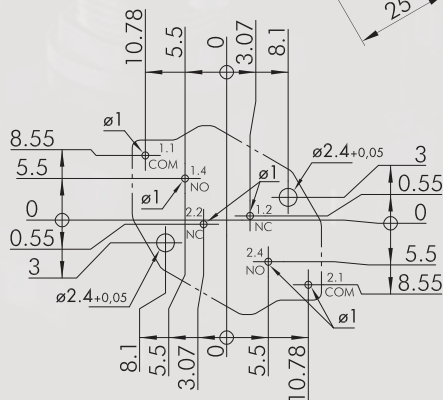
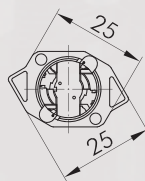


suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CZTLP**

IP00
3mm



Contact block, momentary

2 inverters

PCB-mount terminals
two galvanically isolated inverters,
only combinable with the contact blocks
FRTP... and C..._485



suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CZTP2**

Contact blocks CZ...

PCB-mount terminals

MADE IN GERMANY



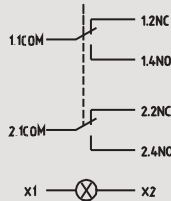
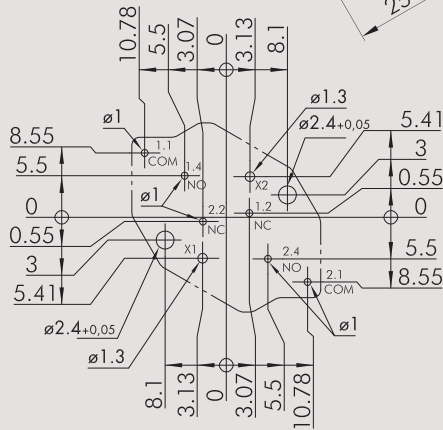
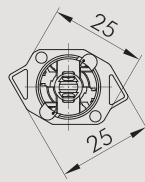
Illustration

Description

Type

IP00

3 mm



Illuminated contact block, momentary

2 inverters

PCB-mount terminals
two galvanically isolated inverters,
only combinable with the contact blocks
FRTP... and C..._485
Lamp socket T5,5K



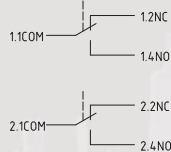
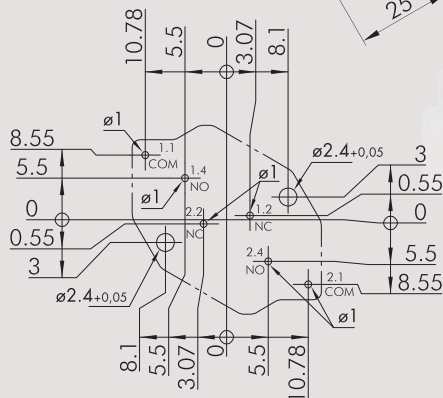
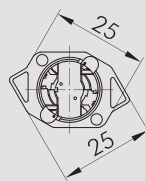
suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CZTLP2**

IP00

3 mm



Contact block with two-piece plunger, momentary

2 inverters

PCB-mount terminals
two galvanically isolated inverters,
only combinable with the contact blocks
FRTP... and C..._485



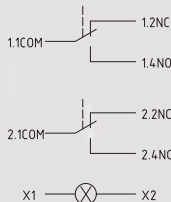
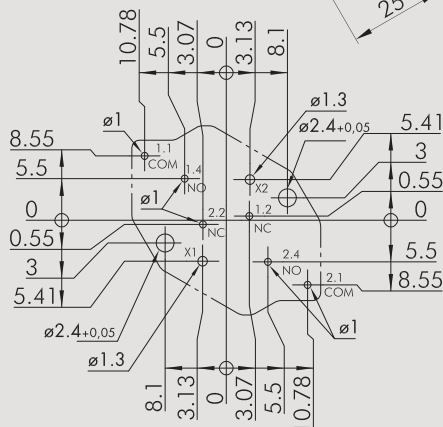
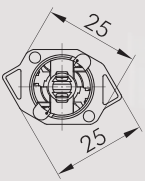
suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CZTP2_549**

IP00

3 mm



Illuminated contact block with two-piece plunger

2 inverters

PCB-mount terminals
two galvanically isolated inverters,
only combinable with the contact blocks
FRTP... and C..._485
Lamp socket T5,5K



suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CZTLP2_549**

About Us

Busbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

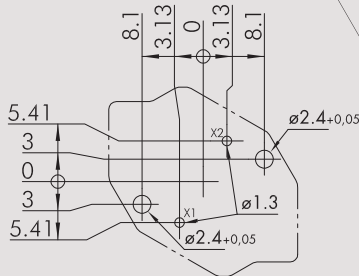
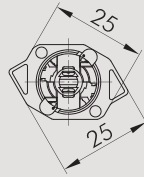
Type Index

Illustration

Description

Type

IP00



Lampholder

PCB-mount terminals
only combinable with the contact blocks
FRTP... and C... 485
Lamp socket T5,5K



suitable pilot light heads:



CZLP

Accessories



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

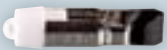
Colour: white **L5,5K12UW**



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white **L5,5K24UW**



Two-colour LED, T5,5K socket - 24V

with built-in series resistor
colour depending on the polarity
storage temperature:
-25°C ... +80°C+80°C
ambient temperature:
-20°C ... +60°C+60°C
voltage tolerance
+ 10 %+ 10 %
colour: red green
rated current [mA]: 14 13
brightness [mcd]: 2300 650
dominant wave length [nm]: 625 525

Colour: red/green **L5,5K24RG**

About Us

Bushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Contact blocks CZ...

PCB-mount terminals

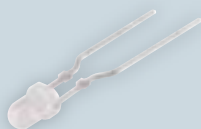
MADE IN GERMANY



Illustration

Description

Type



Ultra-bright LED

ready-made for CTP_485

Connection type solder pins, grid 2.54 mm

Colour: white

LED3UW



LED adapter

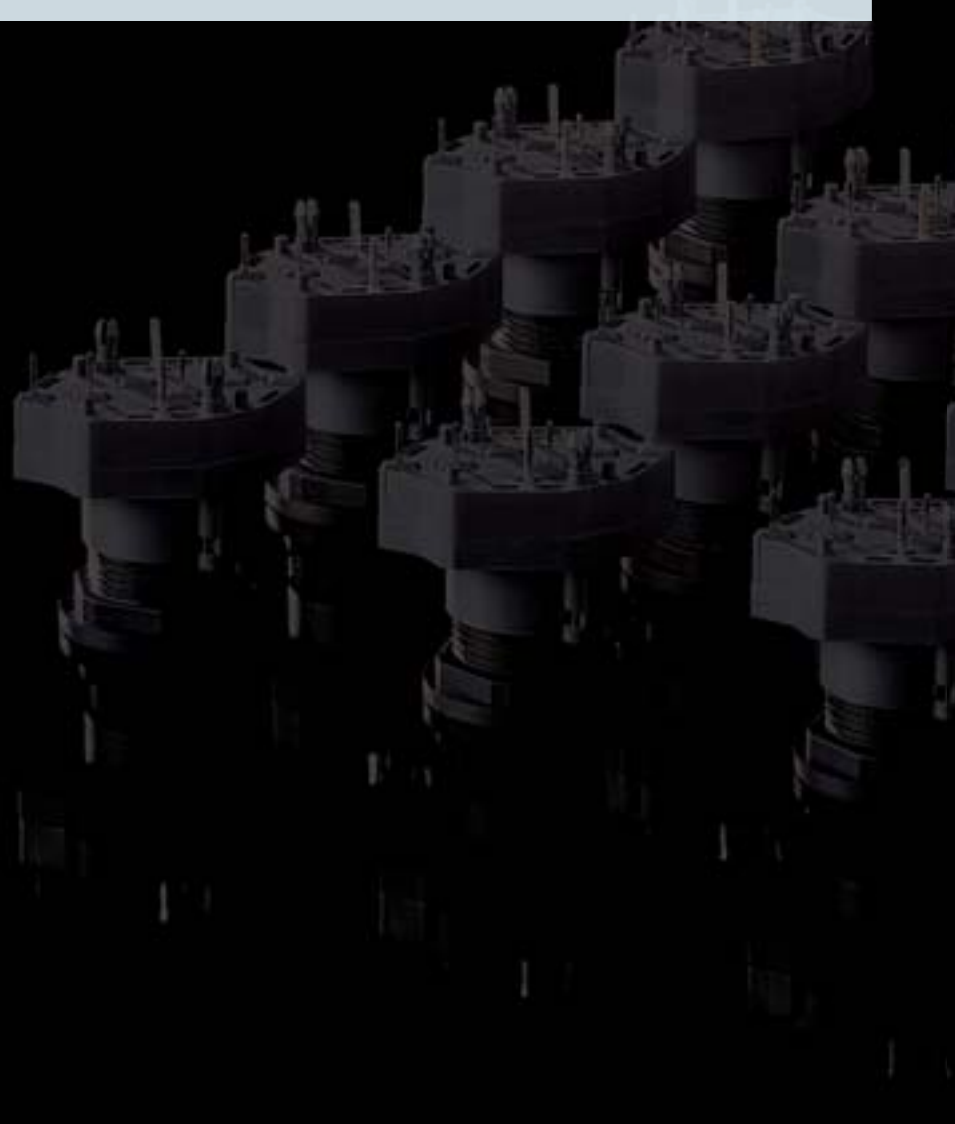
for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets

an external resistor must be provided

suitable contact blocks:



LA5,5



About Us

Bushbuttrons/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

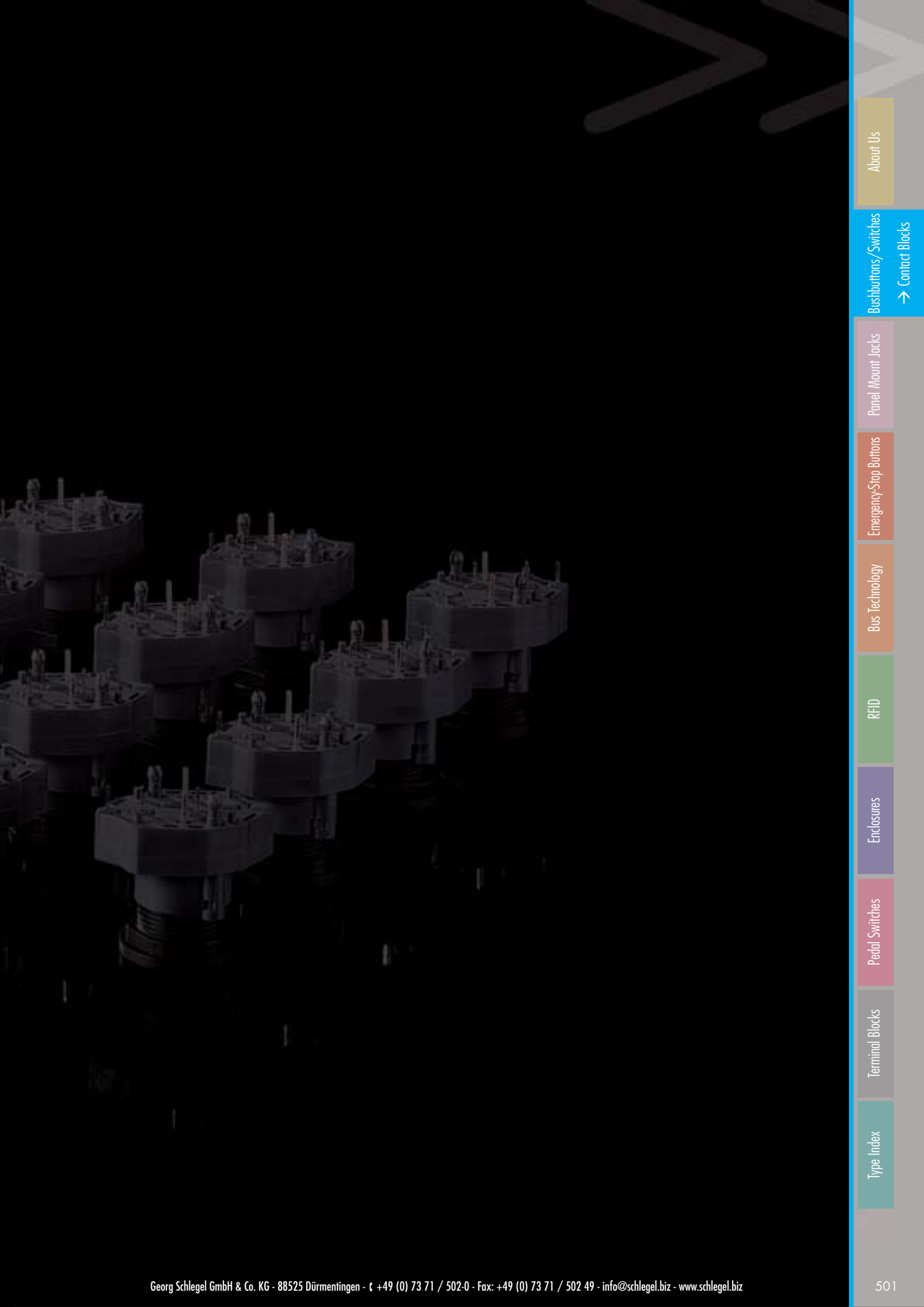
RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Type Index

Terminal Blocks

Pedal Switches

Enclosures

RFID

Bus Technology

Emergency-Stop Buttons

Panel Mount Jacks

Bushbuttons/Switches

→ Contact Blocks

About Us



General Data

Type reference:	CT...
Approvals:	CCC, cCSAus, CE, cURus, DNVGL
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode
Electrical features	
Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

Faston terminals 2.8x0.8mm are not suitable for manual soldering.

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48V	48V
Rated operating current Ie:	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Note

GB14048.5-2008 (IEC60947-5-1)

Electrical data acc. to C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

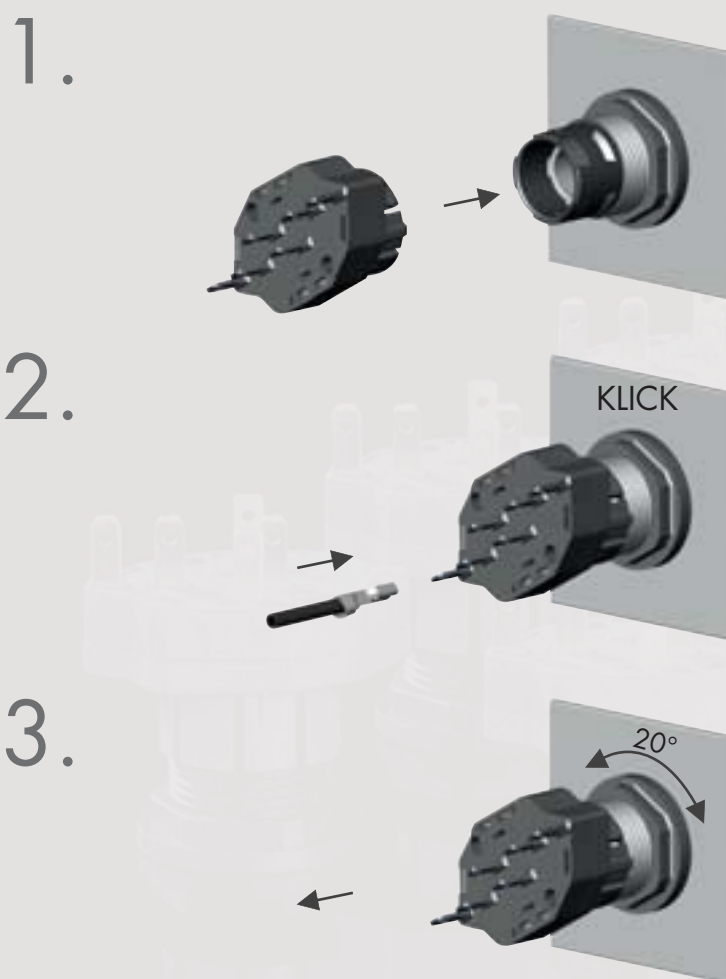

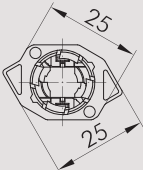
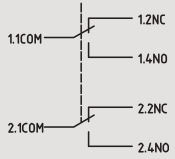




Illustration	Description	Type
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IP00
3mm





Contact block, momentary
2 inverters
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket CAP6



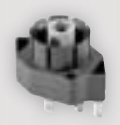
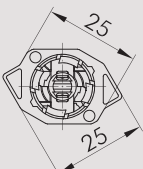



suitable pushbuttons and switches:

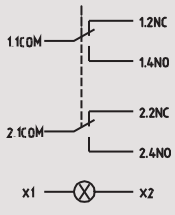




Contact material: gold-plated 1.5µm **CT2**

IP00
3mm





Illuminated contact block, momentary
2 inverters
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket CAP8
 Lamp socket T5,5K




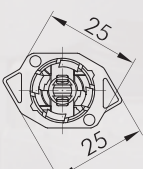



suitable pushbuttons and switches:

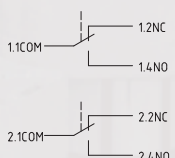




Contact material: gold-plated 1.5µm **CTL2**

IP00
3mm





Contact block with two-piece plunger, momentary
2 inverters
 Faston terminals 2.8x0.8 mm
 two galvanically isolated inverters
 suitable plug-in socket CAP6




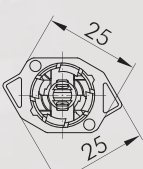



suitable pushbuttons and switches:

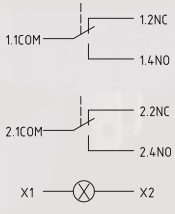




Contact material: gold-plated 1.5µm **CT2_549**

IP00
3mm

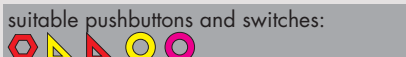



Illuminated contact block with separate plungers, momentary
2 inverters
 Faston terminals 2.8x0.8 mm
 two galvanically isolated inverters
 suitable plug-in socket CAP8
 Lamp socket T5,5K



suitable pushbuttons and switches:



Contact material: gold-plated 1.5µm **CTL2_549**

Contact blocks CT...

flat-plug connections

MADE IN GERMANY

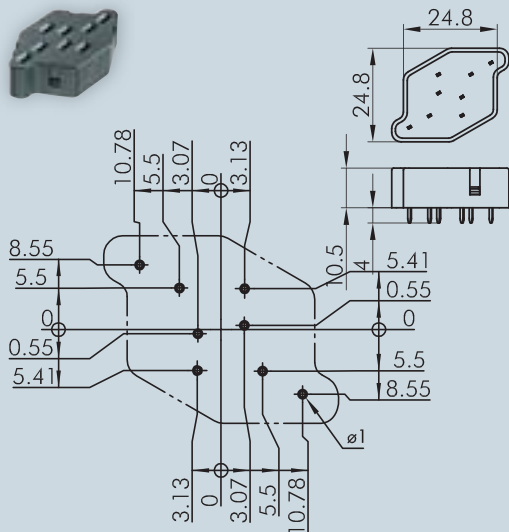


Illustration

Description

Type

Accessories

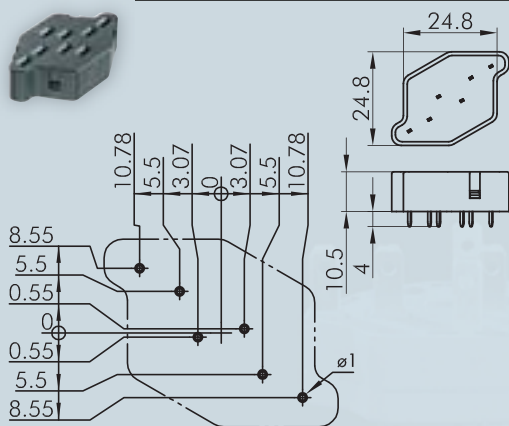


Plug-in socket with 8 contacts

for CTL2, CTL2_549

Connection type: PCB-mount terminals

CAP8



Plug-in socket with 6 contacts

for CT2, CT2_549

Connection type: PCB-mount terminals

CAP6



Insulating case

for Faston clamp FH2,8, slip on from the front

IH2,8



Faston clamp 2.8 x 0.8 mm with snap-in pin

cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

FH2,8



Double Faston

for the connection of 2 Faston clamps FH2.8

FD2,8

About Us

Busbars/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Ultra-bright LED, T5,5K socket, 12V
with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white L5,5K12UW



Ultra-bright LED, T5,5K socket, 24V
with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
when connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

Colour: white L5,5K24UW



Two-colour LED, T5,5K socket - 24V
mit eingebautem Vorwiderstand
Farbe abhängig von der Polarität
Lagertemperatur:
-25°C ... +80°C
Umgebungstemperatur:
-20°C ... +60°C
Spannungstoleranz:
+ 10 %

Farbe:	rot	grün
Nennstrom [mA]:	14	13
Lichtstärken [mcd]:	2300	650
Dom. Wellenlänge [nm]:	625	525

Colour: red/green L5,5K24RG



Ultra-bright LED
ready-made for CTP_485
Connection type solder pins, grid 2.54 mm

Colour: white LED3UW



LED adapter
for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets
an external resistor must be provided

suitable contact blocks:



LA5,5



General Data

Type reference: F RTP(O)(I)(OO)(III)(OI)(OOI)(OII)(S)(3O)(_AU)
 Description: Contact block with PCB-mount terminals, separate plungers, bolt fastening
 Approvals: cURus, ENEC10, VDE, CE, TÜV_Süd
 Contact type: 1NC / 1NO / 2NC / 1NC + 1NO / 2NO / 2NC + 1NO / 1NC + 2NO / 3NO / 3NC
 Operation travel: 2.3 mm
 Connection type: PCB-mount terminals
 Contact material: AgNi / AgNi, gold-plated 5µm
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 600.000
 Electrical life (rated load): 600,000
 Contact resistance NO: < 20 mOhm (new state)
 Contact resistance NC: < 20 mOhm (new state)
 Min. current: 1 mA (under laboratory conditions)
 Min. voltage: 5 V
 Bouncing time NC: < 10ms
 Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue: 250 V~
 Rated current Ie: 6(4) A

Electrical features - 5µm gold-plating, type addition _AU

Switching voltage: 20mV ... 42V AC/DC
 Switching current: 1mA ... 250mA

Note

O = NC contact; I = NO contact
 For illumination with Schlegel LED type FRTLED3UW
 DC13: 100.000 switching cycles (at maximum switching capacity)
 Life time with emergency-stop head: 30.000 (RKUV28, RRJUV)
 6050 (RXJUV)
 With illumination (LED): overvoltage category II (2.5kV), pollution degree 2
 Versions with 3 contacts: overvoltage category II (2.5kV), pollution degree 2

The contact blocks must not be used individually.
 At least 2 contact blocks have to be mounted onto the PCB and they have to be arranged by 180° offset.
 F RTP...(S)...:
 With safety contact for failure switch-off.
 The safety contact (NO contact) is always closed in the operating state and opens when the actuator and contact block are separated.
 In order to use the failure switch-off, the NO contact is connected in series with the NC contact.
 UL approval for: F RTP(L)(O)(I)(OO)(III)(OI)(OOO)(OOI)(OII)(S)(_AU)(xV)(_RO)

Contact blocks FRTP...

PCB-mount terminals

made in germany



About Us

Bushbuttrons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

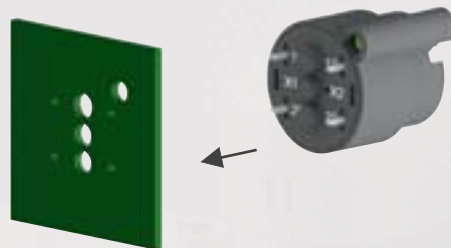
Enclosures

Pedal Switches

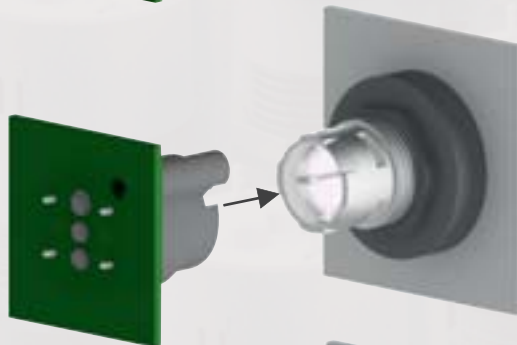
Terminal Blocks

Type Index

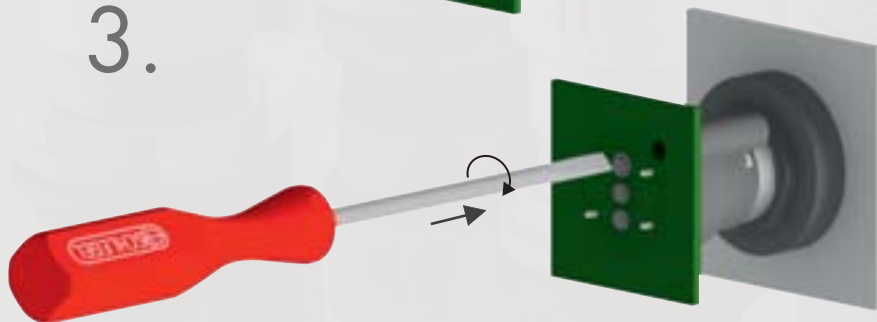
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2.



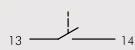
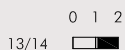
3.



Illustration

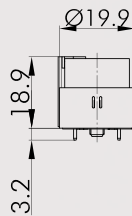
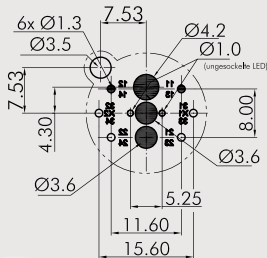
Description

Type



Contact block, momentary

1NO
PCB-mount terminals
Optionally as illuminated momentary contact block with LED type FRTLED3UW. There are two holes on the bottom of the housing to conduct the LED.



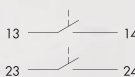
suitable pushbuttons and switches:



Contact material: AgNi **FRTP1**
AgNi, gold-plated **FRTP1_AU**

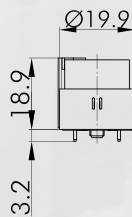
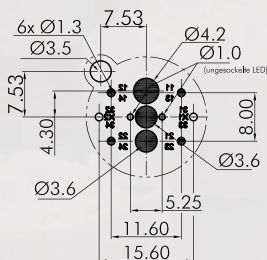


PIN 1/ PIN 2
PIN 1/ PIN 4
PIN 3 n.c.



Contact block, momentary

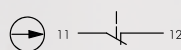
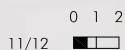
2NO
PCB-mount terminals
Optionally as illuminated momentary contact block with LED type FRTLED3UW. There are two holes on the bottom of the housing to conduct the LED.



suitable pushbuttons and switches:

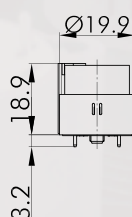
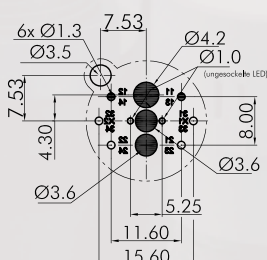


Contact material: AgNi **FRTP11**
AgNi, gold-plated **FRTP11_AU**



Contact block, momentary

1NC
PCB-mount terminals
Optionally as illuminated momentary contact block with LED type FRTLED3UW. There are two holes on the bottom of the housing to conduct the LED.



suitable pushbuttons and switches:



Contact material: AgNi **FRTP0**
AgNi, gold-plated **FRTP0_AU**

Contact blocks FRTP...

PCB-mount terminals

MADE IN GERMANY



Illustration

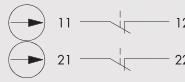
Description

Type

IP00



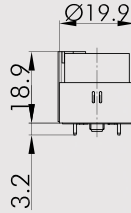
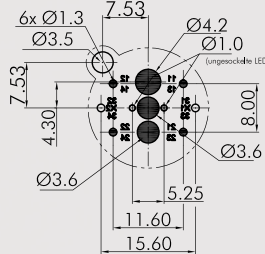
11/12
21/22



Contact block, momentary

2NC

PCB-mount terminals
Optionally as illuminated momentary contact block with LED type FRTLED3UW. There are two holes on the bottom of the housing to conduct the LED.



suitable pushbuttons and switches:

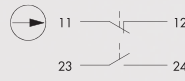


Contact material: AgNi **FRTPO0**
AgNi, gold-plated **FRTPO0_AU**

IP00



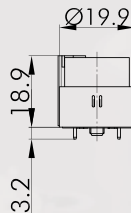
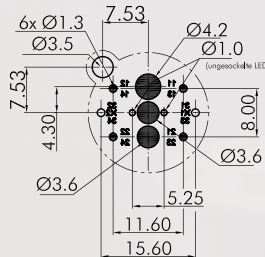
11/12
23/24



Contact block, momentary

1NC + 1NO

PCB-mount terminals
Optionally as illuminated momentary contact block with LED type FRTLED3UW. There are two holes on the bottom of the housing to conduct the LED.



suitable pushbuttons and switches:

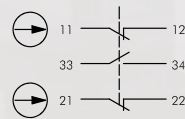


Contact material: AgNi **FRTPOI**
AgNi, gold-plated **FRTPOI_AU**

IP00



11/12
33/34
21/22



Contact block, momentary

2NC + 1NO

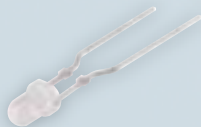
PCB-mount terminals

suitable pushbuttons and switches:



Contact material: AgNi **FRTPOOI**
AgNi, gold-plated **FRTPOOI_AU**

Accessories



Ultra-bright LED 3mm

ready-made for FRTP...

Connection type: solder pins (wire diameter 0.5 mm)

Colour: white **FRTLED3UW**

About Us

Busbuttons / Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



About Us

Bushbuttons/ Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference: FRTF(P)(L)(O)(I)(OO)(II)(OI)(OOI)(OII)(S)(3O)(_AU)
 Description: Illuminated contact block, separate plungers, detent collar
 Approvals: CE, cURus, ENEC10, VDE, CE, TÜV_Süd
 Contact type: 1NC / 1NO / 2NC / 1NC + 1NO / 2NO / 2NC + 1NO / 1NC + 2NO / 3NO / 3NC
 Operation travel: 2.3 mm
 Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
 Contact material: AgNi / AgNi, gold-plated 5µm
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 600.000
 Electrical life (rated load): 600,000
 Contact resistance NO: < 20 mOhm (new state)
 Contact resistance NC: < 20 mOhm (new state)
 Min. current: 1 mA (under laboratory conditions)
 Min. voltage: 5 V
 Bouncing time NC: < 10ms
 Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue: 250 V~
 Rated current Ie: 6(4) A
 Technical Data - Lamp
 Lamp socket: none, with integrated LED
 Max. lamp voltage: 30 V AC/DC
 Definition: X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition _AU

Switching voltage: 20mV ... 42V AC/DC
 Switching current: 1mA ... 250mA

Note

O = NC contact; I = NO contact
 DC13: 100,000 switching cycles (at max. switching capacity)
 Life-time using an emergency-stop actuator: 30.000 (RKJUV28, RRJUV)
 6050 (RXJUV)
 Illuminated version (LED): overvoltage category II (2.5kV), pollution degree 2
 Version with three contacts: overvoltage category II (2.5kV), pollution degree 2
 FRTF...(S)...:

With safety contact for failure switch-off.
 The safety contact (NO) is always closed during operation and disconnects automatically on separation of the actuator from the modular contact. To make use of the failure switch-off function, the NO contact is connected in series with the NC contact.

Contact blocks FR...

flat-plug connections

made in germany



About Us

Bushbuttrons/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

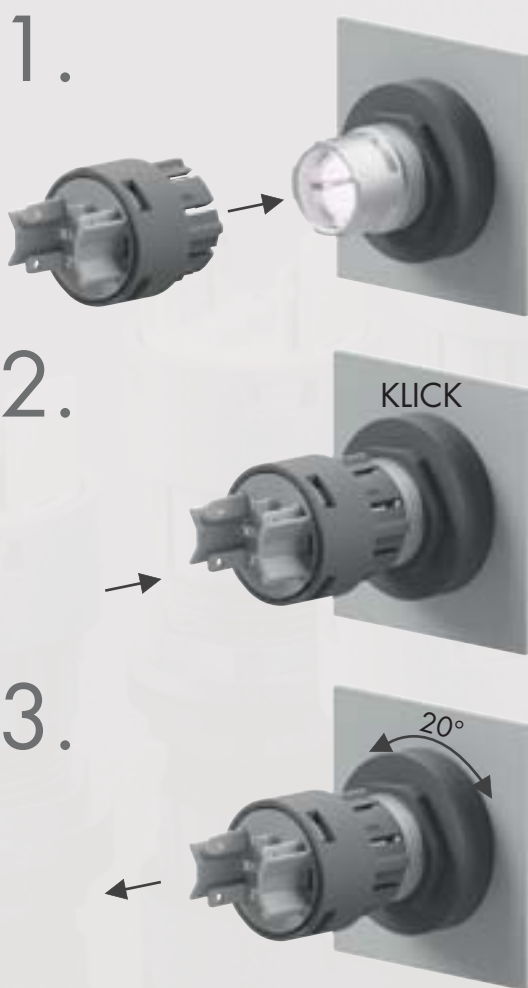

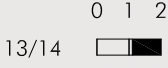
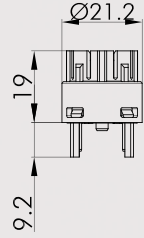
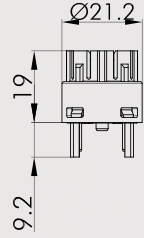


Illustration	Description	Type
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IP00

2.3mm




Contact block, momentary
1NO

Faston terminals 2.8x0.8 mm


suitable pushbuttons and switches:

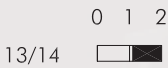
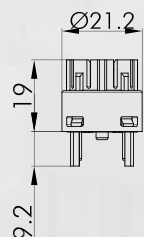

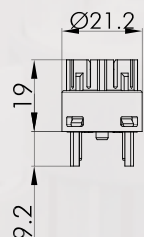


Contact material: AgNi **FRTFI**
AgNi, gold-plated **FRTFI_AU**

IP00

2.3mm









Illuminated contact block, momentary
1NO

Faston terminals 2.8x0.8 mm

Lamp socket none, with integrated LED


suitable pushbuttons and switches:

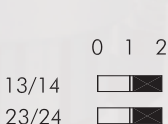
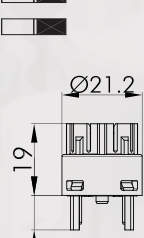
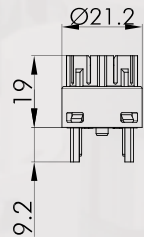


Contact material: AgNi **FRTFLI**

IP00

2.3mm




Contact block, momentary
2NO

Faston terminals 2.8x0.8 mm


suitable pushbuttons and switches:

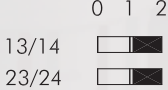
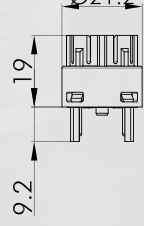

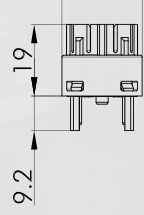


Contact material: AgNi **FRTFII**
AgNi, gold-plated **FRTFII_AU**

IP00

2.3mm









Illuminated contact block, momentary
2NO

Faston terminals 2.8x0.8 mm

Lamp socket none, with integrated LED

suitable pushbuttons and switches:



Contact material: AgNi **FRTFLII**

- About Us
- Buttons/Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFID
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index

Contact blocks FR...

flat-plug connections

MADE IN GERMANY



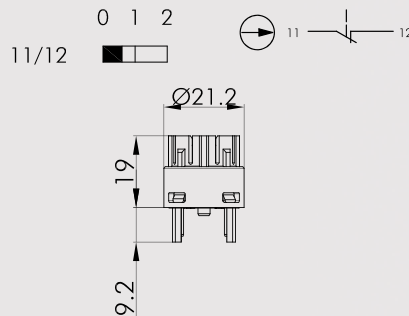
Illustration

Description

Type

IP00

2.3mm



Contact block, momentary 1NC

Faston terminals 2.8x0.8 mm

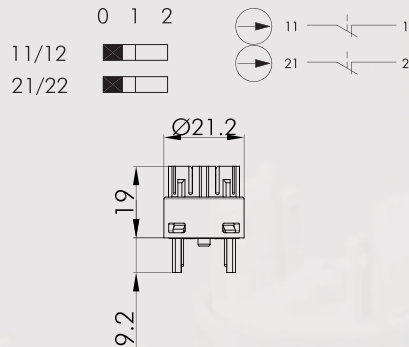
suitable pushbuttons and switches:



Contact material: AgNi **FRTFO**
AgNi, gold-plated **FRTFO_AU**

IP00

2.3mm



Contact block, momentary, 2NC

Faston terminals 2.8x0.8 mm

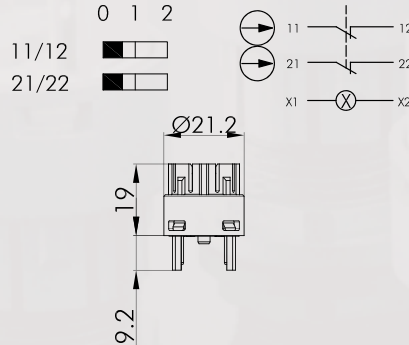
suitable pushbuttons and switches:



Contact material: AgNi **FRTFOO**
AgNi, gold-plated **FRTFOO_AU**

IP00

2.3mm



Illuminated contact block, momentary

Faston terminals 2.8x0.8 mm
Lamp socket none, with integrated LED

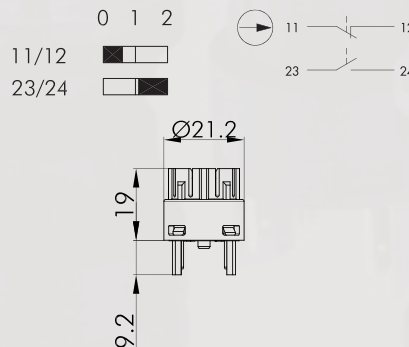
suitable pushbuttons and switches:



Contact material: AgNi **FRTFLOO**

IP00

2.3mm



Contact block, momentary 1NC + 1NO

Faston terminals 2.8x0.8 mm

suitable pushbuttons and switches:



Contact material: AgNi **FRTFOI**
AgNi, gold-plated **FRTFOI_AU**

Illustration	Description	Type
--------------	-------------	------

		<p>0 1 2</p> <p>11/12 </p> <p>23/24 </p>		<p>Illuminated contact block, momentary 1NC + 1NO</p> <p>Faston terminals 2.8x0.8 mm Lamp socket none, with integrated LED</p> <p>suitable pushbuttons and switches:</p>	<p>Contact material: AgNi FRTFLOI</p>

		<p>0 1 2</p> <p>11/12 </p> <p>33/34 </p> <p>21/22 </p>		<p>Contact block, momentary 2NC + 1NO</p> <p>Faston terminals 2.8x0.8 mm</p> <p>suitable pushbuttons and switches:</p>	<p>Contact material: AgNi FRTFOOI AgNi, gold-plated FRTFOOI_AU</p>

Accessories

	<p>Insulating case</p> <p>for Faston clamp FH2,8, slip on from the front</p> <p style="text-align: right;">IH2,8</p>
--	--

	<p>Faston clamp 2.8 x 0.8 mm with snap-in pin</p> <p>cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p> <p style="text-align: right;">FH2,8</p>
--	---

	<p>Double Faston</p> <p>for the connection of 2 Faston clamps FH2.8</p> <p style="text-align: right;">FD2,8</p>
--	---



General Data

Type reference:	PTS(L)(OO)(II)(OI)(OIT)(OOI)(OOIT)(OOO)(OII)(OIIT)(III)(IIIT)(_AU)(_R0)
Description:	Contact block for base-plate mounting, with positive opening contact
Approvals:	CE, cURus, TÜV_Süd
Contact type:	2NC / 1NC+1NO / 2NO / 2NC+1NO / 1NC+2NO / 3NO / 3NC
Operation travel:	2.3 mm
Connection type:	PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load AC
Contact resistance NO:	< 20 mOhm / < 50 mOhm (Au)
Contact resistance NC:	< 20 mOhm / < 50 mOhm (Au)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A
Technical Data - Lamp	
Lamp socket:	none, with integrated LED
Max. lamp voltage:	30 V AC/DC (*1)
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition _AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA

Note

O = NC contact; I = NO contact; R0=LED without series resistor
Contact elements for momentary pushbuttons (OIT)(OOIT)(OIIT)(IIIT) with bridged plunger ("T")
The contact block is being plugged into the neck of the pushbutton head;
Spacer sleeves ensure the correct distance of the connection between PCB and mounting plate.

DC13 life time: 100.000 at max. load, 10 operations/minute

Overvoltage category II (2.5kV), pollution degree 2 for:
- illuminated versions (24 V LED)
- versions with 3rd contact
- versions with NO contacts (I, II, OI)

Installation instruction:

The position offset between the operator element and the switching element must be in a Ø 0.2 mm circle
(*1) does not apply to the types "..._R0" UL approval for: PTS(L)(O)(I)(OO)(II)(OIT)(IIIT)(OOIT)(IIOT)(_AU)(xV))(R0)

Data acc. to UL508

Rating:

Pilot duty B300; 24dc/3A; Au: 42Vdc/100mA

General Data

Type reference:	PCTS(L)_R0
Description:	Contact block for base-plate mounting
Approvals:	CE, cURus
Contact type:	1 inverter
Operation travel:	2.3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Max. lamp voltage:	30 V AC/DC (*1)
Definition:	X1...anode, X2...cathode

Electrical features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

1W=inverter (snap-action contact);R0= LED without series resistor

The contact unit is snapped into the actuator neck.
 Spacer sleeves ensure the correct distance between PCB and mounting plate.

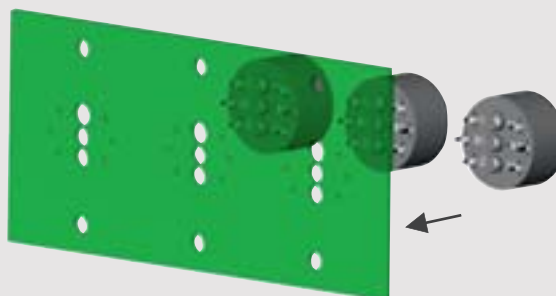
Instruction for mounting

The position offset between actuator and switching element must lie in a circle of Ø 0.2mm.
 (*1) does not apply to the types "..._R0" UL approval for: PCTS(L)(xV)_R0

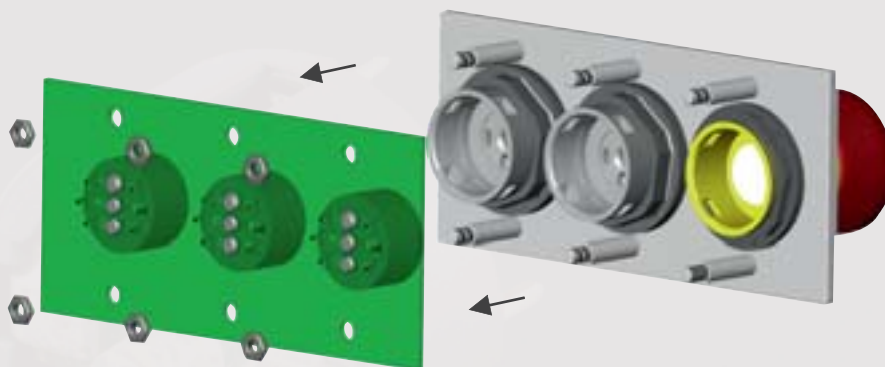
Data acc. to UL508

Rating: 20mV...48V AC/DC, 0.01mA...100mA , max. 250mW

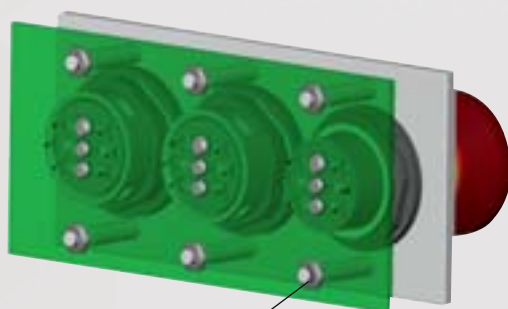
1.



2.



3.



secured captive nuts

Contact blocks P...

PCB-mount terminals

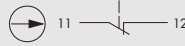
MADE IN GERMANY



Illustration

Description

Type

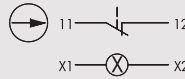
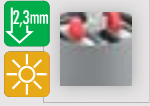


**Contact block, momentary
1NC**

PCB-mount terminals

suitable pushbuttons and switches:

Contact material: AgNi **PTSO**
AgNi, gold-plated **PTSO_AU**

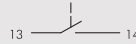
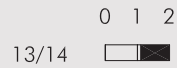
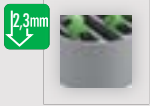


**Illuminated contact block,
momentary
1NC**

PCB-mount terminals
incl. white LED

suitable pushbuttons and switches:

Contact material: AgNi **PTSLO**
AgNi, gold-plated **PTSLO_AU**

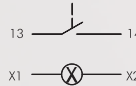
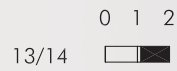
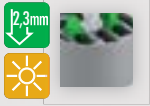


**Contact block, momentary
1NO**

PCB-mount terminals

suitable pushbuttons and switches:

Contact material: AgNi **PTSI**
AgNi, gold-plated **PTSI_AU**

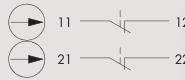
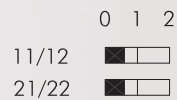
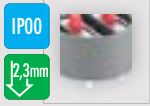


**Illuminated contact block,
momentary
1NO**

PCB-mount terminals
incl. white LED

suitable pushbuttons and switches:

Contact material: AgNi **PTSLI**
AgNi, gold-plated **PTSLI_AU**



**Contact block, momentary
2NC**

PCB-mount terminals



suitable pushbuttons and switches:

Contact material: AgNi **PTS00**
AgNi, gold-plated **PTS00_AU**

About Us

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID


Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
--------------	-------------	------

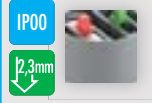


11/12 0 1 2 11 — 12
 21/22 21 — 22
 x1 — (X) — x2

Illuminated contact block, momentary 2NC
 PCB-mount terminals incl. white LED

suitable pushbuttons and switches:

Contact material: AgNi **PTSLOO**
 AgNi, gold-plated **PTSLOO_AU**

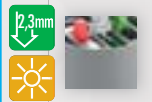


11/12 0 1 2 11 — 12
 23/24 23 — 24

Contact block, momentary 1NC + 1NO
 PCB-mount terminals

suitable pushbuttons and switches:

Contact material: AgNi **PTSOI**
 AgNi, gold-plated **PTSOI_AU**




11/12 0 1 2 11 — 12
 23/24 23 — 24
 x1 — (X) — x2

Illuminated contact block, momentary 1NC + 1NO
 PCB-mount terminals incl. white LED

suitable pushbuttons and switches:

Contact material: AgNi **PTSLOI**
 AgNi, gold-plated **PTSLOI_AU**




11/12 0 1 2 11 — 12
 23/24 23 — 24

1NF + 1NO
 PCB-mount terminals only suitable for pushbutton heads

suitable pushbuttons and switches:

Contact material: AgNi **PTSOIT**
 AgNi, gold-plated **PTSOIT_AU**



11/12 0 1 2 11 — 12
 23/24 23 — 24
 x1 — (X) — x2

1NF + 1NO
 PCB-mount terminals incl. white LED only suitable for pushbutton heads

suitable pushbuttons and switches:

Contact material: AgNi **PTSLOIT**
 AgNi, gold-plated **PTSLOIT_AU**

Contact blocks P...

PCB-mount terminals



MADE IN GERMANY




Illustration


Description

Type

0 1 2

13/14 

23/24 



13 — 14

23 — 24


Contact block, momentary
2NO
PCB-mount terminals


suitable pushbuttons and switches:

Contact material: AgNi **PTSII**
AgNi, gold-plated **PTSII_AU**

0 1 2

13/14 

23/24 

13 — 14



23 — 24

X1 — X2


Illuminated contact block, momentary
2NO
PCB-mount terminals


suitable pushbuttons and switches:


Contact material: AgNi **PTSLII**
AgNi, gold-plated **PTSLII_AU**

0 1 2

11/12 

33/34 

21/22 

11 — 12



33 — 34

21 — 22

Contact block, momentary
2NC + 1NO
PCB-mount terminals

suitable pushbuttons and switches:

Contact material: AgNi **PTS00I**
AgNi, gold-plated **PTS00I_AU**



 

X1 — X2

Lampholder incl. LED
PCB-mount terminals

suitable pilot light heads:

PTSL



1.1.COM — 1.2.NC

1.4.NO

Tactile contact block, momentary
not suitable for emergency-stops

suitable pushbuttons and switches:

PCTS

1.1.COM — 1.2.NC

1.4.NO

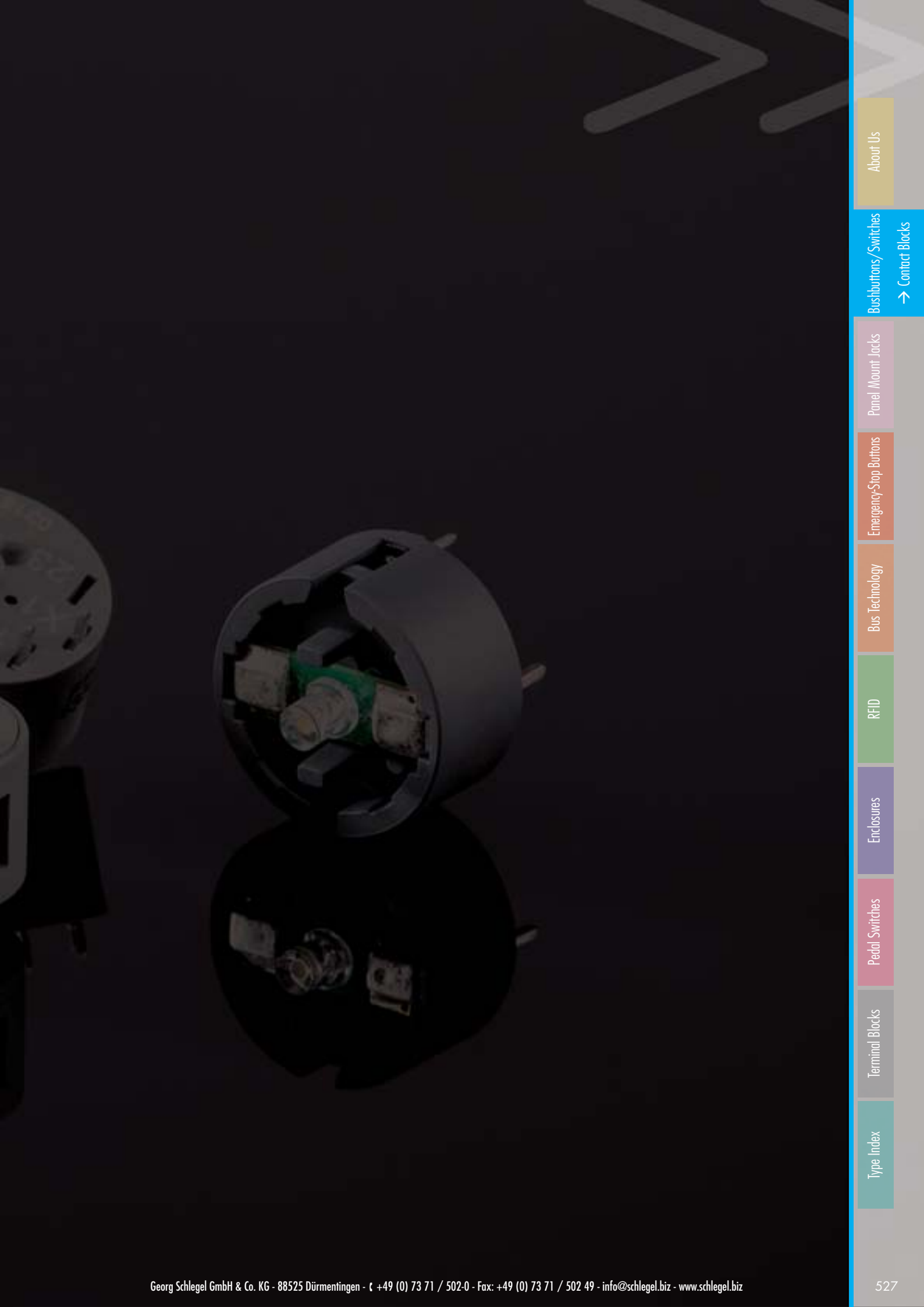
X1 — X2

Illuminated tactile contact block, momentary
not suitable for emergency-stops

suitable pushbuttons and switches:

PCTSL

- About Us
- Contact Blocks
- Bus Buttons/Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFID
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index



Type Index

Terminal Blocks

Pedal Switches

Enclosures

RFID

Bus Technology

Emergency-Stop Buttons

Panel Mount Jacks

Bushbuttons/Switches

About Us

→ Contact Blocks



General Data

Type reference:	ET...
Description:	Contact block, positive opening contact
Approvals:	CE, CSA, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection: min: 1 x 0.5mm ² , 2 x 0.5mm ² max: 2 x 2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 70°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	400V	400V
Rated operating voltage Ue:	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current Ie:	5A / 3A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 440 V~
Rated current Ie:	10(6) A / 6(3) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition _AU

Operational voltage:	20mV ... 42V AC/DC
Operational current:	1 mA ... 250 mA
Contact resistance (new state):	< 50 mOhm

General data

Tightening torque (screw terminal):	0.8...1.0 Nm
-------------------------------------	--------------

Note

O = NC contact; I = NO contact

Note for emergency-stop contact blocks:

In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

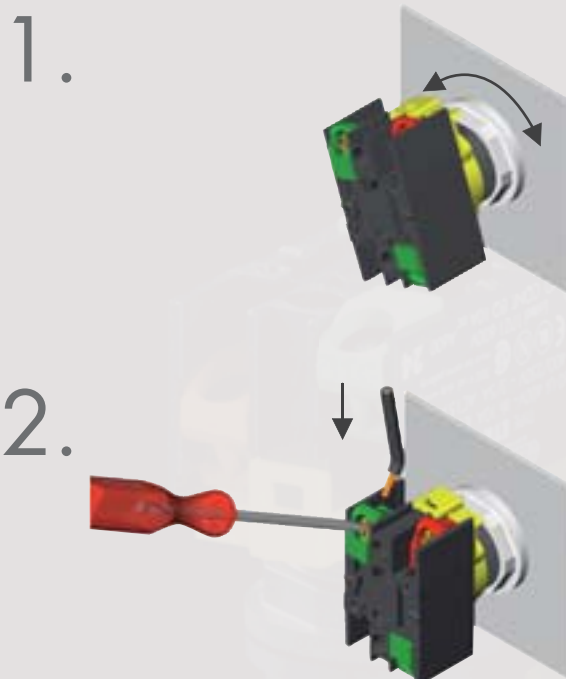



Illustration	Description	Type
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IP00
↓ 6mm




0 1 2 3 4 5 6

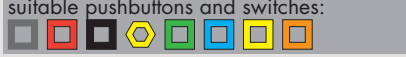
12/11

24/23

Contact block, momentary
1NC + 1NO
 screw connection, finger-protected acc. to VBG4




suitable pushbuttons and switches:



Contact material: AgNi **ETR**

IP00
↓ 6mm



0 1 2 3 4 5 6

12/11

24/23

32/31

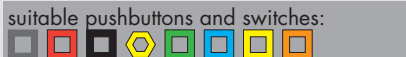
44/43

Contact block, momentary
2NC + 2NO
 screw connection

min: 1 x 0.5 mm², 2 x 0.5 mm²


max: 2 x 2.5 mm²

suitable pushbuttons and switches:



Contact material: AgNi **ETR2**

IP00
↓ 6mm



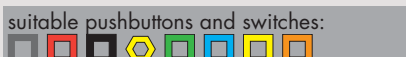
0 1 2 3 4 5 6

12/11

24/23


Illuminated contact block, momentary
1NC + 1NO
 screw connection, finger-protected acc. to VBG4
 Lamp socket BA9s

suitable pushbuttons and switches:



Contact material: AgNi **ETLR**

IP00
↓ 6mm



0 1 2 3 4 5 6

12/11

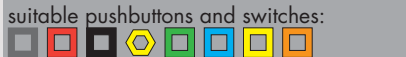
24/23

32/31

44/43


Illuminated contact block, momentary
2NC + 2NO
 screw connection, finger-protected acc. to VBG4
 Lamp socket BA9s

suitable pushbuttons and switches:




Contact material: AgNi **ETLR2**

IP00



Lampholder
 screw connection
 Lamp socket BA9s

suitable pilot light heads:



EL9R

Contact blocks E...

screw connections

MADE IN GERMANY



Illustration

Description

Type

IPOO



Lampholder compact

screw connection
max. 250V 2W
Lamp socket BA9s

suitable pilot light head:



L9R

Accessories



Ultra-bright LED, BA9s socket

with integrated bridge rectifier for 24V AC/DC, 15mA

Colour: white **LD9-24UW**



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V)

Colour: white **LD9-24MW**



Ultra-bright LED, BA9s

with integrated single-wave rectifier for 230V AC, 3mA

Colour: white **LD9-230UW**



Flashing LED, BA9s

for 24V

Colour: green **LB9-24G**
red **LB9-24R**
yellow **LB9-24Y**

About Us

Bushholders/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index



About Us

Bushbuttons/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type: MT...
Description: Modular contact block
Approvals: CCC, CSA, ENEC05, KEMA, CE, TÜV_Süd, UL
Protection class: II (protective insulation)
Operation travel: 6 mm
Connection type: screw connection:

Contact material: AgNi
Max. storage temperature: -50°C ... 85°C
Max. operating temperature: -30°C ... 85°C, without illumination
-30°C ... 55°C, using incandescent lamps
-30°C ... 65°C, using LEDs

Mechanical life: 1 million switching cycles
Electrical life (rated load): 1 million operations at rated load
Contact resistance NO: < 20 mOhm
Contact resistance NC: < 20 mOhm
Min. current: 1 mA (under laboratory conditions)
Min. voltage: 5 V
Bouncing time NO: < 10ms
Bouncing time NC: < 10ms
Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q600
Rated insulation voltage Ui:	600 V	600 V
Rated operating voltage Ue:	240V / 440V	440V / 250V / 125V / 60V / 24V
Rated operating current Ie:	3A / 1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue: 250 V~ / 440 V~
Rated current Ie: 16(10) A / 10(6) A

Technical Data - Lamp

Lamp socket: BA9s
Max. lamp voltage: 250 V / (CSA max. 150V)
Max. lamp output: 2 W
Definition: X1...anode, X2...cathode
Electrical features - 5µm gold-plating, type addition ...AU
Switching voltage: 20mV ... 42V AC/DC
Switching current: 1mA ... 250mA
Contact resistance (new state): < 50 mOhm

General data

Tightening torque (screw terminal): 0.8...1.0 Nm

Stripping length: 9 mm

Note

O = NC contact; I = NO contact; Z = permissive contact; ON = NC contact late break; IV = NO contact early make
Min. operating temperature when assembled with KRJ...actuators: -40°C ...;
Data sheet does not apply to the following type: MTOSFE

Electrical data acc. to UL 508

Ratings: A600, 600 V AC

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	AC15 A600	DC13
Rated operating voltage Ue:	240V / 440V	12V
Rated operating current Ie:	3A / 1.6A	5A
Breaking capacity:	10Ie	1,1Ie

Contact blocks M...

screw connections

made in germany



About Us

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

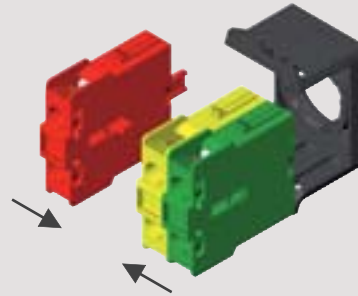
Enclosures

Pedal Switches

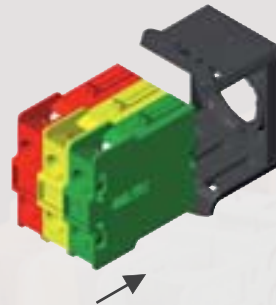
Terminal Blocks

Type Index

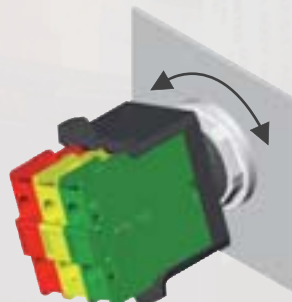
1.



2.



3.



4.

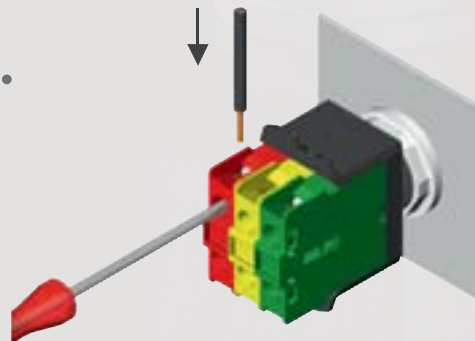
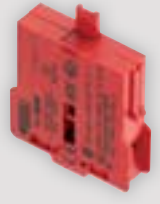
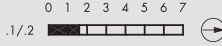
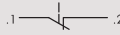


Illustration	Description	Type
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IP00

↓ 6 mm



Modular contact block, momentary 1NC
screw connection 2x2.5mm²


suitable pushbuttons and switches:

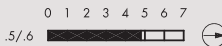

M

Contact material: AgNi **MT0**



IP00

↓ 6 mm



Modular contact block, momentary 1NC late break
screw connection 2x2.5mm²


suitable pushbuttons and switches:

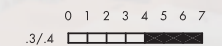
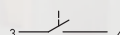
M

Contact material: AgNi **MT0N**



IP00

↓ 6 mm



Modular contact block, momentary 1NO
screw connection 2x2.5mm²


suitable pushbuttons and switches:



M

Contact material: AgNi **MTI**



IP00

↓ 6 mm



Modular contact block, momentary 1NO early make
screw connection 2x2.5mm²

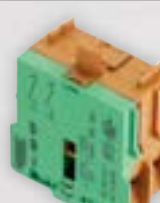
suitable pushbuttons and switches:

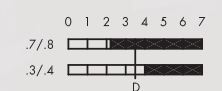
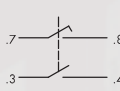
M

Contact material: AgNi **MTIV**



IP00

↓ 6 mm



Modular contact block, momentary 1NO + 1NO early make
screw connection 2x2.5mm²
with action point after the early make contact closes

suitable pushbuttons and switches:

M

Contact material: AgNi **MT97**

Contact blocks M...

screw connections

MADE IN GERMANY



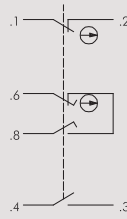
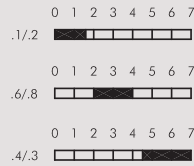
Illustration

Description

Type

IP00

↓ 6 mm



Modular contact

1NC + 1NO + 1centre contact

screw connection 2x2.5mm²

- to be used with 3-position actuators with 1 plunger
- one contact is closed in each position
- no contact overlapping

suitable pushbuttons and switches:

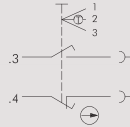
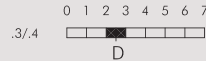


Contact material: AgNi

MHW31

IP00

↓ 6 mm



Modular contact block, momentary, with enabling function

1 permissive contact (1NC + 1NO)

screw connection 2x2.5mm²

3-position enabling contact block acc. to EN 60947-5-8

Permissive Contact: yes



suitable pushbuttons and switches:

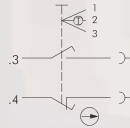
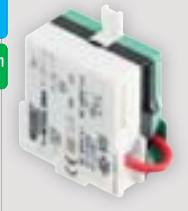


Contact material: AgNi

MTZU

IP00

↓ 6 mm



Modular contact block with enabling function (usable with module holder MHR_5 for 2 channels)

1 permissive contact (1NC + 1NO)

screw connection 2x2.5mm²

3-position enabling contact block acc. to EN 60947-5-8

two MTZU_564 and one MHR5 are required for 2 channels



suitable pushbuttons and switches:

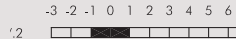


Contact material: AgNi

MTZU_564

IP00

↓ 6 mm



Self-monitoring emergency contact block, requires only one place in the module holder

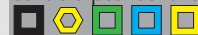
1NC (+ 1NO)

screw connection 2x2.5mm²

The safety contact permanently monitors the proper connection between the emergency-stop button and the contact element. If, due to a negligent assembly or mechanical damage, the emergency-stop button is separated from the contact element, the safety contact disconnects immediately and the machine is stopped.



suitable pushbuttons and switches:



Contact material: AgNi

MTOSFE

About Us

Busbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
--------------	-------------	------





Latch-type module
 screw connection 2x2.5mm²
 when used as center element in the module holder it provides a maintained unit with the adjacent momentary-type modules

suitable pushbuttons and switches:




Colour: grey **MF**






Latch-type lamp module
 screw connection 2x2.5mm²
 max. 250V 2W
 Lamp socket BA9s

suitable pushbuttons and switches:




Colour: yellow/grey **MFL**

Lamp module
 screw connection 2x2.5mm²
 max. 250V 2W
 Lamp socket BA9s

suitable pushbuttons and switches/pilot light heads:



Colour: yellow **ML**




Connection module
 screw connection 2x2.5mm²
 serves to connect the illuminated emergency-stops via a screw terminal the connection module is snapped into the module holders MHR_3 or MHR_5 12-30V, AC/DC, max. 44mA



suitable pushbuttons and switches:



Colour: white **MAL**




120V LED module
 screw connection

min: 1 x 0.5mm², 2 x 0.5mm²

max: 2 x 2.5mm²
 with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier.
 - operating temperature: -25...70 °C
 - protection degree acc. to IEC/EN 60529: IP20
 for 12-120V AC/DC, 8-12mA

suitable pushbuttons and switches/pilot light heads:



Colour: white **MLED12-120W**

Contact blocks M...

screw connections

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Illustration

Description

Type

IP20



24V LED module

screw connection

min: 1 x 0.5mm², 2 x 0.5mm²

max: 2 x 2.5mm²
with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier.
- operating temperature: -25...70 °C
- protection degree acc. to IEC/EN 60529: IP20
- approvals: cCSAus, CE, GOST-R for 18-30V AC/DC, 8-14mA

suitable pushbuttons and switches/pilot light heads:



Colour: white

MLED24W

IP20



24V latch-type LED module

screw connection

min: 1 x 0.5mm², 2 x 0.5mm²

max: 2 x 2.5mm²
similar to MLED24... but with latching function

suitable pushbuttons and switches/pilot light heads:



Colour: white

MFLED24W

IP20



230V LED module

screw connection

min: 1 x 0.5mm², 2 x 0.5mm²

max: 2 x 2.5mm²
with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier.
- operating temperature: -25...70 °C
- protection degree acc. to IEC/EN 60529: IP20
- approvals: cCSAus, CE, GOST-R for 230V AC, 16mA (50Hz)

suitable pushbuttons and switches/pilot light heads:



Colour: white

MLED230W

IP20



230V latch-type LED module

screw connection

min: 1 x 0.5mm², 2 x 0.5mm²

max: 2 x 2.5mm²
similar to MLED230...but with latching function

suitable pushbuttons and switches/pilot light heads:



Colour: white

MFLED230W

About Us

Bushbutons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD


Enclosures


Pedal Switches

Terminal Blocks


Type Index


Illustration	Description	Type
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	<p>Module holder for 3 elements with bayonet mount, to combine the modular contacts with the actuators</p>	<p>MHR_3</p>
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	<p>Module holder for 5 elements with bayonet mount, to combine the modular contacts with the actuators</p>	<p>MHR_5</p>
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Accessories

	<p>Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA</p> <p>Colour: white</p>	<p>LD9-24UW</p>
---	---	------------------------

	<p>Mega-bright LED, BA9s with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V)</p> <p>Colour: white</p>	<p>LD9-24MW</p>
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	<p>Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA</p> <p>Colour: white</p>	<p>LD9-230UW</p>
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	<p>Flashing LED, BA9s for 24V</p> <p>Colour: green</p> <p> red</p> <p> yellow</p>	<p>LB9-24G</p> <p>LB9-24R</p> <p>LB9-24Y</p>
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About Us

Bushbuttons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



General Data

Type reference:	DSTI, DSTO
Description:	Modular contact block (positive opening contact), PUSH-IN connection
Approvals:	CCC, cCSAus, CE, DNVGL, KEMA KEUR, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	5 mm
Connection type:	push-in connection/0.75 ... 2.5 mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-25°C ... 55°C, with/without illumination
Mechanical life:	1 million
Electrical life (rated load):	100.000 at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	5 mA (under laboratory conditions)
Min. voltage:	24 V
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q300
Rated insulation voltage Ui:	600 V	400V
Rated operating voltage Ue:	240V / 380V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A / 1.9A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 400 V~
Rated current Ie:	16(10) A / 10(5) A
Technical Data - Lamp	
Lamp socket:	BA9s
Max. lamp voltage:	250V
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition **AU**

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Additional data

Stripping length:	8...10 mm
-------------------	-----------

Note

O = NC contact; I = NO contact
 Min. operating temperature when assembled with KRJ...actuators: -40°C...

Contact blocks DS...

spring-clamp connections

made in germany



About Us

Bushbuttrons/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

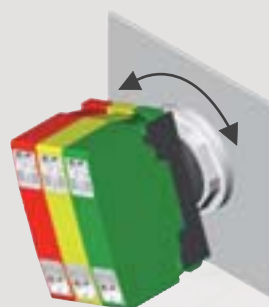
Terminal Blocks

Type Index

1.



2.



3.



4.

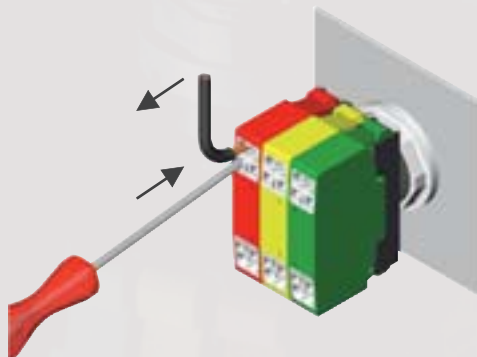

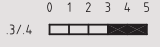


Illustration	Description	Type
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IP20
↓ 5mm







0 1 2 3 4 5
 .3/.4

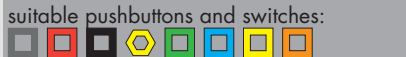


.3 — | — .4

Modular contact block, momentary
1NO
 push-in connection/0.75 ... 2.5 mm²







suitable pushbuttons and switches:

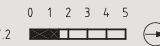


Contact material: AgNi **DSTI**

IP20
↓ 5mm







0 1 2 3 4 5
 .1/.2




.1 — | — .2

Modular contact block, momentary
1NC
 push-in connection/0.75 ... 2.5 mm²

suitable pushbuttons and switches:

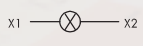


Contact material: AgNi **DSTO**

IP20
☀



X1 — | — X2



Lamp module
 push-in connection/0.75 ... 2.5 mm²
 max. 250V 2W
 Lamp socket BA9s






suitable pushbuttons and switches/pilot light heads:

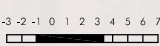


Colour: yellow **DSL9**

IP20
↓ 5mm





-3 -2 -1 0 1 2 3 4 5 6 7
 .1/.2

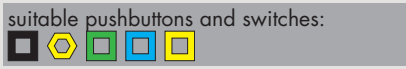


.1 — | — .2

Self-monitoring emergency contact block,
requires only one place in the module holder
1NC (+ 1NO)
 push-in connection/0.75 ... 2.5 mm²
 The safety contact permanently monitors the proper connection between the emergency-stop button and the contact element. If, due to a negligent assembly or mechanical damage, the emergency-stop button is separated from the contact element, the safety contact disconnects immediately and the machine is stopped.

suitable pushbuttons and switches:



Contact material: AgNi **DSTOSDE**

Contact blocks DS...

spring-clamp connections

MADE IN GERMANY



Illustration

Description

Type

IPOO



Connection module

push-in connection/0.75 ... 2.5 mm²
serves to connect the illuminated
emergency-stop actuators via push-in
connection.

The DSAL module is snapped into the
module holder DMR.

12-30V, AC/DC, max. 44mA



Colour: white **DSAL**



Module holder for 3 modules

DMR

with bayonet, to combine the modular
contact blocks with the actuators

Accessories



Ultra-bright LED, BA9s socket

with integrated bridge rectifier for
24V AC/DC, 15mA

Colour: white **LD9-24UW**



Mega-bright LED, BA9s

with integrated bridge rectifier for
24V .. 28V AC/DC, 15.5mA (typ. 24V)

Colour: white **LD9-24MW**



Ultra-bright LED, BA9s

with integrated single-wave rectifier for
230V AC, 3mA

Colour: white **LD9-230UW**



Flashing LED, BA9s

for 24V

Colour: green **LB9-24G**
red **LB9-24R**
yellow **LB9-24Y**

About Us

Bushings/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index



Type Index

Terminal Blocks

Pedal Switches

Enclosures

RFID

Bus Technology

Emergency-Stop Buttons

Panel Mount Jacks

Bushbuttons/Switches



General Data

Type reference:	DT...
Description:	Modular contact block, with cage-clamp technology
Approvals:	CCC, cCSAus, DNVGL, ENEC10, VDE, CE, KEMA KEUR, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Cage-Clamp 0.08-2.5 mm ²
Contact material:	AgNi
Max. storage temperature:	-40°C ... 70°C
Max. operating temperature:	-25°C ... 55°C, with/without illumination
Mechanical life:	1 million switching cycles
Electrical life (rated load):	50,000
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q300
Rated insulation voltage Ui:	600 V	400V
Rated operating voltage Ue:	240V / 380V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A / 1.9A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 400 V~
Rated current Ie:	16(10) A / 10(5) A
Technical Data - Lamp	
Lamp socket:	BA9s
Max. lamp voltage:	250V
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical features - 5µm gold-plating, type addition **AU**

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Environmental / climatic tests

Vibration resistance:	50m/s ² at 5-150Hz according to DIN IEC 68 2-6
Shock resistance:	30m/s ² at 50ms acc. to DIN IEC 68 2-27
Constant climatic resistance:	IEC 600-68-2-3 and 2-30

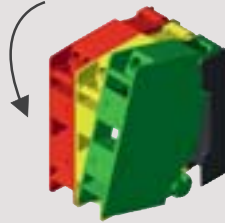
Note

- O = NC contact; I = NO contact; ON = NC contact late break; IV = NO contact early make
- When combining the DT... contact blocks with key actuators, selector and toggle heads, add the type code ..._497 to the actuator type reference!
- Min. operating temperature when assembled with KRJ...actuators: -40°C ...
- The use of wire end ferrules is basically possible but not necessary.

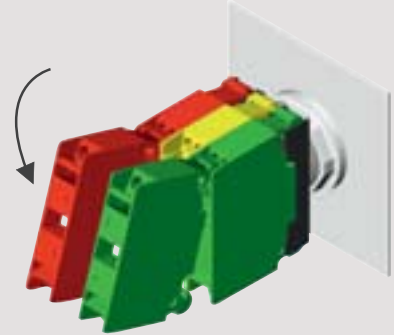
Additional electrical data

Overvoltage category:	II
Pollution degree :	3
Glow wire testing:	750°C / 850°C

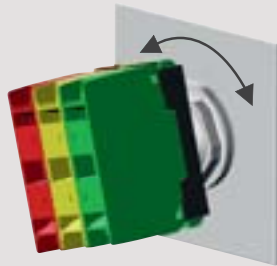
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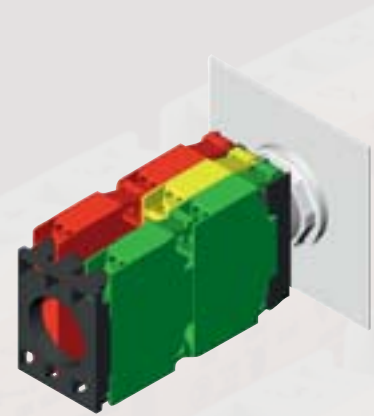
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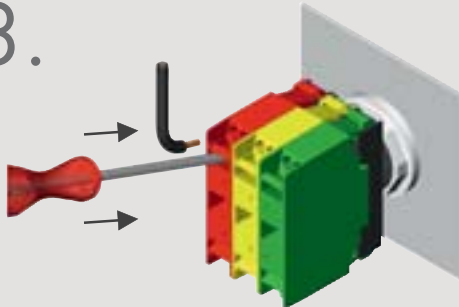
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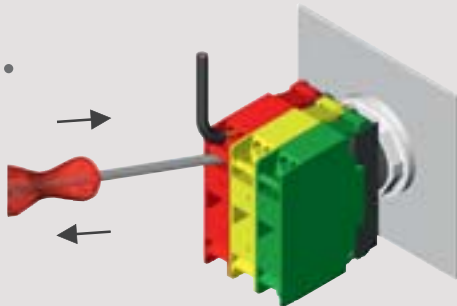


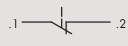

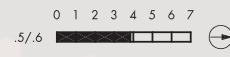
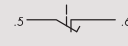

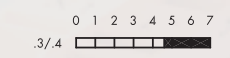
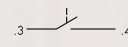

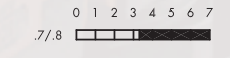
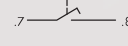


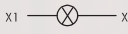


Illustration	Description	Type
 <p>IP20 6 mm</p>  	<p>Modular contact block, momentary 1NC Cage-Clamp 0.08-2.5 mm²</p> <p>TUV 300, KEMA EUR, DNV GL, D'E, EN 10, SP US</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	DT0
 <p>IP20 6 mm</p>  	<p>Modular contact block, momentary 1NC late break Cage-Clamp 0.08-2.5 mm²</p> <p>D'E, EN 10</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	DT0N
 <p>IP20 6 mm</p>  	<p>Modular contact block, momentary 1NO Cage-Clamp 0.08-2.5 mm²</p> <p>TUV 300, KEMA EUR, DNV GL, D'E, EN 10, SP US</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	DTI
 <p>IP20 6 mm</p>  	<p>Modular contact block, momentary 1NO early make Cage-Clamp 0.08-2.5 mm²</p> <p>D'E, EN 10</p> <p>suitable pushbuttons and switches:</p> <p>Contact material: AgNi</p>	DTIV
 <p>IP20</p>  	<p>Lamp module lampholder Cage-Clamp 0.08-2.5 mm² max. 250V 2W Lamp socket BA9s</p> <p>KEMA EUR, DNV GL, SP US</p> <p>suitable pushbuttons and switches/pilot light heads:</p>	DL

Contact blocks D...

spring-clamp connections

MADE IN GERMANY



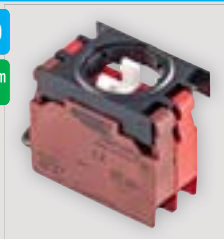
Illustration

Description

Type

IP20

6 mm



Self-monitoring emergency contact block, momentary*

1NC (+ 1NO)

Cage-Clamp 0.08-2.5 mm²

*) 1 NC, 1NO and 1 safety contact consisting of 1 emergency NC connected in series to 1 NO which is always closed during operation and disconnects automatically on separation of the actuator from the modular contact.

suitable pushbuttons and switches



Contact material

AgNi

DMTOSFA



Dummy module

used in case of several levels to fill the positions not occupied

DB



Module holder for 3 modules

with bayonet, to combine the modular contact blocks with the actuators



DMR



Module holder

for modules from second level on

DMA

Accessories



Ultra-bright LED, BA9s socket

with integrated bridge rectifier for 24V AC/DC, 15mA

Colour:

white

LD9-24UW



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V)

Colour:

white

LD9-24MW



Ultra-bright LED, BA9s

with integrated single-wave rectifier for 230V AC, 3mA

Colour:

white

LD9-230UW

Illustration	Description	Type
	<p>Flashing LED, BA9s for 24V</p> <p>Colour:</p> <ul style="list-style-type: none"> green red yellow 	<p>LB9-24G LB9-24R LB9-24Y</p>



About Us

Bushbuttons/Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index





General Data

Type reference: ASI_BZ, ASI_BZL5
 Description: AS-Interface slave
 Approvals: ASI, cCSAus

Note

Communication - AS-Interface Specification: V2.11
 - Slave profile: S-B.A.E
 - Connection: via 2-pole IDC connector (3.96mm), type ref. "ASI_SB2AWG18"
 - Connection cable: double-core flexible wire, AWG18, e.g. "ASI_SL2AWG18"
 - Max. network length: 100m (without repeater)
 - Max. cycle time: < 10ms (62 A/B slaves)

Ambient Conditions - Operating temperature: -25°C ... +70°C
 - Storage temperature: -40°C ... +80°C
 - Humidity: up to 95%, non-condensing

Mechanical Data

- Operating travel: ≤ 3mm
 - Operating cycles: ≥ 1 million

Electrical Data

- Power supply: 26.5...31.6 V, through the AS-Interface line
 - Total power consumption: ≤ 30 mA
 - Signalling unit - output *1): supply through AS-Interface line, continuously short-circuit proof, overload protection

Max. load current of LED: 20 mA Luminous intensity: via D0/D1 individually controllable/dimmable in 4 steps
 Rated voltage: 24 V DC (+10%)
 Socket: T5,5kLED, Schlegel ref.: L5,5k24U...

Norms and Standards:

CE, IEC 62026-2, cCSAus The Schlegel ASi slaves comply with the specification AS-Interface POWER24 and can also be operated at 24 V.

*) only ASI_BZL5

Illustration

Description

Type



AS-Interface slave

bus-compatible (2 I/2O)

- 2-pole connector (3.96 mm spacing)
- unlighted
- small mounting depth due to built-in IDC connector
- with 2 integrated inputs D2/D3
- profile: S-B.A.E
- applicable standard: V2.11
- reversely compatible to type ASI_BZII5 (female connector not included)



suitable pushbuttons and switches



ASI_BZ



AS-Interface slave with T5,5K socket

bus-compatible (2 I/2O)

- 2-pole connector (3.96 mm spacing)
- illuminated, LED socket T5,5K
- small mounting depth due to built-in IDC connector
- with 2 integrated inputs D2/D3
- with 1 integrated LED output, individually controllable/dimmable (4 steps) via D0/D1 - profile: S-B.A.E
- applicable standard: V2.11
- reversely compatible to type ASI_BZIII5 (socket not included)
- Lamp socket T5,5K



suitable pushbuttons and switches



ASI_BZL5



Ultra-bright LED, T5,5K socket, 24V

- with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
- when connecting to DC, the correct polarity must be observed:
- + ... X1/- ... X2
- storage temperature: -25°C ... +80°C
- ambient temperature: -20°C ... +60°C
- voltage tolerance: + 10 %

Colour

white

L5,5K24UW

About Us

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RTD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
	<p>IDC connector 2 poles, for AWG18, to connect the AS-Interface slaves by insulation piercing (IDC technology); with lock mechanism and strain relief Technical data: · connector spacing 3.96 mm · wire size: AWG18 (0.8...1.0 mm²) · outside dia.: 1.0...2.28 mm Recommendation: optimal strain relief when used with „ASI_K2“</p>	<p>ASI_SB2AWG18</p>
	<p>Cover with integrated strain relief for 2-pole IDC connector</p>	<p>ASI_K2</p>
	<p>Hand tool serves to press the single conductors into the IDC connector, connector spacing 3.96 mm</p>	<p>ASI_MRT</p>
	<p>AS-Interface addressing cable serves to address the slaves ASI_BZ, ASI_BZL5 with a commercial AS-Interface hand addressing device Technical data: · PVC cable 500 mm, 2 x 0.75 mm² · M12 straight-line plug</p>	<p>ASI_PK500M12</p>
	<p>Flexible equipment wire suitable for insulation piercing (IDC technology), serves to connect the AS-Interface slaves, twisted 2-core cable, brown/blue; 50 m per unit Technical data: · AWG18 · 19 wires · conductor resistance 21 Ohm/km · style no. 1007 / TR4 · operating temperature max. 80/90 °C (UL/CSA) · storage temperature down to -55 °C · acid/alkali-proof and oil-resistant · flame-resistant · keeps its elasticity under heat and cold</p>	<p>ASI_SL2AWG18</p>

Illustration

Description

Type



Flat cable branch with M12 socket

without fastening lugs, to connect a cable with M12 connector to the yellow profile cable

Technical data:

- 2 A max.
- IP20

ASI_AZM12



Flat cable branch with M12 socket with fastening lugs

to connect a cable with M12 connector to the yellow profile cable

Technical data:

- max. 2 A
- IP20

ASI_AZM12L



M12 straight-line plug

with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector

Technical data:

- 4 A max.
- 4 poles
- PG7

ASI_M12



M12 right-angle plug

with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector

Technical data:

- 4 A max.
- 4 poles
- PG7

ASI_M12W



Flat cable branch with fastening lugs

self-assembly via screw connections, to connect the AS-Interface strand to the yellow profile cable

Technical data:

- 2-pole
- max. 4 A

ASI_AZL

About Us

Bushings/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
--------------	-------------	------



Flat cable branch

self-assembly via screw connections, without fastening lugs, to connect the AS-Interface flexible equipment wire to the yellow profile cable

Technical data:

- 2 poles
- 4 A max.

ASI_AZ



About Us

Bushbuttons / Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

→ Contact Blocks



General Data

Type reference:	ASI_SAW16A, ASI_SAW16E, ASI_SAW22A, ASI_SAW22E,
Description:	AS-Interface slave (safety at work)
Approvals:	ASI, cCSAus, TÜV_Süd

Note

Communication

- AS-Interface specification:	V 2.1
- Slave profile:	ASI_SAWxxA S-7.B.E ASI_SAWxxE S-0.B.E
- Standby delay time:	< 1s
- Input delay:	< 5ms
- Connection:	via 2-pole IDC connector(3.96mm) with lock mechanism and strain relief type ref.: "ASI_SL2AWG18"
- Addressing:	via integrated connector or separate addressing connector *)

Ambient Conditions

- Operating temperature:	-25 °C ...+70 °C
- Humidity:	up to 95%, non-condensing
- Degree of protection/slave:	IP20
- Pollution degree:	2 (acc. to IEC 60947-1)

Electrical Data

- Operating voltage:	26.5...31,6 V, through the AS-Interface line
- Total power consumption:	ASI_SAWxxA: <= 60 mA ASI_SAWxxE: <= 50 mA
- Reverse polarity protection:	available
- Contacts:	two positive opening contacts acc. to IEC60947-5-5
- Safety integrity level:	SIL 3
- Output (not safe):	for the control of a LED *)
Rated voltage:	24 V DC (+10%)

Max. power consumption:	approx. 15mA
Short circuit/overload:	LED output
Connection cable:	type ref.: "VK_JST025BKL", "VK_JST034"

Norms and Standards

- Complete AS-Interface Specification, Version 2.11 Rev.1, V3.0 Rev. 0
- IEC 62026-2, IEC 60204-1, IEC 61508, EN 13850, IEC 60947-5-5
- TÜV Type Approval, UL/CSA Approval - AS-Interface Certificate 62801 *) refers only to types ASI_SAW16A, ASI_SAW22A (with additional addressing connector)

Use in AS-Interface POWER24V networks:

- The Schlegel ASi slaves ASI_SAWxxE comply with the specification AS-Interface POWER24 and can also be operated at 24V.

Notes on the use in AS-Interface Power24V networks:

Requirements for the power supply unit:

1. The power supply unit must supply a PELV voltage according to IEC 61140
2. The min. DC voltage may not be lower than 21.6V (24V - 10%) and the max. DC voltage of 31V must not be exceeded.
3. The power supply unit must supply an additional current of 0.4A above the rated current in case of voltage recovery and during operation.

Master and Slaves:

All components in the network, both master and slaves, must be suitable for the operation of AS-Interface Power24V.

Network:

The network can be arranged in a free tree structure, same as on AS-Interface, but the net expansion may not exceed 50m.

Note: For operation, use earth fault monitors which are specially designed for AS-Interface Power24V.

Illustration

Description

Type



AS-Interface slave with output (Safety at Work) 16 mm

- for safety-related pushbuttons and switches of 16 mm mounting diameter, e.g. emergency-stop buttons
- with short-circuit proof, individually controllable, digital output
 - permanent monitoring and safety shutdown if contact block and actuator are separated - profile: S-7.B.E
 - applicable standard: V 2.1
 - safety integrity level: SIL 3



suitable pushbuttons and switches:



ASI_SAW16A



AS-Interface slave (Safety at Work) 16 mm

- for safety-related pushbuttons and switches of 16 mm mounting diameter, e.g. emergency-stop buttons
- profile: S-0.B.E, - applicable standard: V 2.1
 - safety integrity level: SIL 3



suitable pushbuttons and switches:



ASI_SAW16E



AS-Interface slave with output (Safety at Work) 22 mm

- for safety-related pushbuttons and switches of 22 mm mounting diameter, e.g. emergency-stop buttons
- with short-circuit proof, individually controllable, digital output
 - permanent monitoring and safety shutdown if contact block and actuator are separated - profile: S-7.B.E,
 - applicable standard: V 2.1
 - safety integrity level: SIL 3



suitable pushbuttons and switches:



ASI_SAW22A



AS-Interface slave (Safety at Work) 22 mm

- for safety-related pushbuttons and switches of 22 mm mounting diameter, e.g. emergency-stop buttons
- profile: S-0.B.E, - applicable standard: V 2.1
 - safety integrity level: SIL 3



suitable pushbuttons and switches:



ASI_SAW22E

About Us

Bushings/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology







RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration	Description	Type
Accessories		
	<p>Connection cable</p> <p>to connect an illuminated emergency-stop pushbutton to an AS-Interface slave (Safety at Work) two-wired strand, red/black, 0.25 mm², with crimped connectors on both sides length: approx. 10 cm</p>	VK_JST025BKL
	<p>Connecting cable with open cable end</p> <p>to connect e.g. an external LED signal lamp to an AS-Interface slave (Safety at Work), two-wired strand, red/black, 0.34mm², with crimped connector on one side. Length: abt. 10 cm</p>	VK_JST034
	<p>Please refer to the e-stop enclosures for AS-Interface systems starting on page 678</p>	
	<p>IDC connector</p> <p>2 poles, for AWG18, to connect the AS-Interface slaves by insulation piercing (IDC technology); with lock mechanism and strain relief Technical data: · connector spacing 3.96 mm · wire size: AWG18 (0.8...1.0 mm²) · outside dia.: 1.0...2.28 mm Recommendation: optimal strain relief when used with „ASI_K2“</p>	ASI_SB2AWG18
	<p>Cover with integrated strain relief for 2-pole IDC connector</p>	ASI_K2
	<p>Hand tool</p> <p>serves to press the single conductors into the IDC connector, connector spacing 3.96 mm</p>	ASI_MRT

Illustration

Description

Type



AS-Interface addressing cable

serves to address the slaves ASI_BZ, ASI_BZL5 with a commercial AS-Interface hand addressing device

Technical data:

- PVC cable 500 mm, 2 x 0.75 mm²
- M12 straight-line plug

ASI_PK500M12



Flexible equipment wire

suitable for insulation piercing (IDC technology), serves to connect the AS-Interface slaves, twisted 2-core cable, brown/blue; 50 m per unit

Technical data:

- AWG18
- 19 wires
- conductor resistance 21 Ohm/km
- style no. 1007 / TR4
- operating temperature max. 80/90 °C (UL/CSA)
- storage temperature down to -55 °C
- acid/alkali-proof and oil-resistant
- flame-resistant
- keeps its elasticity under heat and cold



Flat cable branch with M12 socket

without fastening lugs, to connect a cable with M12 connector to the yellow profile cable

Technical data:

- 2 A max.
- IP20

ASI_AZM12



Flat cable branch with M12 socket with fastening lugs

to connect a cable with M12 connector to the yellow profile cable

Technical data:

- max. 2 A
- IP20

ASI_AZM12L






M12 straight-line plug

with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector

Technical data:

- 4 A max.
- 4 poles
- PG7

ASI_M12

Illustration	Description	Type
	<p>M12 right-angle plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector</p> <p>Technical data:</p> <ul style="list-style-type: none"> · 4 A max. · 4 poles · PG7 	<p>ASI_M12W</p>
	<p>Flat cable branch with fastening lugs self-assembly via screw connections, to connect the AS-Interface strand to the yellow profiel cable</p> <p>Technical data:</p> <ul style="list-style-type: none"> · 2-pole · max. 4 A 	<p>ASI_AZL</p>
	<p>Flat cable branch self-assembly via screw connections, without fastening lugs, to connect the AS-Interface flexible equipment wire to the yellow profile cable</p> <p>Technical data:</p> <ul style="list-style-type: none"> · 2 poles · 4 A max. 	<p>ASI_AZ</p>

Battery-free wireless pushbuttons and switches

The Schlegel transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building and industrial automation, automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel (energy harvesting).

The module complies with the R & TTE-EU Directive on wireless transmission equipment.

The transmitter module is licensed under



Green. Smart. Wireless.
enocean[®]





Battery-free Wireless Modules

Illustration

Description

Type

IP00

6 mm



Battery-free radio contact block (868.3 MHz) for pushbuttons and switches with 16mm bayonet

- no power supply necessary
- no additional wiring - based on EnOcean protocol
- easy programming of the receiver
- combinable with pushbuttons and 2-position key and selector switches
- operating temperature: -25°C ... 65°C

suitable pushbuttons and switches:



Colour: green

DFA16

IP00

6 mm



Battery-free radio contact block (868.3 MHz) for pushbuttons and switches with 22mm bayonet

- no power supply necessary
- no additional wiring - based on EnOcean protocol
- easy programming of the receiver
- combinable with pushbuttons and 2-position key and selector switches
- operating temperature: -25°C ... 65°C

suitable pushbuttons and switches:



Colour: green

DFA22

IP00

6 mm



Battery-free radio contact block (868.3 MHz) for 3-position selector/key switches with 22 mm bayonet

- no power supply necessary - no additional wiring
- based on EnOcean protocol
- easy programming of the receiver
- combinable with 3-position key and selector switches
- operating temperature: -25°C ... 65°C

suitable pushbuttons and switches



Colour: green

DFD22



Illustration	Description	Type
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Accessories



1-channel wireless receiver 8V - 24V for flush mounting

- operating voltage: 8V-24V DC
- no. of channels (relay outputs): 1 (potential-free)
- no. of transmitters: 35
- max. switching current 12V/24V DC: 8 A
- load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load
- rated switching capacity per contact: 16A/250V AC
- standby loss: 0.3W - 0.9W
- ambient temperature at mounting location: -20°C...+50°C
- relative humidity: annual average value <75%
- operating cycles: 1000/h
- life at rated load, cos phi =1: 100.000 switching cycles
- or filament lamp 500W at 100/h
- IP protection: enclosure/connections: IP30/IP20
- switching functions: momentary or latching; optionally with release delay
- connectivity technology: screw-type 4mm²
- mounting: flush mounting
- dimensions: 45mm long, 45mm wide, 33mm deep
- repeater function can be activated as required

S_FSR61_8-24VUC



1-channel wireless receiver 230V for flush mounting

- operating voltage: 230V AC 50 Hz
- no. of channels (relay outputs): 1 (potential-free)
- no. of transmitters: 35
- max. switching current 12V/24V DC: 8 A
- load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load
- rated switching capacity per contact: 16A/250V AC
- standby loss: 0.3W - 0.9W
- ambient temperature at mounting location: -20°C...+50°C
- relative humidity: annual average value <75%
- operating cycles: 1000/h
- life at rated load, cos phi =1: 100.000 switching cycles
- or filament lamp 500W at 100/h
- IP protection: enclosure/connections: IP30/IP20
- switching functions: momentary or latching; optionally with release delay
- connectivity technology: screw-type 4mm²
- mounting: flush mounting
- dimensions: 45mm long, 45mm wide, 33mm deep
- repeater function can be activated as required

S_FSR61_230V

About Us

Bushbuttons/Switches

→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Illustration

Description

Type



Wireless antenna module - expandable radio receiver

- antenna included
- power supply: 230V AC 50HZ
- operating voltage: 12V DC 1A (integrated switching power supply)
- number of channels (relay outputs): max. 128
- protocol: EnOcean 868.3 MHz
- mounting: DIN rail EN 60715 TH35
- dimensions: 36mm wide, 58mm deep
- IP protection: enclosure/connections: IP50/IP 20
- ambient temperature at mounting location: -20°C...+50°C
- storage temperature: -25°C up to +70°C
- relative humidity: annual average value <75%

The S_FAM14 is a receiver with integrated switching power supply. The RS485 bus actuators (S_FSR14-2x) are not included in delivery. At a load exceeding 50% of the rated capacity of 12 W, a ventilation clearance of half of module must be maintained on the left side by using the spacer S_DS14.

S_FAM14



RS485 bus actuator

- up to 118 wireless transmitters per channel - rotary switch for teaching-in the transmitters
 - simultaneous latching and momentary function possible with different transmitters
 - LED signalling to assist teaching-in procedure
 - no. of channels (relay outputs): 2 (potential-free)
 - no. of receive channels: 120
 - max. switching current: 12V/24V DC (per channel): 8 A
 - load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load
 - rated switching capacity per contact: 16A/250V AC
 - standby loss: 0.05W-0.5W
 - ambient temperature at mounting location: -20°C...+50°C
 - relative humidity: annual average value <75%
 - life at rated load, cos phi =1: 100.000 switching cycles
 - filament lamp 500W at 100/h
 - IP protection: enclosure/connections: IP50/IP20
 - switching functions: momentary/latching - optionally with release delay
 - connectivity technology: screw-type 6mm²
 - mounting: DIN rail EN 60715 TH35
 - dimensions: 18mm wide, 58mm deep
- suitable RS485 bus actuator for S_FAM14, jumpers for connection are included

S_FSR14-2x



Wireless repeater level 1/2

- increases the radio transmission range considerably
 - connection via jumper to the RS485 bus or directly with 12V power supply
 - power supply: 12V DC
 - standby loss: 0.6W
 - repeater functions: level 1 / level 2
 - protocol: EnOcean 868.3 MHz
 - mounting: DIN rail EN 60715 TH35
 - dimensions: 18mm wide, 58mm deep
 - ambient temperature at mounting location: -20°C...+50°C
 - relative humidity: annual average value <75%
- suitable accessory: 12V switching power supply S_FSNT12V

S_FRP14

About Us

Bushbuttrons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD


Enclosures

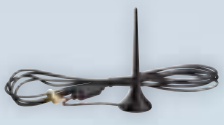
Pedal Switches


Terminal Blocks

Type Index

Illustration	Description	Type
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	<p>12V switching power supply unit for DIN rail mounting</p> <ul style="list-style-type: none"> - input voltage: 230V (-20% bis +10%) - output voltage: 12V DC - residual ripple: +1% (100mV) - rated capacity: 12W - efficiency: 83% - standby loss: 0.2W - protection class: II - inrush current: 18A/230V - overvoltage protection: 140-170% - temporary overload protection: 160-200% - IP protection: IP20 - mounting: DIN rail EN 60715 TH35 - dimensions: 18mm wide, 58mm deep - operating temperature: -10/+50°C - switchable in parallel, number: 2 <p>Ideal for power supply of S_FRP14. At a load exceeding 50 % of the rated capacity, and always if there are adjacent switching power supply units from 12W rated capacity and if there are dimmers, a ventilation clearance of half module must be maintained on both sides by using the spacers S_DS14.</p>	<p>S_FSNT12V</p>
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	<p>External antenna with magnet base</p> <p>2.5 m feed line with SMA connector</p>	<p>S_758-910</p>
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	<p>Spacer</p> <p>1/2 modular spacing = 9mm in order to produce and maintain a ventilation clearance in case of very warm modular devices, as e.g. switching power supplies</p>	<p>S_DS14</p>
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About Us

Bushbuttons / Switches
→ Contact Blocks

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index



→ Rontron-R-Juwel jacks

- USB	page	575
- Fire wire	page	580
- RJ45	page	580
- PS2	page	581
- SVHS	page	581
- HDMI	page	582
- M12	page	582
- Optical fibre	page	582
- Plug jack	page	582
- Accessories	page	584

→ Rontron-Q-Juwel jacks

- USB	page	587
- Fire wire	page	588
- RJ45	page	588
- Accessories	page	589

→ Oktron-Juwel jacks

- USB	page	591
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→ Quartron-Juwel jacks

- VGA	page	593
- RS232	page	593

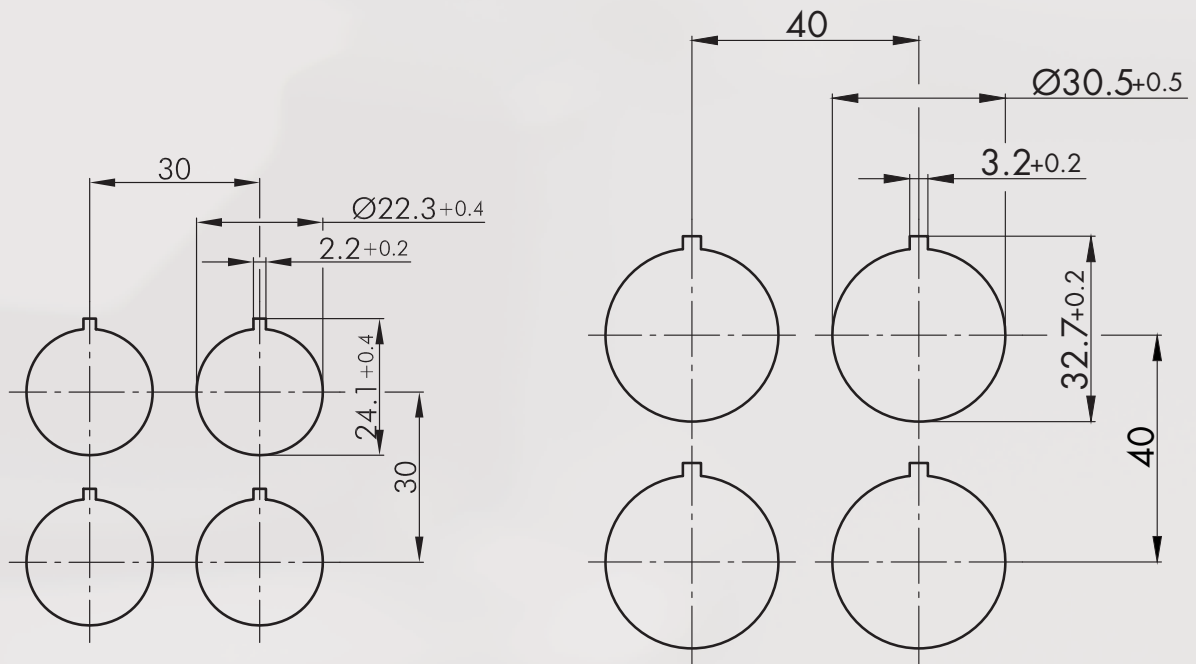
RONTRON-R-JUWEL

Ø 22.3 mm

MADE IN GERMANY



Cutout dimensions



About Us

Pushbuttons/Switches

← Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Panel Mount Jacks

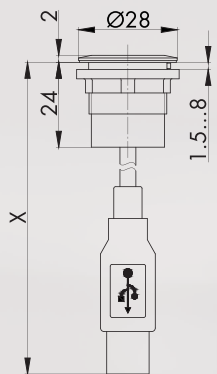
other cable lengths on request

Illustration

Dimensions




Description

Type

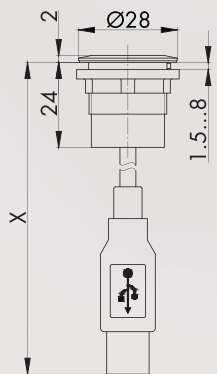


USB2.0 jack A/connector A (60 cm)

front:
USB2.0 jack type A
rear:
USB2.0 cable (length X=600 mm) with plug type A
Attention: Mounting position of the USB jack does not comply with the USB2.0 specification




front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB
RRJVA_USB
RRJ_USB_SW

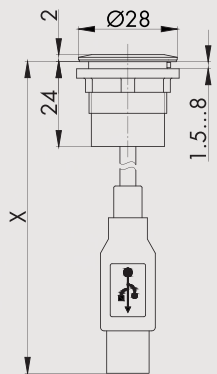


USB2.0 jack A/connector A (150 cm)

front:
USB2.0 jack type A
rear:
USB2.0 cable (length X = 1500 mm) with plug type A
Attention: Mounting position of the USB jack does not comply with the USB2.0 specification




front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB_150CM
RRJVA_USB_150CM
RRJ_USB_SW_150CM

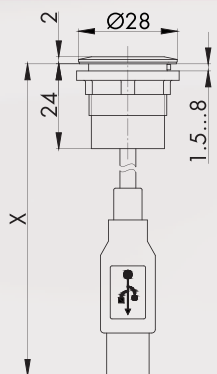


USB3.0 jack A/connector A (60 cm)

front:
USB3.0 jack type A
rear:
USB3.0 cable (length X=600 mm) with plug type A

front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_USB3
RRJVA_USB3
RRJ_USB3_SW



USB3.0 jack A/connector A (150 cm)

front:
USB3.0 jack type A
rear:
USB3.0 cable (length X= 1500 mm) with plug type A

front bezel: silver-coloured 
 black 

RRJ_USB3_150CM
RRJ_USB3_SW_150

Panel Mount Jacks

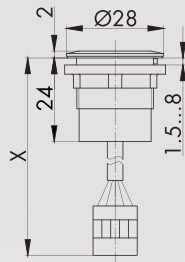
other cable lengths on request

Illustration

Dimensions

Description

Type



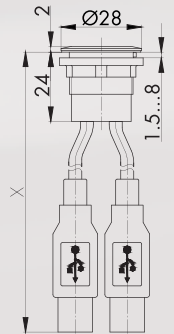
USB2.0 jack A/connector socket housing (100 cm)

front:
USB2.0 jack type A
rear:
USB2.0 cable (length X = 1000 mm) with 5-pole socket housing
(grid dimension 2.54 mm)
for direct connection to a motherboard

front bezel: silver-coloured



RRJ_USB100CM_673



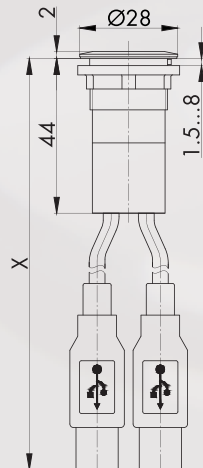
Double USB2.0 jack A/connector A (60 cm)

front:
2x USB2.0 jack type A
rear:
2x USB2.0 cable (length X=600 mm) with plug type A

front bezel: silver-coloured
stainless steel, polished
black



RRJ_2USB
RRJVA_2USB
RRJ_2USB_SW



Double USB3.0 jack A/connector A (60 cm)

front:
2x USB3.0 - jack type A
rear:
2x USB3.0 cable (length X=600 mm) with plug type A

front bezel: silver-coloured
black



RRJ_2USB3
RRJ_2USB3_SW

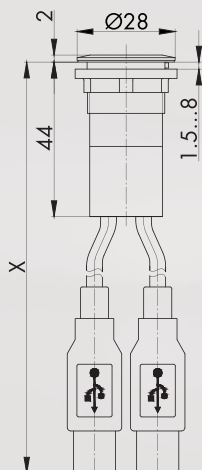
Panel Mount Jacks

Illustration

Dimensions

Description

Type



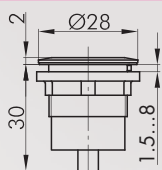
Double USB3.0 jack A/connector A (150 cm)

front:
2x USB3.0 - jack type A
rear:
2x USB3.0 cable (length X=1500 mm) with plug type A

front bezel: silver-coloured
black



RRJ_USB3_150CM
RRJ_USB3_SW_150



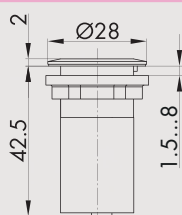
USB2.0 jack A/jack A

front:
USB2.0 jack type A
rear:
USB2.0 jack type A

front bezel: silver-coloured
stainless steel, polished
black



RRJ_USB_AA
RRJVA_USB_AA
RRJ_USB_SW_AA



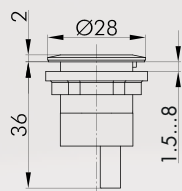
Illuminated USB2.0 jack A/jack A

with illuminated USB symbol
front:
USB2.0 jack type A
rear:
USB2.0 jack type A

front bezel: silver-coloured



RRJ_USB_AA_B



USB3.0 jack A/jack A

pinout 1:1
front:
USB3.0 jack type A
rear:
USB3.0 jack type A

front bezel: silver-coloured
stainless steel, polished
black



RRJ_USB3_AA
RRJVA_USB3_AA
RRJ_USB3_SW_AA

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

RONTRON-R-JUWEL


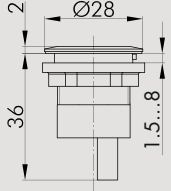



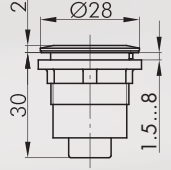




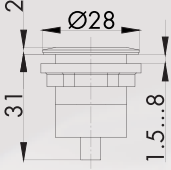




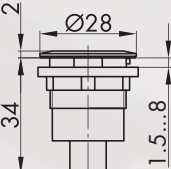




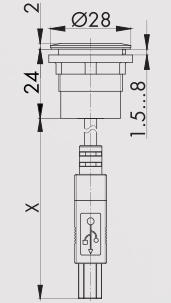

Ø 22.3 mm

MADE IN GERMANY



Panel Mount Jacks

- About Us
- Pushbuttons/Switches
- Panel Mount Jacks
- Emergency-Stop Buttons
- Bus Technology
- RFD
- Enclosures
- Pedal Switches
- Terminal Blocks
- Type Index

Illustration	Dimensions	Description	Type
		USB3.0 jack A/jack A (twisted data line) pinout: twisted data line front: USB3.0 jack type A rear: USB3.0 jack type A	front bezel: silver-coloured  stainless steel, polished 
			RRJ_USB3_AA_633 RRJVA_USB3_AA633
		USB2.0 jack A/jack B front: USB2.0 jack type A rear: USB2.0 jack type B	front bezel: silver-coloured  stainless steel, polished  black 
			RRJ_USB_AB RRJVA_USB_AB RRJ_USB_SW_AB
		USB2.0 jack B/jack A front: USB2.0 jack type B rear: USB2.0 jack type A	front bezel: silver-coloured  stainless steel, polished  black 
			RRJ_USB_BA RRJVA_USB_BA RRJ_USB_SW_BA
		USB2.0 jack B/jack B front: USB2.0 jack type B rear: USB2.0 jack type B	front bezel: silver-coloured  stainless steel, polished  black 
			RRJ_USB_BB RRJVA_USB_BB RRJ_USB_SW_BB
		USB2.0 jack B/connector B (50 cm) front: USB2.0 jack type B rear: USB2.0 cable (length X = 500 mm) with plug type B	front bezel: silver-coloured 
			RRJ_USB_BB_50CM

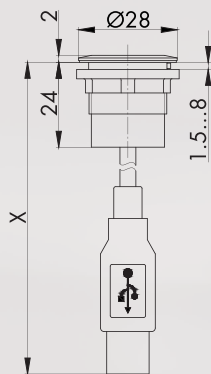
Panel Mount Jacks

Illustration

Dimensions

Description

Type



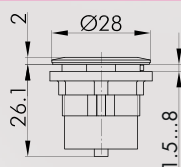
Mini USB2.0 jack B/connector A (60 cm)

front:
mini USB2.0 jack type B
rear:
USB2.0 cable (length X=600 mm) with plug type A

front bezel: silver-coloured



RRJ_MINI_USB



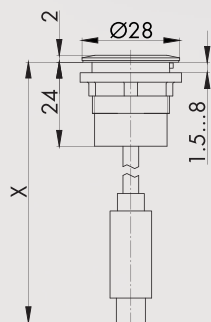
Mini USB2.0 jack B/jack B

front:
mini USB2.0 jack type B
rear:
mini USB2.0 jack type B

front bezel: silver-coloured
black



RRJ_MINIUSB_BB
RRJ_MINIUSBSW_BB



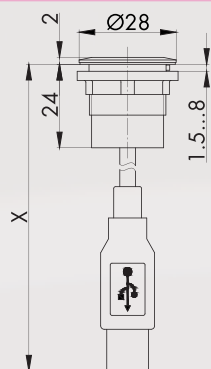
USB2.0 jack C/connector C (60 cm)

front:
USB2.0 jack type C
rear:
USB2.0 cable (length X=600 mm) with plug type C

front bezel: silver-coloured



RRJ_USB_CC_60



USB2.0 jack C/connector A (60 cm)

front:
USB2.0 jack type C
rear:
USB2.0 cable (length X=600 mm) with plug type A

front bezel: silver-coloured

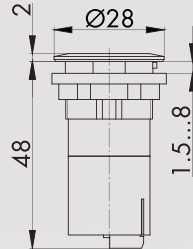


RRJ_USB_CA_60

Panel Mount Jacks

other cable lengths on request

Abbildung Abmessungen Beschreibung Type



USB charging jack

for charging USB devices in industrial sectors and in public transport

input voltage: 12 and 24 V DC

output voltage: 4.75 - 5.25 V DC output current: 1.5A

colour: silver-coloured black

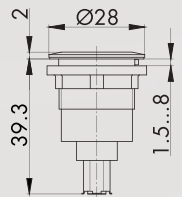


RRJ_USB_A_5V
RRJ_USB_SW_A_5V



Connector for USB charging jacks

SV_FKC2,5



Fire wire jack/jack

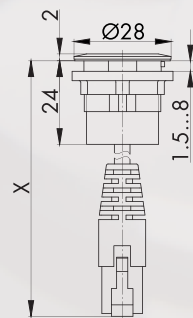
front: Fire Wire jack

rear: Fire Wire jack

front bezel: silver-coloured stainless steel, polished



RRJ_FW6_STB
RRJVA_FW6_STB



RJ45 jack/connector (60 cm)

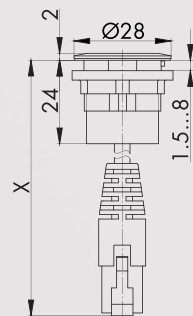
front: RJ45 jack with screen

rear: cable (length X=600 mm) with RJ45 plug with screen

front bezel: silver-coloured stainless steel, polished black



RRJ_RJ45
RRJVA_RJ45
RRJ_RJ45_SW



RJ45 jack/connector (150 cm)

front: RJ45 jack with screen

rear: cable (length X=1500 mm) with RJ45 plug with screen

front bezel: silver-coloured black



RRJ_RJ45_150CM
RRJ_RJ45SW_150CM

Panel Mount Jacks

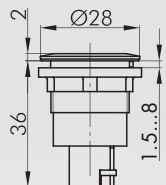
other cable lengths on request

Abbildung

Abmessungen




Beschreibung

Type

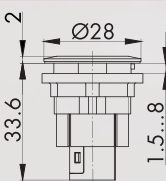


RJ45 jack/jack

front:
RJ45 jack with screen
rear:
RJ45 jack with screen

front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_RJ45_STB
RRJVA_RJ45_STB
RRJ_RJ45_STB_SW

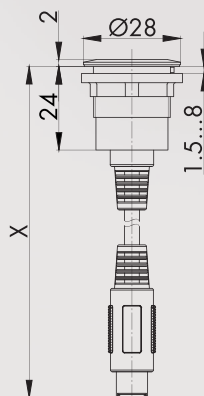


RJ45 jack/jack CAT6

front:
RJ45 jack with screen
rear:
RJ45 jack with screen


front bezel: silver-coloured 

RRJ_RJ45_STBCAT6

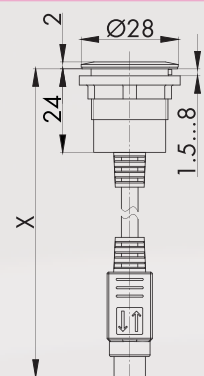


PS2 jack/connector (200 cm)

front:
PS2 jack
rear:
cable (length X=2000 mm) with PS2 plug

front bezel: silver-coloured 

RRJ_PS2_200CM



SVHS jack/connector (200 cm)

front:
SVHS jack
rear:
cable (length X=2000 mm) with SVHS plug

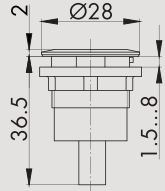
front bezel: silver-coloured 

RRJ_SVHS_200CM

Panel Mount Jacks




other cable lengths on request

Abbildung Abmessungen Beschreibung Type

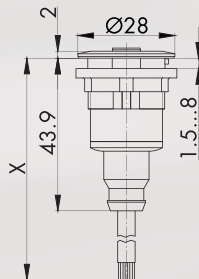


HDMI jack/jack

front:
HDMI jack
rear:
HDMI jack


front bezel: silver-coloured 
 stainless steel, polished 
 black 

RRJ_HDMI_STB
RRJVA_HDMI_STB
RRJ_HDMI_STB_SW

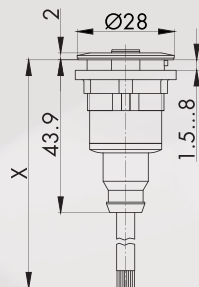


M12 jack/jack 4-pole

front:
M12 jack: 4-pole, A-coded
rear:
open cable end (length X=1000 mm)


front bezel: silver-coloured 

RRJ_M124A_100CM

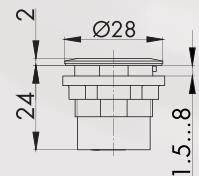


M12 jack/jack 5-pole

front:
M12 jack: 5-pole, A-coded
rear:
open cable end (length X=1000 mm)

front bezel: silver-coloured 

RRJ_M125A_100CM

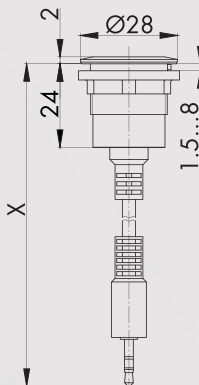


Optical fibres LC jack/LC jack

- LC/LC coupling
- fiber type OM2



front bezel: silver-coloured 

RRJ_LWL_LC_OM2



2.5 mm plug jack/connector (200 cm)

front:
2.5 mm jack socket (3-pole)
rear:
cable (length X=2000 mm) with 2.5 mm jack plug

front bezel: silver-coloured 
 stainless steel, polished 

RRJ_KL2,5_200CM
RRJVA_KL2,5_200

Panel Mount Jacks

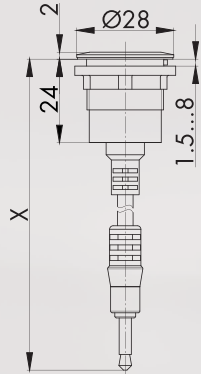
other cable lengths on request

Illustration

Dimensions



Description

Type

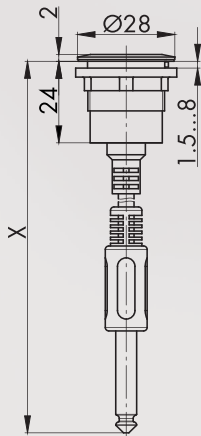


3.5 mm plug jack/connector

front:
3.5 mm jack socket (3-pole)
rear:
cable (length X=2000 mm) with 3.5 mm jack plug



front bezel: silver-coloured 
 stainless steel, polished 

RRJ_KL3,5_200CM
RRJVA_KL3,5_200



6.3 mm plug jack/connector (200 cm)

front:
6.3 mm jack socket (3-pole)
rear:
cable (length X=2000 mm) with 6.3 mm jack plug


front bezel: silver-coloured 
 acier inox poli 

RRJ_KL6,3_200CM
RRJVA_KL6,3_200



Adapter for panel mount jacks

allows true-to-size mounting of all flush-mounted jacks of the Rontron-R-Juwel series into cut-outs of 30.5 mm dia., the jack is not included in delivery

colour: silver-coloured 

KRJM22R

Accessories RONTRON-R-JUWEL

Ø 22,3 mm

MADE IN GERMANY



About Us

Pushbuttons / Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Accessories for Panel Mount Jacks

Abbildung

Abmessungen

Beschreibung

Type



Accessories

IP69K



Robust tight protection cap

- captive lid, threadable
- suitable for the series Rontron-R-Juwel, Rondex-Juwel and Shortron

colour: aluminum 
 stainless steel, polished 


SDAL22RR
SDVA22RR

IP40



Lead-sealable Protective Lid

from -30 °C to +70°C

colour: transparent 



KDP22RR

IP65
IP67



Lead-sealable, robust Protective Lid

Lifetime: >100,000 cycles

colour: transparent 
 black 

KDPR22RR
KDPR22RR_SW

IP67



Protective Lid made of TPE

from -50 °C to +100°C

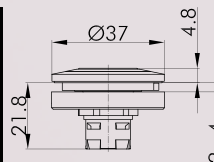
colour: black 

AK22RRSW



Fixing nut for an extended clamping range up to 11 mm M22F

IP65





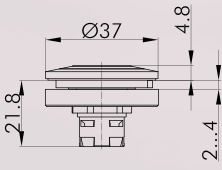



LED Light Ring for status indication or additional illumination

- for an additional light signal
- rated voltage: 24V AC/DC
- rated current: 25 ... 35 mA (DC)
- 30.5 mm mounting aperture
- Connection: for JST plug ZHR-3 delivery without actuator

LED colour blue 
 yellow 
 white 
 red 
 green 

LR22K_24B_619
LR22K_24Y_619
LR22K_24W_619
LR22K_24R_619
LR22K_24G_619

Accessories for Panel Mount Jacks

Illustration	Dimensions	Description	Type
		Connection Cable for LED light ring with open end, to connect the LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm ²	VK_JST3_014
		RGB LED Light Ring for status indication or illumination - as an additional light signal - one-piece ring (360°) - rated voltage 24V AC (half-wave rectifier)/DC - up to 16.7 m colours are possible(colour mixing via PWM signal)	
		LED colour reed/green/blue	LR22K_24RGB_619
		Connection Cable for RGB-LED Light Ring with open end, to connect the RGB-LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm ²	VK_LRR22_RGB
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting tool 16 with torque limitation for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-QJUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

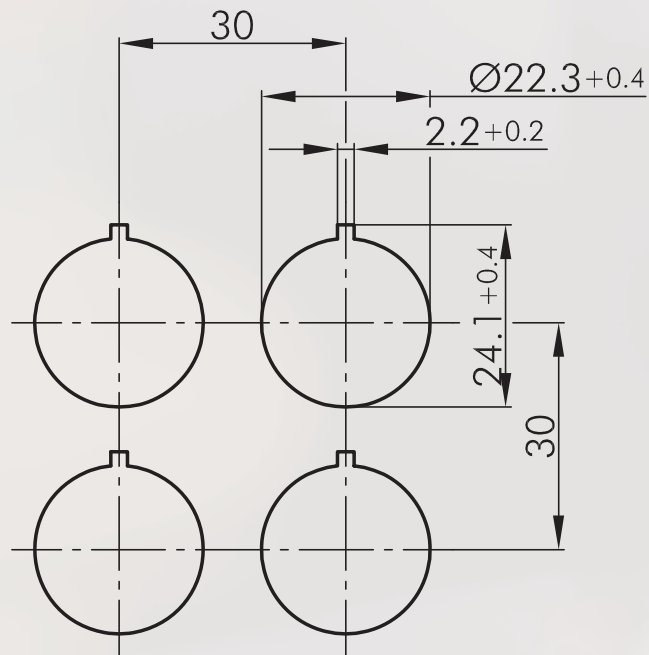
RONTRON-Q-JUWEL

Ø 22.3 mm

MADE IN GERMANY



Cutout dimensions



About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Panel Mount Jacks

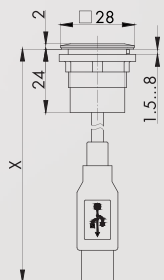
other cable lengths on request

Illustration

Dimensions


Description

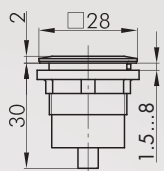
Type



USB2.0 jack A/connector A (60 cm)


front:
USB2.0 jack type A
rear:
USB2.0 cable (length X=600 mm) with plug type A
Attention: Mounting position of the USB jack does not comply with the USB2.0 specification

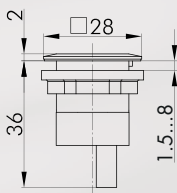
front bezel: silver-coloured  **RQJ_USB**



USB2.0 jack A/jack A


front:
USB2.0 jack type A
rear:
USB2.0 jack type A

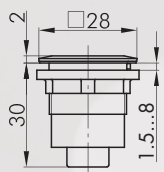
front bezel: silver-coloured  **RQJ_USB_AA**



USB3.0 jack A/jack A


front:
USB3.0 jack type A
rear:
USB3.0 jack type A

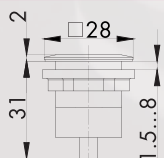
front bezel: silver-coloured  **RQJ_USB3_AA**



USB2.0 jack A/jack B


front:
USB2.0 jack type A
rear:
USB2.0 jack type B

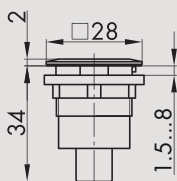
front bezel: silver-coloured  **RQJ_USB_AB**



USB2.0 jack B/jack A

front:
USB2.0 jack type B
rear:
USB2.0 jack type A

front bezel: silver-coloured  **RQJ_USB_BA**



USB2.0 jack B/jack B

front:
USB2.0 jack type B
rear:
USB2.0 jack type B

front bezel: silver-coloured  **RQJ_USB_BB**

RONTRON-Q-JUWEL

Ø 22,3 mm

MADE IN GERMANY



About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

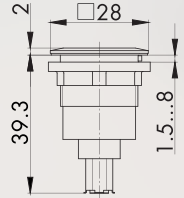
Panel Mount Jacks

Illustration

Dimensions

Description

Type

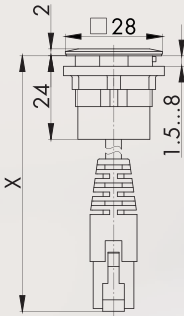


front bezel:

argenté



RQJ_FW6_STB



RJ45 jack/connector (60 cm)

front:
RJ45 jack with screen

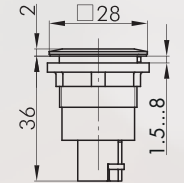
rear:
cable (length X=600 mm) with RJ45 plug with screen

front bezel:

silver-coloured



RQJ_RJ45



RJ45 jack/jack

front:
RJ45 jack with screen

rear:
RJ45 jack with screen

front bezel:

silver-coloured



RQJ_RJ45_STB

Accessories

IP40



Lead-sealable protective lid

colour:

transparent



KDP22RR

IP65
IP67



Lead-sealable, robust, tight protective lid

colour:

transparent



KDPR22RR

Accessories for Panel Mount Jacks

Abbildung

Abmessungen

Beschreibung

Type



Mounting Tool

with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX,
RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-
R/-Q-JUWEL series

S22

About Us

Pushbuttons/Switches

→ Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

About Us

Pushbuttons/Switches

→ Panel Mount locks

Emergency-Stop Buttons

Bus Technology

RFD

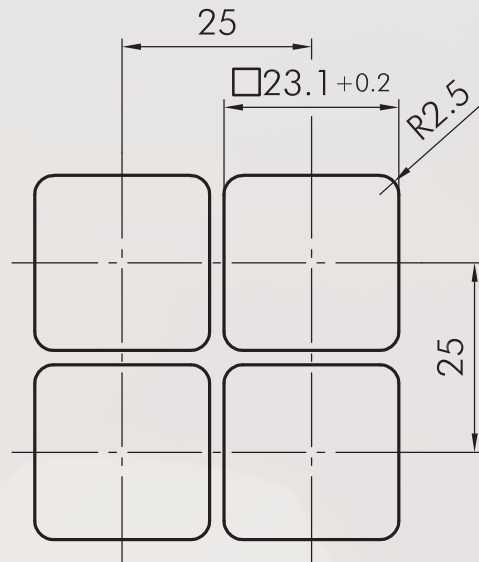
Enclosures

Pedal Switches

Terminal Blocks

Type Index

Cutout dimensions



Panel Mount Jacks

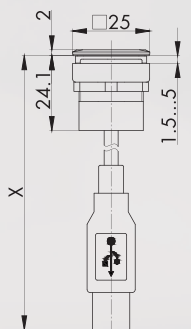
other cable lengths on request

Illustration

Dimensions


Description

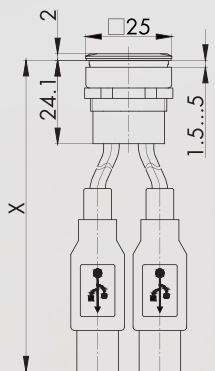
Type



USB2.0 jack A/connector A (60 cm)


front:
USB2.0 jack type A
rear:
USB2.0 cable (length X=600 mm) with plug type A

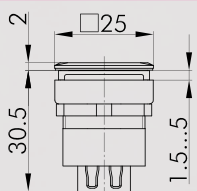
front bezel: black  **OKJ_USB**



Double USB2.0 jack A/connector A (60 cm)


front:
2x USB2.0 jack type A
rear:
2x USB2.0 cable (length X=600 mm) with plug type A

front bezel: black  **OKJ_2USB**



USB2.0 jack A/jack A

front:
USB2.0 jack type A
rear:
USB2.0 jack type A

front bezel: black  **OKJ_USB_AA**


Accessories

IP40



Protective lid

for pushbuttons and jacks of the OKTRON-JUWEL series

colour: transparent  **KDOKJ**



Mounting tool 22

with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL,
RONDEX, RONDEX-M, RONDEX-JUWEL, RVA, DUX-Basic,
SHORTRON, jacks of the ranges RONTRON-R/-Q-JUWEL

S22

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

QUARTRON-JUWEL®

24 x 48 mm

MADE IN GERMANY

SCHLEGEL
ELEKTROKONTAKT

About Us

Pushbuttons/Switches

→ Panel Mount locks

Emergency-Stop Buttons

Bus Technology

RFD

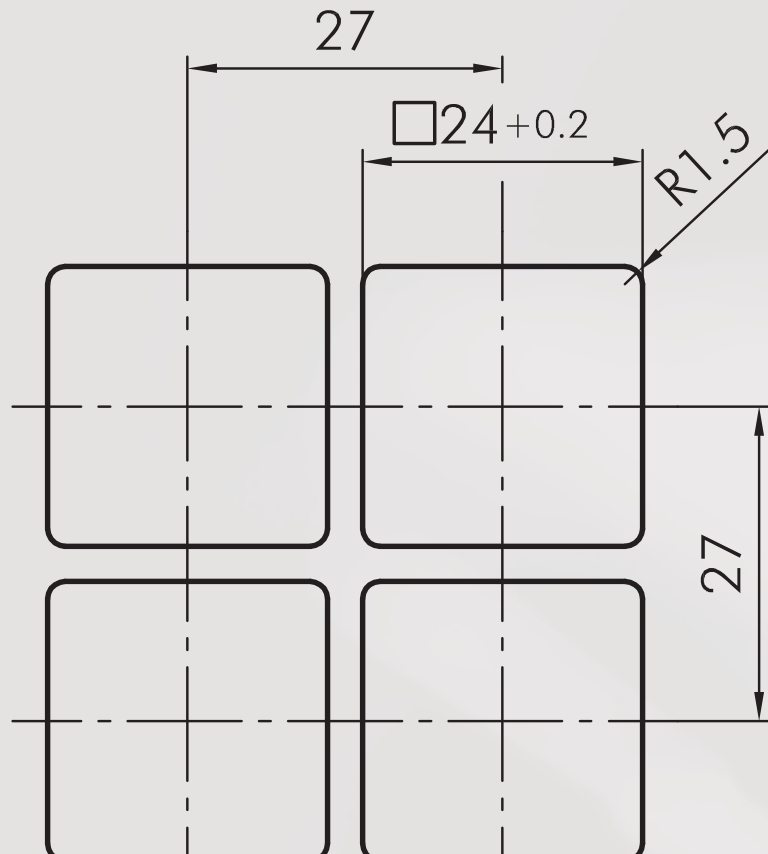
Enclosures

Pedal Switches

Terminal Blocks

Type Index

Cutout dimensions



Panel Mount Jacks

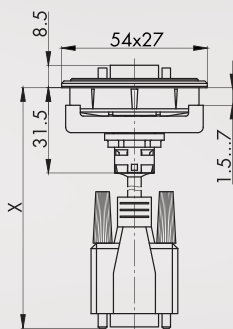
other cable lengths on request

Illustration

Dimensions

Description

Type



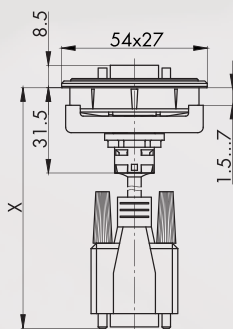
VGA jack/connector

front:
VGA jack
rear:
VGA -cable (length X=1000 mm) with connector

front bezel: black



LXJ_VGA_100CM



RS232 jack/connector

front:
RS232 jack
rear:
RS232 cable (length X=1000 mm) with connector
9-pole through-connected also suitable for RS485

front bezel: black



LXJ_RS232_100CM

Accessories



Mounting tool 16

S16

with torque limitation
for the series OKTRON, OKTRON-JUWEL, OKTRON-R,
RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON,
QUARTRON-JUWEL, RX-JUWEL

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index





Emergency Stops

About Us

Pushbuttons/Switches

Panel Mount Jacks

→ Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Safe and optically appealing emergency-stop buttons

The user can choose from a wide range of TÜV certified emergency-stop buttons of Schlegel for panel cut-outs of different shapes and dimensions (16.2 mm, 22.3 mm, 30.5 mm) which can be combined with both, the standard and ASi contact units. The actuators are well-known for their modern and attractive design combining mechanical robustness and outstanding functionality, featuring e.g. a clearly visible switching position indicator, a twist release (in either direction) or pull release and tightness from IP65 up to IP69K, depending on the model.

Safety contact blocks for emergency-stop buttons

Even redundant, secure emergency-stop chains are ineffective unless the contact block is accurately connected with the emergency-stop button. The safety contact blocks for emergency-stops of

Schlegel Elektrokontakt are the response to this danger that may occur e.g. as a result of a negligent assembly or a mechanical damage. The safety contact blocks for emergency-stops acc. to EN60947-5-5 and EN13850 ensure that in such a situation the emergency function is automatically activated and the installation is switched off immediately. It can only be restarted after successful trouble-shooting.

The contact blocks are available as a one or two channel solution with screw connections, Faston terminals, Cage-Clamp or push-in connection and do have positive opening contacts acc. to IEC60947-5-1. The high-quality contact elements allow reliable switching even in case of low currents (5mA at 24V or less). They are available as conventional contact blocks as well as for AS-Interface (Safety@Work).

Automatic switch off on separation of the contact block from the emergency-stop button



Enclosure-mounted emergency-stop and reset button

Pre-assembled emergency-stop and reset buttons of Schlegel are available in many different versions, there is a solution for every application.



Emergency-stops with illuminated status indication active/inactive

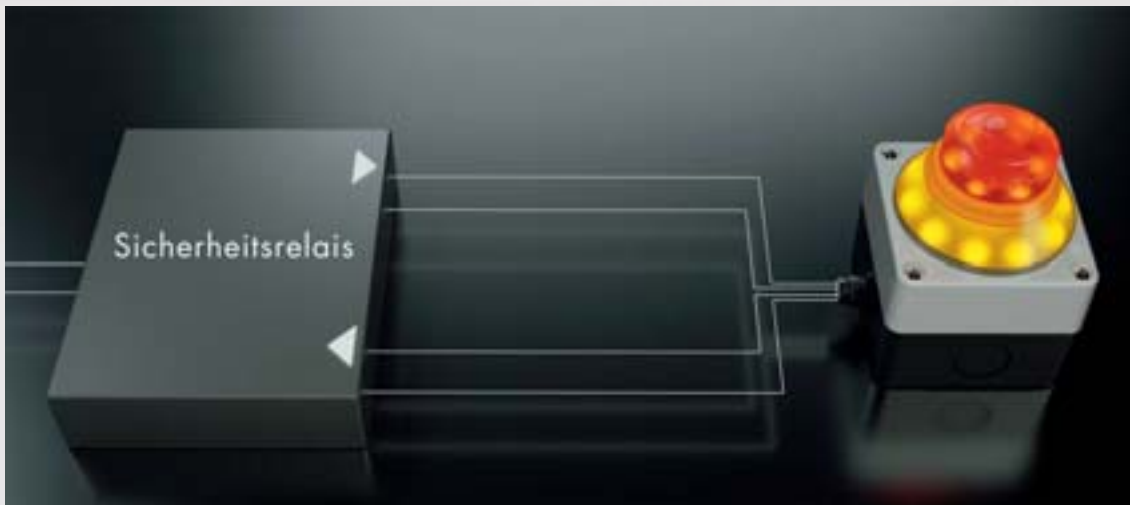
The functional principle: If the plant part equipped with the fix mounted emergency-stop - for example as a module of a production line - is in operation, the actuator is active and signals its readiness for operation by a red illumination. If the module is disconnected from the production line, the emergency-stop is inactive, is no longer illuminated and remains grey. Thus, in case of emergency an inadvertent operation of the inactive emergency-stop is being significantly reduced, as it is no longer identified as emergency-stop. The Schlegel active/inactive emergency-stops fulfil the requirements of the standard DIN EN ISO 13850:2015.

Active illuminated emergency-stops, like e.g. SIL_QRBDUVOOM125 are additionally equipped with an integrated diagnostic unit. It steadily monitors the illumination status and thus ensures the perceptibility of an active emergency-stop. If there is a total or only partial failure of the illumination the emergency-stop signal is activated automatically and the installation is put into the safe status.

The active illuminated emergency-stop buttons are available for the following panel cut-outs:

- Ø 16.2 mm
- Ø 22.3 mm
- plug & play solution in an enclosure with mounting plate and M12 connector for a quick and easy installation

Functional principle of SIL_QRBDUVOOM125 with diagnostic unit



emergency-stop button connected to a safety relay



quick perceptibility in active condition

... what is it for?

According to the previous valid standard DIN EN ISO 13850:2015 an inactive emergency-stop had to be covered in order to avoid any mix-up in case of emergency. In practice, however, this is not always easily feasible or, at the worst, even is ignored. An erroneous operation of the inactive emergency-stop could then have catastrophic results.

- a mix-up of active and inactive emergency-stops can be excluded
- inactive emergency-stops must no longer be covered or locked away
- very good visibility, even in case of poor light conditions

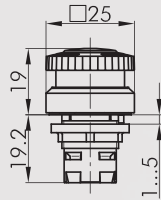
Emergency-Stops

Illustration

Dimensions

Description

Type



Illuminated emergency-stop head

other mushroom colours on request

Series:	OKTRON®
Panel cut-out:	Ø 16.2 mm
Foolproof:	no
Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP PTF

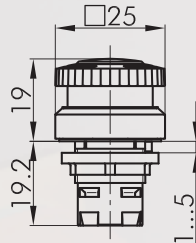
front bezel: yellow



Mushroom head: red



OKVGB



Emergency-stop head with illuminating and labelling option

including blank nameplate (inscription on request)

Series:	OKTRON®
Panel cut-out:	Ø 16.2 mm
Foolproof:	no
Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left

suitable contact blocks:

AZ BZ BZ.k

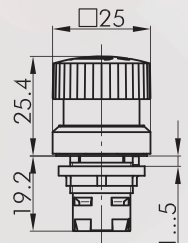
front bezel: yellow



Mushroom head: red



OKVLGB



Emergency-stop head

Series:	OKTRON®
Panel cut-out:	Ø 16.2 mm
Foolproof:	yes
Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow

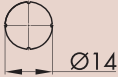



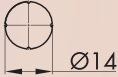


Mushroom head: red

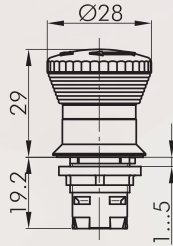


OKUVGB

Accessories for emergency-stops

Illustration	Dimensions	Description	Type
Accessories			
	Ø14	Nameplate with special imprint as per customer's specification	BSRJ _B
		Nameplate with standard imprint please specify index number(see nameplates from page 634)	BSRJ... BSRJ... BSRJ...
		Blank nameplate	BSRJ _U

IP65
IP67
IP69K
3mm



Emergency-stop head

with snap-action mechanism

Series:

Panel cut-out:

Foolproof:

Switching position indicator:

Permissive Contact:

Anti-lock collar:

Release:

Standard:

OKTRON®-R

Ø 16.2 mm

yes

yes

no

no

twist right or left

EN 60947-5-1, EN 60947-5-5,

EN ISO 13850



suitable contact blocks:

ASI AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow

Mushroom head: red



RKUV28

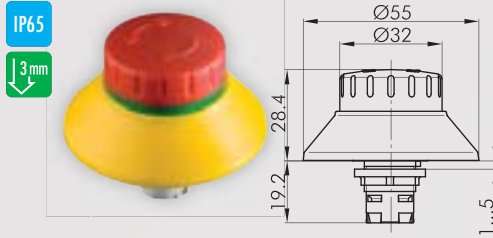
Emergency-Stops

Illustration

Dimensions

Description

Type



Emergency-stop head

Series: OKTRON®-R
 Panel cut-out: Ø 16.2 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



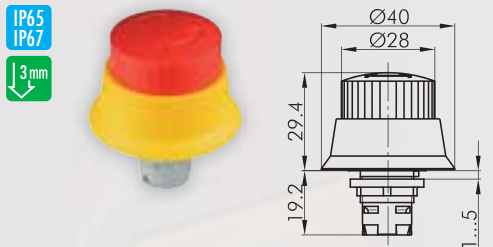
suitable contact blocks:

ASI AZ BZ BZ.k

front bezel: yellow

Mushroom head: red

RKUV32



Emergency-stop head

Series: OKTRON®-R
 Panel cut-out: Ø 16.2 mm
 Foolproof: yes
 Switching position indicator: no
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



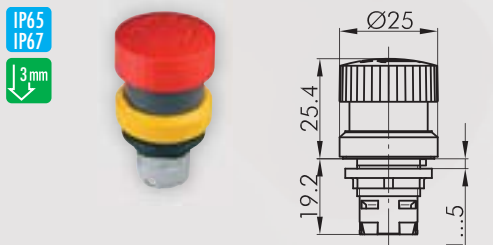
suitable contact blocks:

AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow

Mushroom head: red

RKUV40



Emergency-stop head

Series: OKTRON®-R
 Panel cut-out: Ø 16.2 mm
 Foolproof: yes
 Switching position indicator: no
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow

Mushroom head: red

RKUVGB

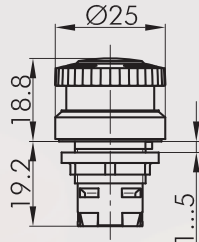
Emergency-Stops

Illustration

Dimensions

Description

Type



Illuminated emergency-stop head

other mushroom colours on request

Series:	OKTRON®-R
Panel cut-out:	Ø 16.2 mm
Foolproof:	no
Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



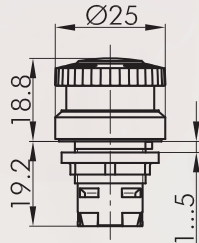
suitable contact blocks:

AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow
Mushroom head: red



RKVGB



Emergency-stop head with illuminating and labelling option

incl. blank nameplate (inscription on request)

Series:	OKTRON®-R
Panel cut-out:	Ø 16.2 mm
Foolproof:	no
Switching position indicator:	no
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left

suitable contact blocks:

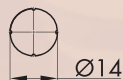
AZ BZ BZ.k

front bezel: yellow
Mushroom head: red



RKVLBGB

Accessories



Nameplate with special imprint

as per customer's specification

BSRJB



Nameplate with standard imprint

please specify index number(see nameplates from page 634)


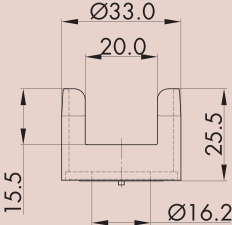

BSRJ...


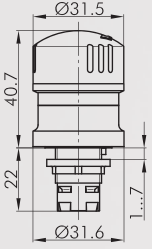











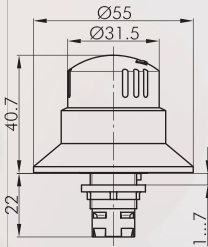








Blank nameplate

BSRJU

Accessories for emergency-stops

Illustration	Dimensions	Description	Type
		Protective shroud TUV SUD colour: yellow	 RKSK

		Emergency-stop head Series: QUARTRON® Panel cut-out: Ø 16.2 mm Foolproof: yes Switching position indicator: yes Permissive Contact: no Anti-lock collar: no Release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850 TUV SUD	front bezel:  yellow Mushroom head:  red	RXUV
suitable contact blocks:      				

		Emergency-stop head Series: QUARTRON® Panel cut-out: Ø 16.2 mm Foolproof: yes Switching position indicator: yes Permissive Contact: no Anti-lock collar: yes Release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850 TUV SUD	front bezel:  yellow Mushroom head:  red	RXBV
suitable contact blocks:      				

Emergency-Stops

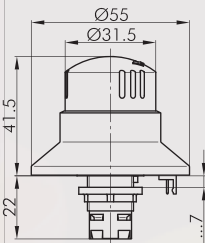
Illustration

Dimensions

Description

Type

IP65



Illuminated emergency-stop head

24V / 15mA AC/DC

connection of the LED ring illumination possible via VK_BKL034 or VK_JST025BKL

Series:	QUARTRON®
Panel cut-out:	Ø 16.2 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



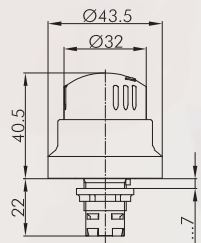
suitable contact blocks:

ASI A AZ FRTP PTP PTF

front bezel:	yellow	
Mushroom head:	red	

RXB LUV

IP65



Emergency-stop head

Series:	QUARTRON®
Panel cut-out:	Ø 16.2 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

ASI A AZ FRTP PTP PTF

front bezel:	yellow	
Mushroom head:	red	

RXB UV43

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Accessories for emergency-stops

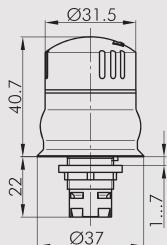
Illustration

Dimensions

Description

Type

IP66
IP69K



Emergency-stop head for hygienic applications



cannot be used with threaded adapter R16X1
conforms to BG (= Employer's Liability Insurance Association) in
accordance with DIN EN 1672-2 and GS-FW 01/01

Series: QUARTRON®
Panel cut-out: Ø 16.2 mm
Foolproof: yes
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

ASI A AZ FRTP PTP PTF

front bezel: yellow 
Mushroom head: red 

RXUVP

Accessories

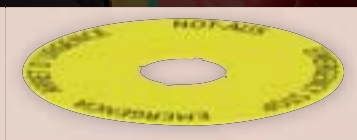


Yellow nameplate

self-adhesive PVC foil
printing on request
outer dia. 60 mm
for mounting dia. 16 mm

colour: yellow 

NAS_16



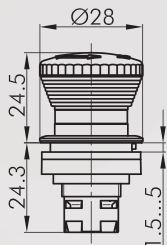
Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 60 mm
for mounting dia. 16 mm

colour: yellow 

NAS_16_548

IP66
IP67
IP69K
3 mm





Emergency-stop head

Series: RONTRON-RJUWEL
Panel cut-out: Ø 22.3 mm
Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks:

ASI AZ BZ BZ_r FRTP PTP PTF

front bezel: yellow 
Mushroom head: red 

RRJUV

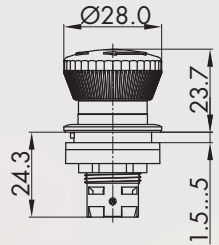
Accessories for emergency-stops

Illustration

Dimensions

Description

Type



Illuminated emergency-stop head

Series: RONTRON-R-JUWEL
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

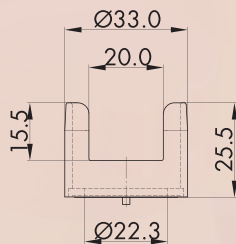


front bezel: yellow
 Mushroom head: red



RRJVL

Accessories



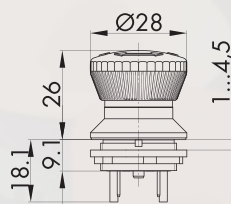
Protective shroud



colour: yellow



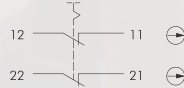
RRSK



Emergency-stop 2NC

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Connection type: Faston terminals 2.8x0.8 mm
 Contact material: AgNi



front bezel: yellow
 Mushroom head: red



FRVKOO

Emergency-Stops

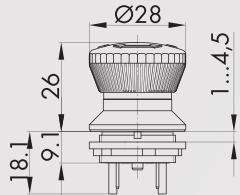
Illustration

Dimensions

Description

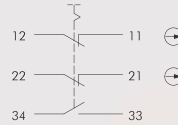
Type

IP65
IP67



Emergency-stop 2NC+1NO

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Connection type: Faston terminals 2.8x0.8 mm
 Contact material: AgNi

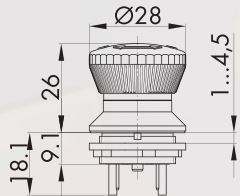


front bezel: yellow
 Mushroom head: red



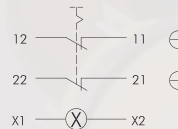
FRVK001

IP65
IP67



Illuminated emergency-stop

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: Faston terminals 2.8x0.8 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Contact material: AgNi



front bezel: yellow
 Mushroom head: red



FRVKL00

Emergency-Stops

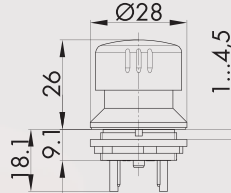
Illustration

Dimensions

Description

Type

IP65
IP67



Emergency-stop made of aluminium for robust applications

Series: SHORTTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: Faston terminals 2.8x0.8 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Contact material:

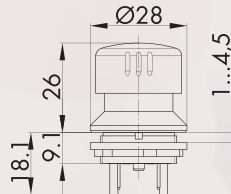


front bezel: yellow
 Mushroom head: red



FRVKALOO

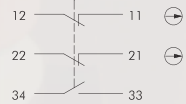
IP65
IP67



Emergency-stop made of aluminium for robust applications

Series: SHORTTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: Faston terminals 2.8x0.8 mm
 Contact equipment: 2NC + 1NO
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Contact material:



front bezel: yellow
 Mushroom head: red



FRVKALOOI

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

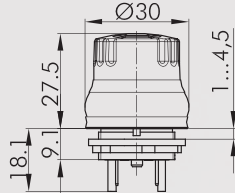
Emergency-Stops

Illustration

Dimensions

Description

Type

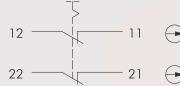


Emergency-stop for hygienic applications 2NC

hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 6

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: Faston terminals 2.8x0.8 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

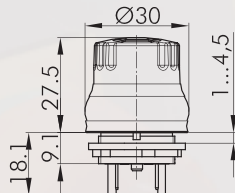
Contact material: AgNi



front bezel: yellow
 Mushroom head: red



FRVKP00

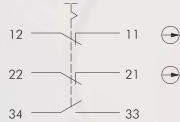


Emergency-stop for hygienic applications 2NC+1NO

hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 6

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: Faston terminals 2.8x0.8 mm
 Contact equipment: 2NC + 1NO
 Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Contact material: AgNi



front bezel: yellow
 Mushroom head: red



FRVKP00

Emergency-Stops

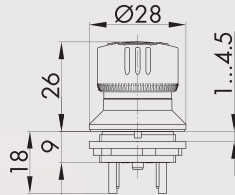
Illustration

Dimensions

Description

Type

IP65
IP67

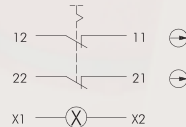


Active illuminated safety emergency-stop with position indication active/inactive

delivery without diagnostic unit for LED monitoring
LED: 24V DC/18mA

Series: SHORTRON®
Panel cut-out: Ø 22.3 mm
Connection type: Faston terminals 2.8x0.8 mm
Contact equipment: 2NC
Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05

Contact material: AgNi

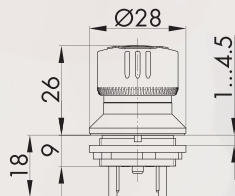


front bezel: yellow
Mushroom head: rot/grau



FRVKD00

IP65
IP67



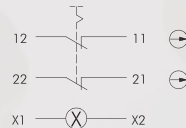
Active illuminated emergency-stop with status indication active (illuminated) / inactive (non-illuminated)

- red illuminated emergency-stop (active) acc. to EN ISO 13850:2015
- LED with 0-ohm resistor
- delivery without external LED monitoring
- less mounting depth
- 2 NC

Possible applications, e.g.: - pluggable or wireless operator stations
- pluggable system components which are stationary available but only temporarily in operation

Series: SHORTRON®
Panel cut-out: Ø 22.3 mm
Connection type: Faston terminals 2.8x0.8 mm
Contact equipment: 2NC
Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05

Contact material: AgNi



front bezel: yellow
Mushroom head: red/grau



FRVKD00_R0



Emergency-Stops

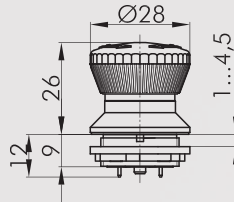
Illustration

Dimensions

Description

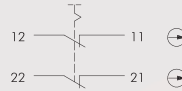
Type

IP65
IP67



Emergency-stop 2NC

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: PCB-mount terminals
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

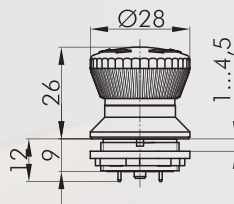


front bezel: yellow
 Mushroom head: red



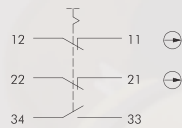
FRV KOOP

IP65
IP67



Emergency-stop 1NC+1NO

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: PCB-mount terminals
 Contact equipment: 2NC + 1NO
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel: yellow
 Mushroom head: red



FRV KOOP

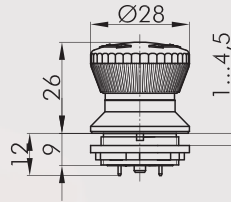
Accessories for emergency-stops

Illustration

Dimensions

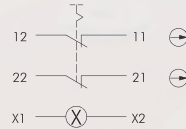
Description

Type



Illuminated emergency-stop

Series: SHORTRON®
 Panel cut-out: Ø 22.3 mm
 Connection type: PCB-mount terminals
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

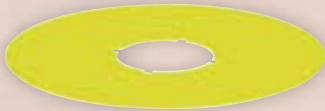


front bezel: yellow
 Mushroom head: red



FRVKLOOP

Accessories



Yellow nameplate

self-adhesive PVC foil
 printing on request
 outer dia. 75 mm
 for mounting dia. 22.3 mm

colour: yellow



NAS_22



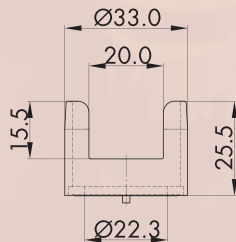
Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
 outer dia. 75 mm
 for mounting dia. 22.3 mm

colour: yellow



NAS_22_548



Protective shroud



colour: yellow



RRSK

Emergency-Stops

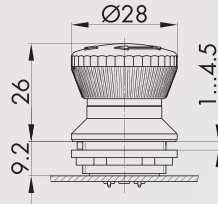
Illustration

Dimensions

Description

Type

IP65
IP67



Emergency-stop head for 9.2 mm mounting depth

ATTENTION: may not be used for illuminated contact blocks
 Series: Shorttron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

P

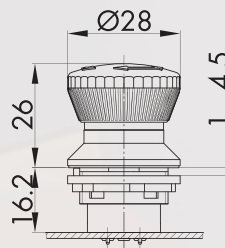
front bezel: yellow

Mushroom head: red



FRVK

IP65
IP67



Emergency-stop head for 16.2 mm mounting depth

ATTENTION: not suitable for illuminated contact units!
 Series: Shorttron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

P

front bezel: yellow

Mushroom head: red



FRVKZ

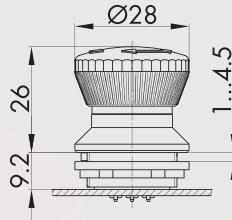
Emergency-Stops

Illustration

Dimensions

Description

Type



Illuminated emergency-stop head for 9.2mm mounting depth

Series: Shortron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



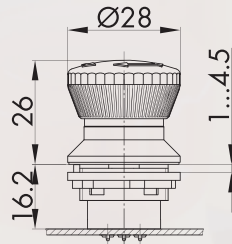
suitable contact blocks:

P

front bezel: yellow
 Mushroom head: red



FRVKL



Illuminated emergency-stop head for 16.2 mm mounting depth

Series: Shortron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



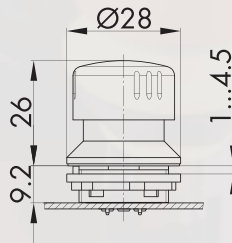
suitable contact blocks:

P

front bezel: yellow
 Mushroom head: red



FRVKZL



Emergency-stop head made of aluminium for robust applications for 9.2 mm mounting depth

Series: Shortron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

P

front bezel head: yellow
 Mushroom head: red



FRVKAL

Emergency-Stops

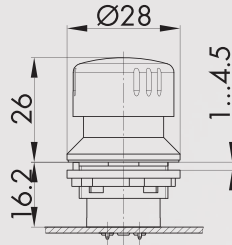
Illustration

Dimensions

Description

Type

IP65
IP67



Emergency-stop head made of aluminium for robust applications for 16.2 mm mounting depth

Series: Shorttron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

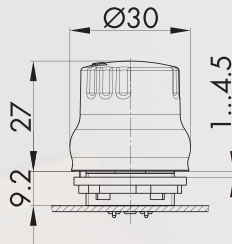
P

front bezel: yellow
 Mushroom head: red



FRVKZAL

IP66



Emergency-stop head for hygienic applications for 9.2 mm mounting depth

hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 6
 Series: Shorttron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

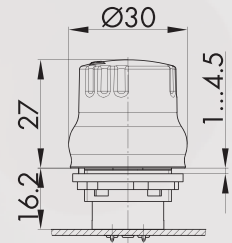
P

front bezel: yellow
 Mushroom head: red



FRVKP

IP66



Emergency-stop head for hygienic applications for 16.2 mm mounting depth

Series: Shorttron® base-plate mounting
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

P

front bezel: yellow
 Mushroom head: red



FRVKZP

Emergency-Stops

Illustration

Dimensions

Description

Type

Accessories



Yellow nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22



Yellow nameplate with quadrilingual imprint

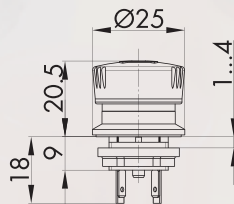
self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



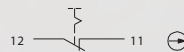
NAS_22_548

IP65
IP67



Emergency-stop - 1NC

Series: mYnitron®
Panel cut-out: Ø 16.2 mm
Connection type: Faston terminals 2.8 mm x 0.5 mm
Contact equipment: 1NC
Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

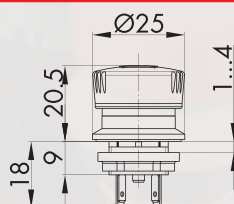


front bezel: yellow
Mushroom head: red



YV0

IP65
IP67
IP69K



Emergency-stop - 2NC

Series: mYnitron®
Panel cut-out: Ø 16.2 mm
Connection type: Faston terminals 2.8 mm x 0.5 mm
Contact equipment: 2NC
Foolproof: yes
Switching position indicator: yes
Anti-lock collar: no
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel: yellow
Mushroom head: red



YV00

Emergency-Stops

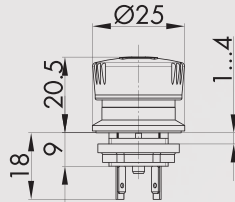
Illustration

Dimensions

Description

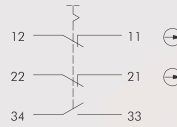
Type

IP65
IP67
IP69K



Emergency-stop - 2NC+1NO

Series: mYnitron®
 Panel cut-out: Ø 16.2 mm
 Connection type: Faston terminals 2.8 mm x 0.5 mm
 Contact equipment: 2NC + 1NO
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

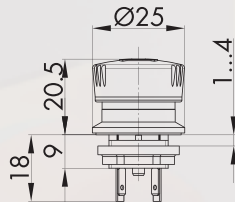


front bezel: yellow
 Mushroom head: red



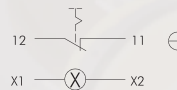
YV00I

IP65
IP67



Illuminated emergency-stop - 1NC

Series: mYnitron®
 Panel cut-out: Ø 16.2 mm
 Connection type: Faston terminals 2.8 mm x 0.5 mm
 Contact equipment: 1NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel: yellow
 Mushroom head: red



YVLO

Emergency-Stops

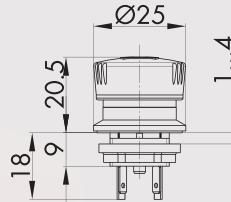
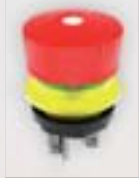
Illustration

Dimensions

Description

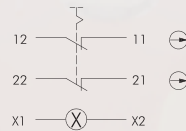
Type

IP65
IP67



Illuminated emergency-stop - 2NC

Series: mYnitron®
 Panel cut-out: Ø 16.2 mm
 Connection type: Faston terminals 2.8 mm x 0.5 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

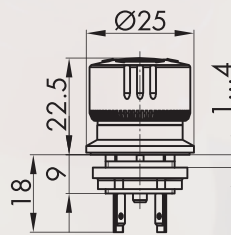


front bezel: yellow
 Mushroom head: red



YV100

IP65
IP67



Active illuminated emergency-stop with status indication active (illuminated) / inactive (non-illuminated)

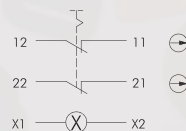
- red illuminated emergency-stop (active) acc. to DIN EN ISO 13850:2016-05
- LED with 0-ohm resistor
- delivery without external LED monitoring
- less mounting depth
- 2 NC

Possible applications, e.g.:

- pluggable or wireless operator stations
- pluggable system components which are stationary available but only temporarily in operation

Not suitable for applications with direct sunlight.

Series: mYnitron®
 Panel cut-out: Ø 16.2 mm
 Connection type: Faston terminals 2.8 mm x 0.5 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Release: twist right or left
 Standard: ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05



front bezel: yellow
 Mushroom head: red/grey



YV000_R0

Accessories for emergency-stops

Illustration

Dimensions

Description

Type

Accessories

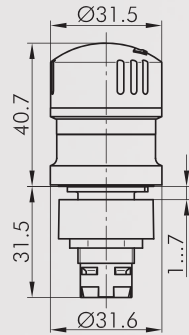


Faston clamp 2.8 x 0.5, partially insulated, with snap-in pin

FHT12,8x0,5_01

cross section: 0.5-1.5mm²
 AWG: 20-16
 material: brass, partially insulated, with snap-in pin
 max. current: 10A
 max. voltage: 300V
 temperature: -30°C - 70°C
 UL Listed E70188

IP65



Emergency-stop head

Series: RXJUWEL
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI A AZ FRTP PTP PTF

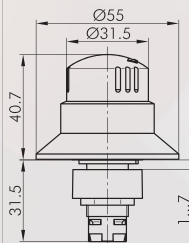
front bezel: yellow

Mushroom head: red



RXJUV

IP65



Emergency-stop head

Series: RXJUWEL
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI A AZ FRTP PTP PTF

front bezel: yellow

Mushroom head: red



RXJBUV

Emergency-Stops

Illustration

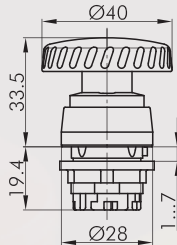
Dimensions

Description

Type

IP65

↓ 6 mm



Mushroom head, latch-type

other mushroom colours on request
must be mounted onto yellow background

Series: RONDEX
Panel cut-out: Ø 22.3 mm
Foolproof: no
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

DS DT ET M

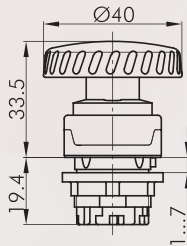
front bezel: charcoal
Mushroom head: red



RV

IP65

↓ 6 mm



Mushroom head, latch-type

other mushroom colours on request
must be mounted onto yellow background

Series: RONDEX-M
Panel cut-out: Ø 22.3 mm
Foolproof: no
Switching position indicator: no
Permissive Contact: no
Anti-lock collar: no
Release: twist
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

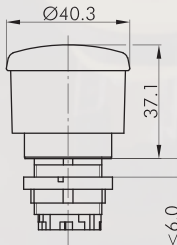
DS DT ET M

front bezel: metallic/charcoal
Mushroom head: red



RMCV

IP65



Emergency braking head with inscription

Series: DUX-Basic
Panel cut-out: Ø 22.3 mm
Switching position indicator: yes
Anti-lock collar: no
Release: pull
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15



suitable contact blocks:

DS DT ET M

front bezel: green
Mushroom head: red
front bezel: black
Mushroom head: red



DXRVG40SS

DXRVS40SS

Emergency-Stops

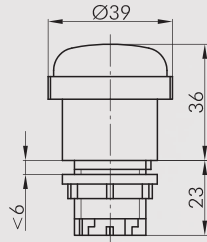
Illustration

Dimensions

Description

Type

IP65



Emergency braking head with arrow

must be mounted onto yellow background!

Series: DUX-Basic
 Panel cut-out: Ø 22.3 mm
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist
 Section: EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15



suitable contact blocks:

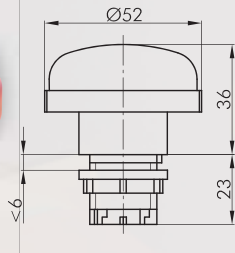
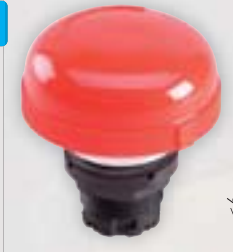


front bezel: grey
 Mushroom head: red



DXRV39PF

IP65



Emergency-stop head

must be mounted onto yellow background!

Series: DUX-Basic
 Panel cut-out: Ø 22.3 mm
 Switching position indicator: no
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist
 Section: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:



front bezel: polished
 Mushroom head: red
 front bezel: grey
 Mushroom head: red
 front bezel: black
 Mushroom head: red



DXRV52MRT

DXRV52GRT

DXRV52SRT

Emergency-Stops

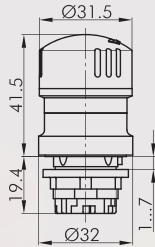
Illustration

Dimensions

Description

Type

IP65
IP67
IP69K





Emergency-stop head

Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



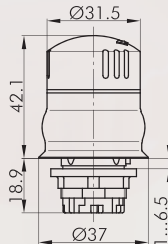
suitable contact blocks:

ASI DS DT ET M

front bezel: yellow 
 Mushroom head: red 

QRUV

IP66
IP69K





Emergency-stop head for hygienic applications

hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 6
 Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: no
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



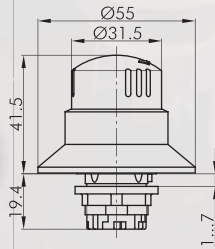
suitable contact blocks:

ASI DS DT ET M

front bezel: yellow 
 Mushroom head: red 

QRUP

IP65
IP67
IP69K





Emergency-stop head

Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel: yellow 
 Mushroom head: red 

QRBUV

Emergency-Stops

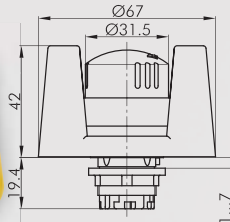
Illustration

Dimensions

Description

Type

IP65
IP69K



Emergency-stop head with protective shroud

NOTE: The user must ensure the emergency-stop with protective shroud to be easy accessible!

Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

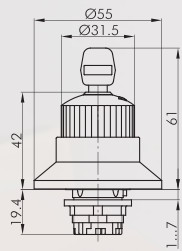


front bezel: yellow
 Mushroom head: red



QRSKUV

IP66



Emergency-stop head

Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: key release
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:



front bezel: yellow
 Mushroom head: red



QRBUVSE

Emergency-Stops

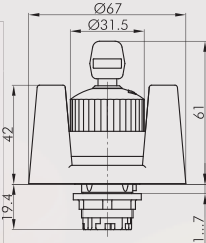
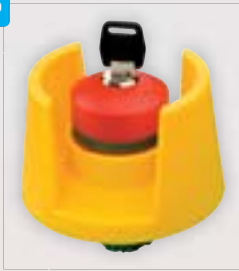
Illustration

Dimensions

Description

Type

IP66



Emergency-stop head with protective shroud

NOTE: The user must ensure the emergency-stop with protective shroud to be easy accessible!

Series:	QUARTEX®-R
Panel cut-out:	Ø 22.3 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	key release
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

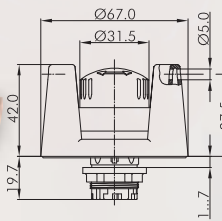
ASI DS DT ET M

front bezel: yellow
Mushroom head: red



QRSKUVSE

IP65
IP69K



Emergency-stop head

In its active state, the emergency-stop head can be latched with a U-lock.

The U-lock is not included with the delivery scope.

Note: The user must ensure easy accessibility of the emergency-stop with protective collar!

Series:	QUARTEX®-R
Panel cut-out:	Ø 22.3 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

ASI DS DT ET M

front bezel: yellow
Mushroom head: red



QRSKUV_556

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Emergency-Stops

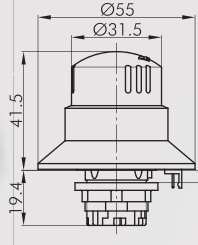
Illustration

Dimensions

Description

Type

IP65



Illuminated emergency-stop head

with illuminated anti-lock collar, 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL

Series:	QUARTEX®-R
Panel cut-out:	Ø 22.3 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



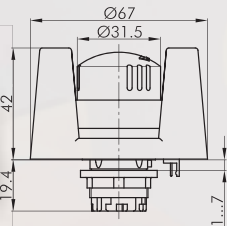
suitable contact blocks:



front bezel:	yellow	
Mushroom head:	red	

QRBLUV

IP65



Emergency-stop head with illuminated protective shroud

24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series:	QUARTEX®-R
Panel cut-out:	Ø 22.3 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:



front bezel:	yellow	
Mushroom head:	red	

QRSKLUV

Emergency-Stops

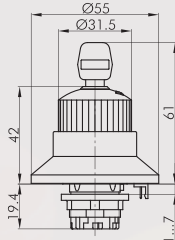
Illustration

Dimensions

Description

Type

IP65



Illuminated emergency-stop head

with illuminated anti-lock collar, 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL043, VK_JST025BKL or MAL

Series:	QUARTEX®-R
Panel cut-out:	Ø 22.3 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	key release
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

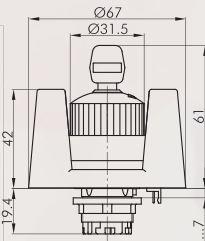
ASI DS DT ET M

front bezel: yellow
Mushroom head: red



QRBLUVSE

IP65



Emergency-stop head with illuminated protective shroud

24V / 15mA AC/DC
connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL
NOTE: The user must ensure the emergency-stop with protective shroud to be easy accessible!

Series:	QUARTEX®-R
Panel cut-out:	Ø 22.3 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	key release
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

DS DT ET M

front bezel: yellow
Mushroom head: red



QRSKLVSE

Emergency-Stops

Illustration

Dimensions

Description

Type

IP00



Connection module

serves to connect the illuminated emergency-stops via a screw terminal
the connection module is snapped into the module holders MHR_3 or MHR_5
12-30V, AC/DC, max. 44 mA
Series: QUARTEX®-R
Connection type: screw connection 2x2.5mm²

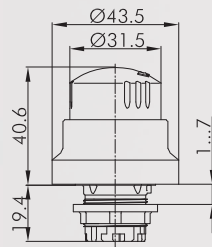


suitable pushbuttons and switches:

colour: white

MAL

IP65
IP69K



Emergency-stop head

Series: QUARTEX®-R
Panel cut-out: Ø 22.3 mm
Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: yes
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

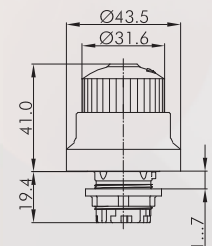


front bezel: yellow

Mushroom head: red

QRBV43

IP66



Emergency-stop head

Series: QUARTEX®-R
Panel cut-out: Ø 22.3 mm
Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: yes
Release: key release
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:



front bezel: yellow

Mushroom head: red

QRBVSE43

Emergency-Stops

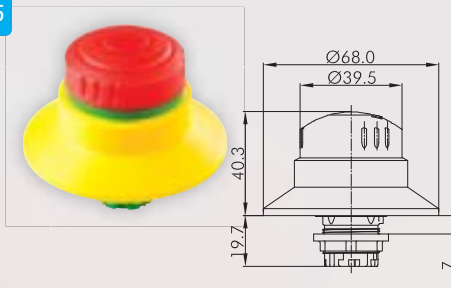
Illustration

Dimensions

Description

Type

IP65



Emergency-stop head

Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel: yellow
 Mushroom head: red



QRBUV70

Accessories



Connection cable

VK_BKL034

with open end, serves to connect the illuminated emergency-stops to a voltage source
 length: approx. 30 cm, cross section 0.34 mm² (AWG22)



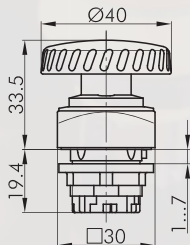
Connection cable

VK_JST025BKL

to connect an illuminated emergency-stop pushbutton to a AS-Interface slave (Safety at Work)
 two-wired strand, red/black, 0.25 mm², with crimped connector on both sides
 length: approx. 10 cm

IP65

↓ 6mm



Mushroom head, latch-type

other mushroom colours on request
 must be mounted onto yellow background
 Series: QUARTEX®-R
 Panel cut-out: Ø 22.3 mm
 Foolproof: no
 Switching position indicator: no
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel: charcoal
 Mushroom head: red



QRV

Accessories for emergency-stops

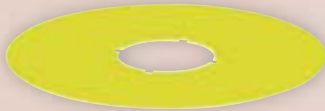
Illustration

Dimensions

Description

Type

Accessories



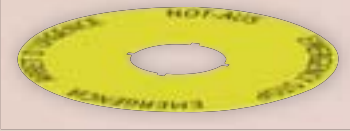
Yellow nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22



Yellow nameplate with quadrilingual imprint

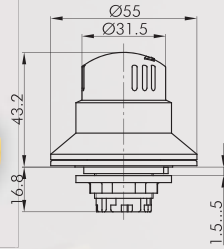
self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22.3 mm

colour: yellow



NAS_22_548

IP65



Emergency-stop head

consisting of QRBUV and adapter

Series: KOMBITAST@R-JUWEL
Panel cut-out: Ø 30.5 mm
Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: yes
Release: twist right or left
Standard: EN 60947-5-1, EN 60947-5, EN ISO 13850

suitable contact blocks:

ASI DS DT ET M

front bezel: yellow

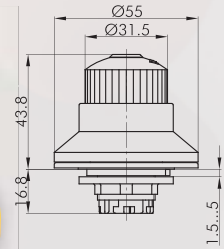
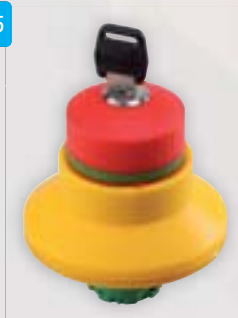


Mushroom head: red



KRBUV

IP65



Emergency-stop head

consisting of QRBUVSE and adapter

Series: KOMBITAST@R-JUWEL
Panel cut-out: Ø 30.5 mm
Foolproof: yes
Switching position indicator: yes
Permissive Contact: no
Anti-lock collar: yes
Release: key release
Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks:

ASI DS DT ET M

front bezel: yellow



Mushroom head: red



KRBUVSE

Emergency-Stops

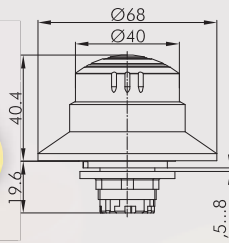
Illustration

Dimensions

Description

Type

IP65



Emergency-stop head

Series:	KOMBITAST®-R-JUWEL
Panel cut-out:	Ø 30.5 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	yes
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel yellow
Mushroom head: red



KRBUV70

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop
Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Emergency-Stops

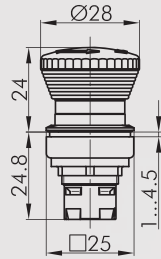
Illustration

Dimensions

Description

Type

IP65
IP67



Emergency-stop head Ø 28mm

Series: OKTRON®JUWEL
 Panel cut-out: 23 x 23 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

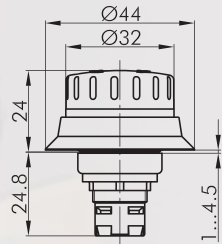
ASI AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow
 Mushroom head: red



OKJUV

IP65
IP67



Emergency-stop head

Series: OKTRON®JUWEL
 Panel cut-out: 23 x 23 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

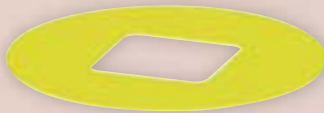
ASI AZ BZ BZ.k FRTP PTP PTF

front bezel: yellow
 Knob colour: red



OKJBUV

Accessories



Yellow nameplate

self-adhesive PVC foil
 printing on request
 outer dia. 60 mm
 for mounting aperture 23 x 23 mm

colour: yellow



NAS_23



Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
 outer dia. 60 mm
 for mounting aperture 23 x 23 mm

colour: yellow



NAS_23_548

Emergency-Stops

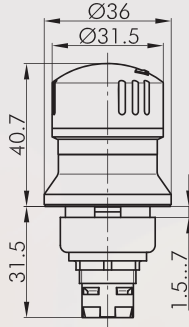
Illustration

Dimensions

Description

Type

IP65





Emergency-stop head

Series: QUARTRON-JUWEL®
 Panel cut-out: 24 x 24 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: no
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



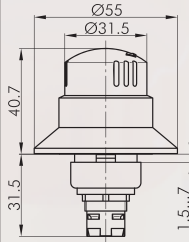
suitable contact blocks:

ASI A AZ FRTP PTP PTF

front bezel: yellow 
 Mushroom head: red 

QXJUV

IP65





Emergency-stop head with anti-lock collar

Series: QUARTRON-JUWEL®
 Panel cut-out: 24 x 24 mm
 Foolproof: yes
 Switching position indicator: yes
 Permissive Contact: no
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



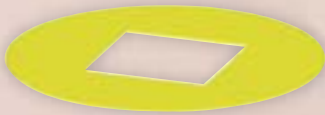
suitable contact blocks:

ASI A AZ FRTP PTP PTF

front bezel: yellow 
 Mushroom head: red 

QXJBUV

Accessories

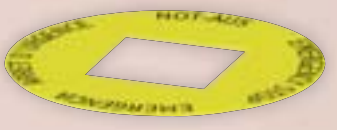


Yellow nameplate

self-adhesive PVC foil
 printing on request
 outer dia. 60 mm
 for mounting aperture 24 x 24 mm

colour: yellow 

NAS_24



Yellow nameplate with quadrilingual imprint

self-adhesive PVC foil
 outer dia. 60 mm
 for mounting aperture 24 x 24 mm

colour: yellow 

NAS_24_548

Emergency-Stops

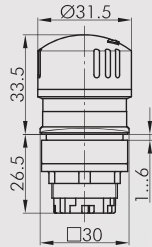
Illustration

Dimensions

Description

Type

IP65





Emergency-stop head

Series:	QUARTEX®-R-JUWEL
Panel cut-out:	26 x 26 mm
Foolproof:	yes
Switching position indicator:	yes
Permissive Contact:	no
Anti-lock collar:	no
Release:	twist right or left
Standard:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks:

ASI DS DT ET M

front bezel:	yellow	
Mushroom head:	red	

QRJUV



Type Index

Terminal Blocks

Pedal Switches

Enclosures

RFID

Bus Technology

→ Emergency-Stop
Buttons

Panel Mount Jacks

Pushbuttons/Switches

About Us

Nameplates

MADE IN GERMANY



Nameplates

The round nameplates as well as the index numbers shown hereafter are representative for all the other shapes of nameplates we offer. Specify nameplate reference followed by index number, e.g. BSRX5. Subject to alterations with regard to graphical layout and typeface of the nameplates.



About Us

Pushbuttons and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

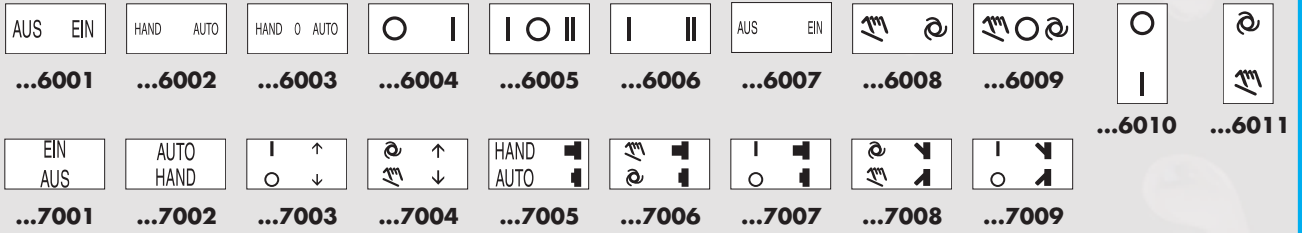
Type Index

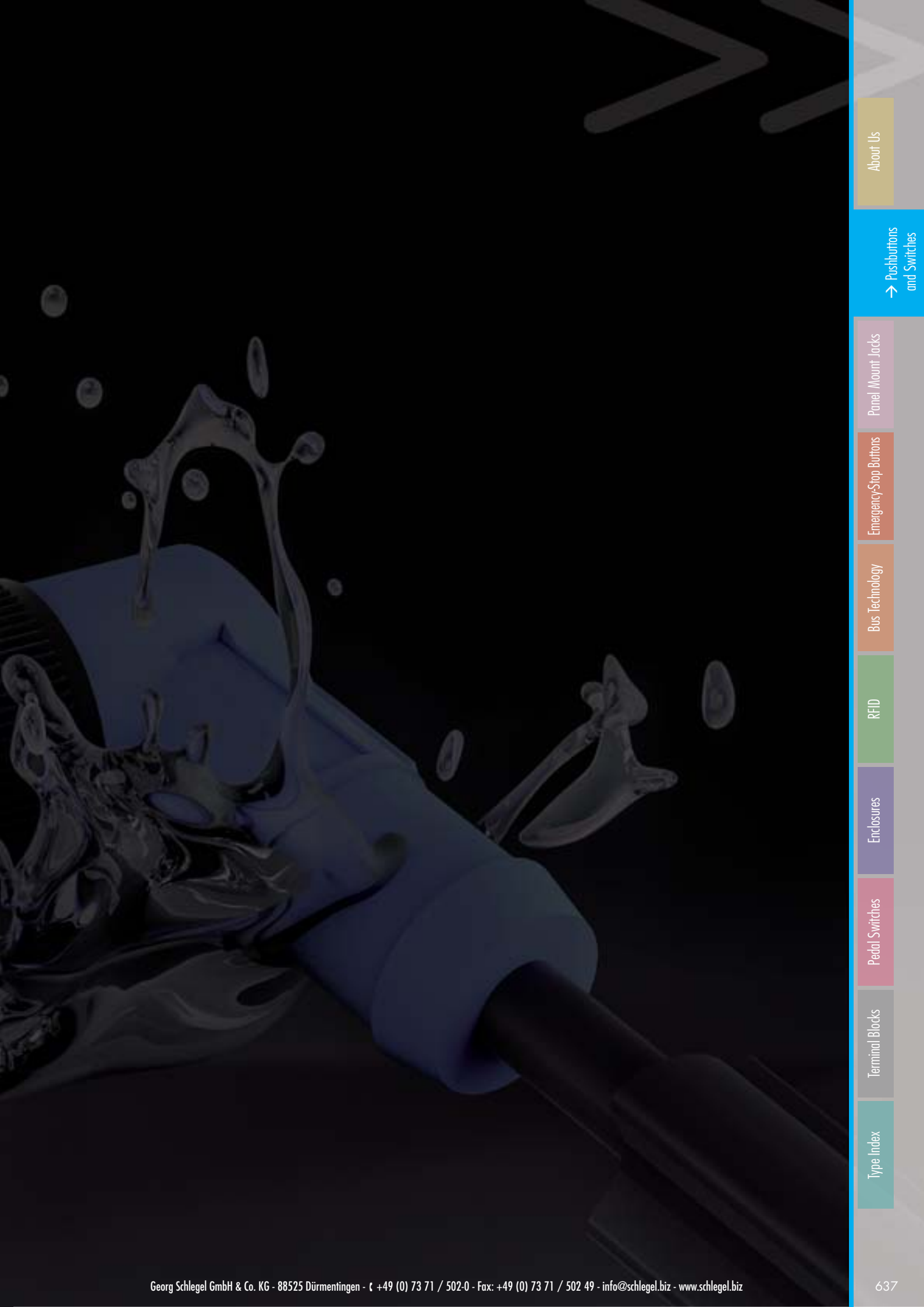
													...1142	...1143	...1144	...1145	...1146	...1147	...1148	...1149	...1150	...1151	...1152	...1153	...1154
													...1155	...1156	...1156A	...1157	...1158	...1159	...1160	...1161	...1162	...1163	...1164	...1165	...1166
													...1167	...1168	...1169	...1170	...1171	...1172	...1173	...101	...102	...103	...104	...105	...106
								AUTOMATIK	HAND	BETRIEB	STÖRUNG	HEIZEN	...107	...108	...109	...110	...111	...112	...113	...114	...115	...116	...117	...118	...119
KÜHLEN	A	B	C	X	Y	Z	SUPPLY ON	TEST	FAULT	EIN	EIN	AUS	...120	...121	...122	...123	...124	...125	...126	...127	...128	...129	...131	...131A	...132
AUF	ZU	AB	HALT	RECHTS	LINKS	VOR	ZURÜCK	VORSCHUB EIN	VORSCHUB HALT	VORSCHUB LANGSAM	VORSCHUB SCHNELL	VERRIEGELN	...133	...134	...135	...136	...137	...138	...139	...140	...141	...142	...143	...144	...145
ENTSPERREN	VORBEREITEN	REGULIERUNG	VOR LANGSAM	VOR SCHNELL	ZURÜCK LANGSAM	ZURÜCK SCHNELL	HEBEN	SENKEN	FEINHEBEN	FEINSENKEN	AUF LANGSAM	AUF SCHNELL	...146	...147	...148	...149	...150	...151	...152	...153	...154	...155	...156	...157	...158
AB LANGSAM	AB SCHNELL	KRAN EIN	KRAN AUS	KRAN VOR	KRAN ZURÜCK	KATZE VOR	KATZE ZURÜCK	VORRÜCKEN	RÜCKLAUF	AUTOMATIK EIN	AUTOMATIK AUS	AUFZUG	...159	...160	...161	...162	...163	...164	...165	...166	...167	...168	...169	...170	...171
NOT AUS	SIGNAL	SENDEN	HOLEN	RUFEN	BESETZT	HELL	DUNKEL	GLOCKE	ALARM	HIER	NOTRUF	KOMMT	...172	...173	...174	...175	...176	...177	...178	...179	...180	...181	...182	...183	...184
ÖFFNEN	SCHLIESSEN	LANGSAM	SCHNELL	BREMSEN	LÜFTEN					ÜBERLAST	START	START	...185	...186	...187	...188	...189	...190	...191	...192	...193	...194	...195	...201	...201A
STOP	ON	OFF	UP	DOWN	UP SLOW	UP FAST	DOWN SLOW	DOWN FAST	FORWARD	REVERSE	BACK	RIGHT	...202	...203	...204	...205	...206	...207	...208	...209	...210	...211	...212	...213	...214
LEFT	SLOW	FAST	OPEN	CLOSE	MEDIUM	GROUND	LIFT COMING	LIFT HERE	HIGH	INCH	RESET	CALL ACCEPTED	...215	...216	...217	...218	...219	...220	...221	...222	...223	...224	...225	...226	...227
AUTO ON	AUTO OFF	G	OVERLOAD	LIFT	MARCHE	MARCHE	ARRET	BAS	AVANT	RETOUR	HAUT	AUTO	...228	...229	...230	...231	...232	...301	...301A	...302	...303	...304	...305	...306	...307
MONTEE	DESCENTE	DROITE	GAUCHE	MAIN	EN-SERVICE	OUVRIR	FERMER	ARRIERE	MARCIA	MARCIA	ARRESTO	APRE	...308	...309	...310	...311	...312	...313	...314	...315	...316	...351	...351A	...352	...353



Self-adhesive Nameplates for External Nameplate Holders

Subject to alterations with regard to graphical layout and typeface of the nameplates.





About Us

→ Pushbuttons
and Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

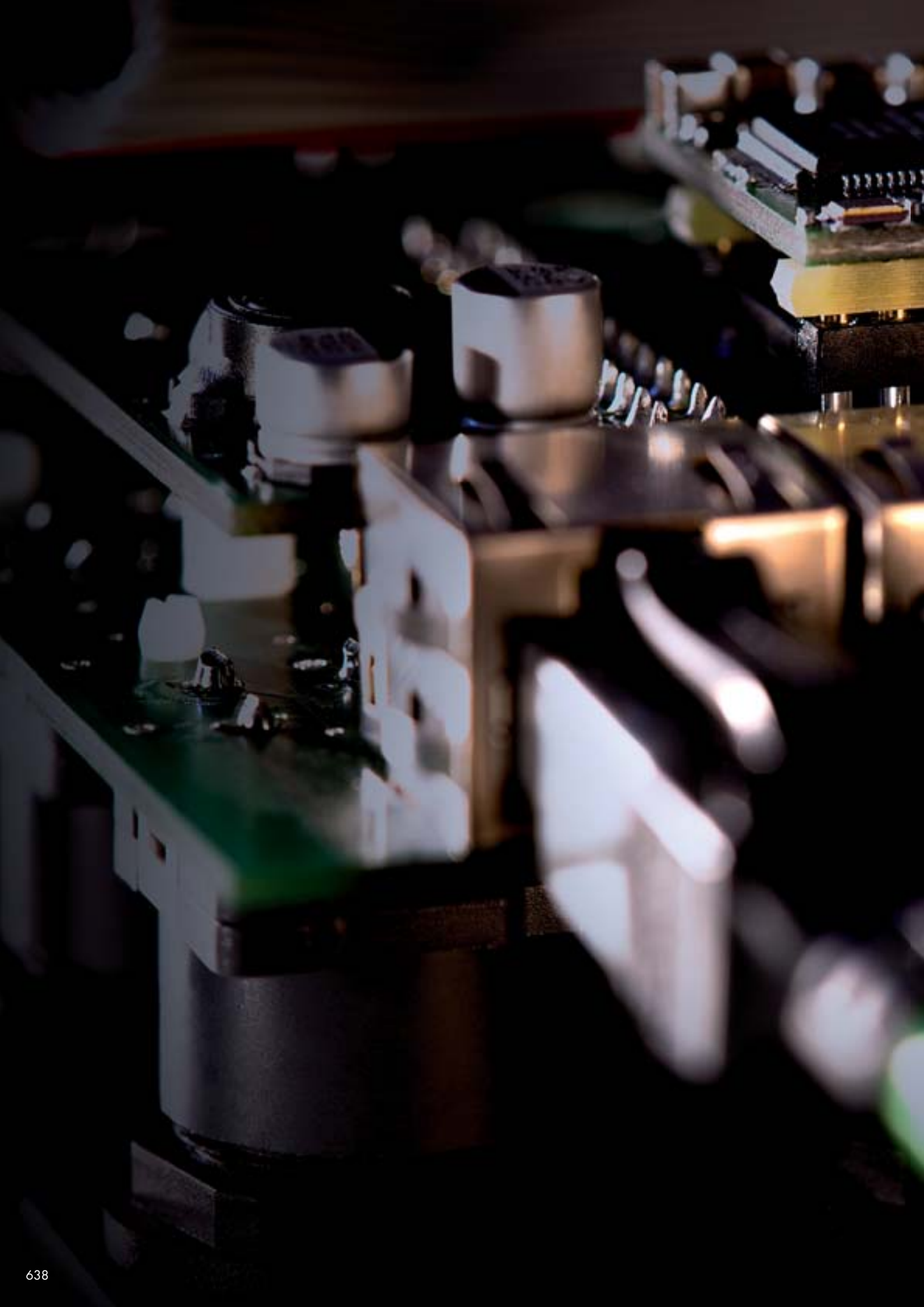
RFID

Enclosures

Pedal Switches

Terminal Blocks

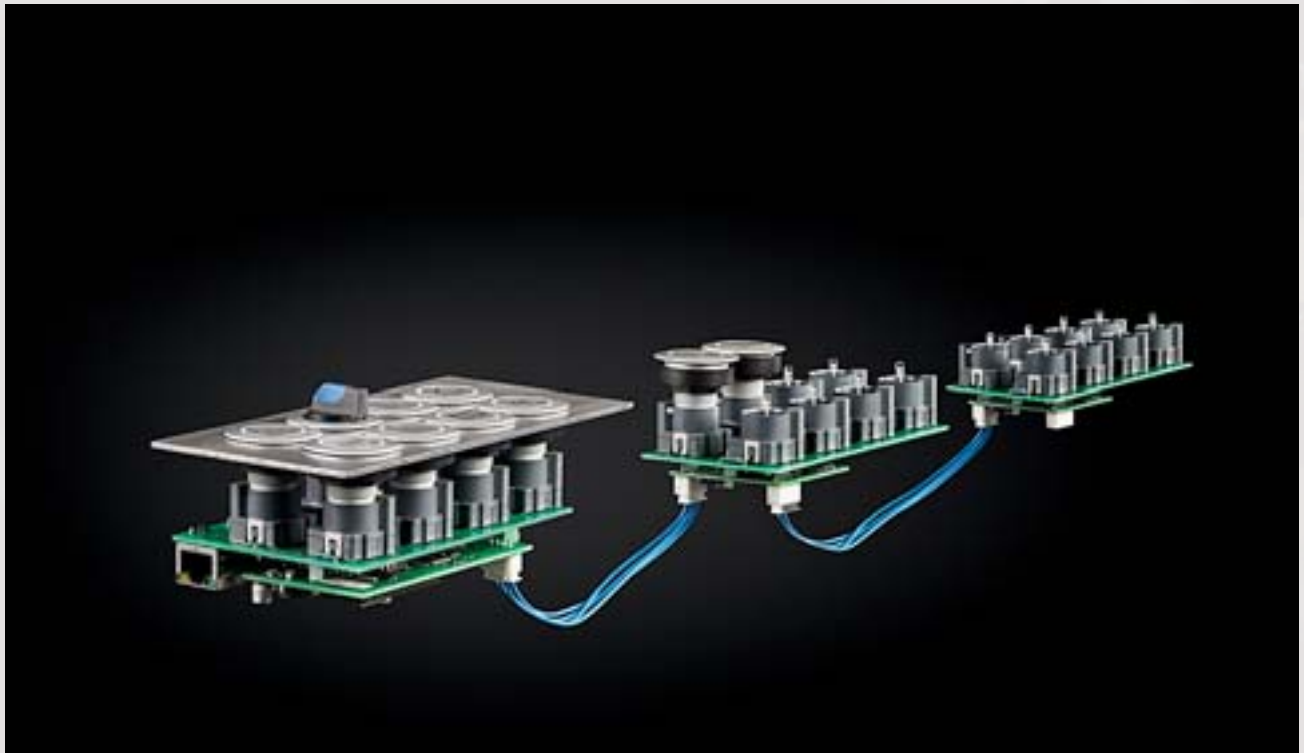
Type Index



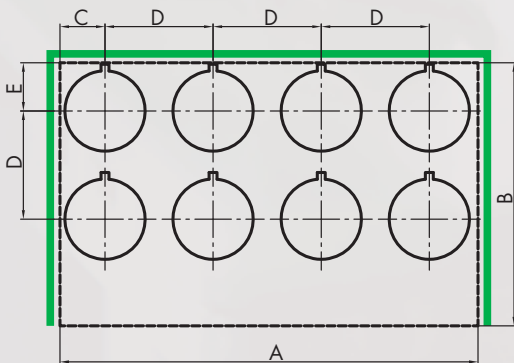


➔ **Modular bus operating concept**

- CANopen	page	642
- Profibus	page	642
- EtherCAT	page	643
- Profinet I/O	page	643
- Ethernet IP	page	644
- IO-Link	page	644
- Powerlink	page	645
- AS-Interface	page	647

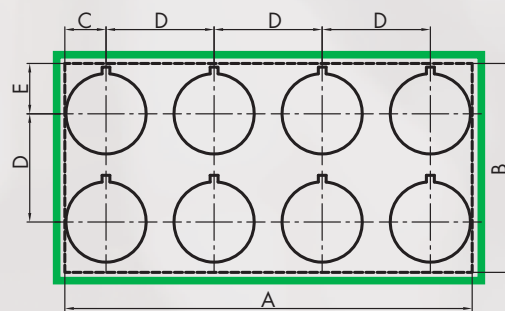


Dimensions/grid



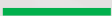
Basic module

spacing	25x25	27x27	30x30
A	98.0 mm	105.0 mm	116.0 mm
B	65.0 mm	70.0 mm	73.0 mm
C	11.5 mm	10.8 mm	12.5 mm
D	25.0 mm	27.0 mm	30.0 mm
E	11.5 mm	13.4 mm	13.4 mm



Expansion module

spacing	25x25	27x27	30x30
A	97.0 mm	104.0 mm	113.0 mm
B	47.0 mm	53.0 mm	58.0 mm
C	11.5 mm	10.8 mm	11.0 mm
D	25.0 mm	27.0 mm	30.0 mm
E	11.5 mm	13.3 mm	14.0 mm

 Further expansion modules can be arranged in the same spacing at three outer edges of the basic module.

Modular Bus Operating Concept

The basic idea was to develop an operating concept that makes us flexible enough to provide low-cost up to high-end solutions. The result is a future-proof and dynamic system to integrate contemporary design and state-of-the-art technology in modern machine concepts and panel layouts. The modular operating concept provides for project planning either standardised modules in a fixed grid spacing or the possibility to respond individually to customer-specific designs. The modular operating concept consists of two basic modules, the bus-specific basic module and the bus-independent expansion module. The basic module includes the typical bus connection as well as the bus node for communication with the corresponding bus system. The expansion module serves as a bus-independent I/O expansion in conjunction with the basic module, which enables us to integrate up to 128 command positions with 128 indicator lamps. The system power supply of the expansion modules is effected via the basic module, thus, reducing handling to a minimum. Each module is constructed with 8 inputs for contact blocks and 8 outputs for the LED indicator lamps. We distinguish in this modular operating concept two basic applications, control panel construction in which all command points are summarised on one area, and plant engineering & construction with several command points, which are distributed in the system.

Customised - Fast - Cost-effective

If your design plans cannot be implemented with the standardised modules, we can respond to your special design requirements anyway. For customised designs we resort to sub-modules of the modular operating concept while adapting the carrier card with the command points (PCB with individual contact blocks) according to your design proposal, consequently, the cost-optimised concept also taking effect here.

Technical Description - Control Panel Construction / Plant Engineering & Construction

Control Panel Construction

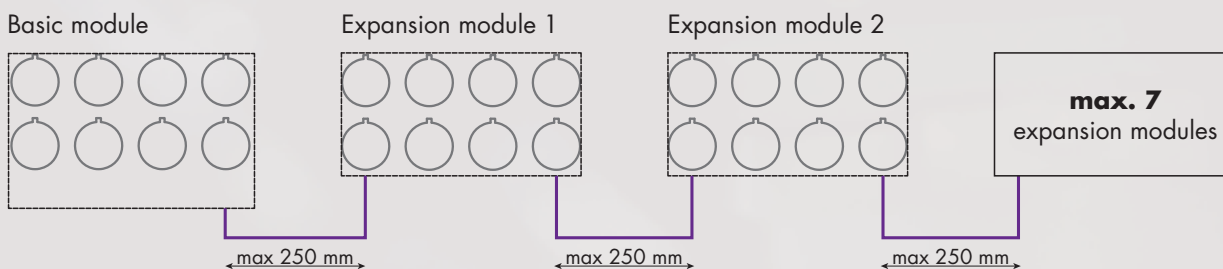
For the control panel construction, we consider the arrangement of the command points on one control unit, on which we can set up max. 64 command points with 64 indicator lamps. The 8 modules are then connected through with a ribbon cable. The individual modules can be arranged in a max. distance of 250mm to each other.

Plant Engineering & Construction

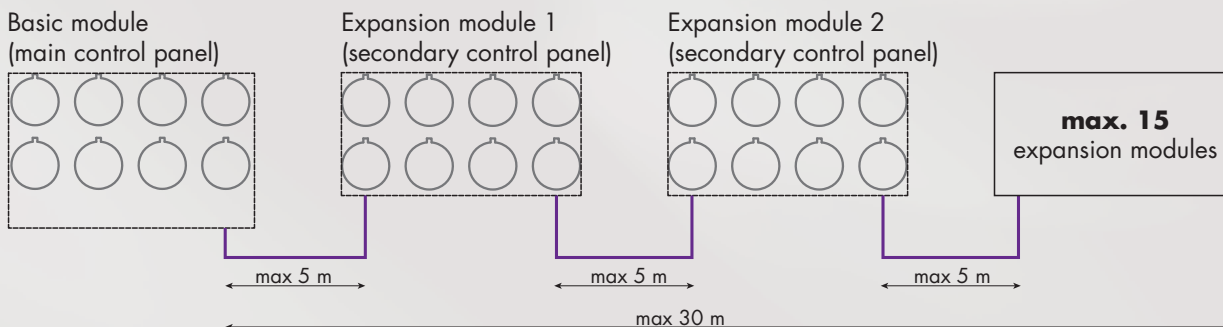
In the plant engineering & construction we consider the complete plant, which usually has a main control panel and several secondary control panels. In this case, the main control panel is equipped with the basic module and according to your operating concept, with additional expansion modules. The bus node with the typical bus connection is also arranged in the main control panel. It is then possible to equip more secondary control panels with expansion modules and to operate them via the main control panels using the bus data. In this application you can operate max. 128 command positions with 128 pilot lamps, and this at a cable length of 5m between the command positions and a total length of 30m within the plant.

Mounting of Standard Modules We offer the standardised modules in fixed grid spacings of 25 x 25mm, 27 x 27mm or 30 x 30mm. The modules are plugged on the actuators in the front panel and secured to the contact blocks by means of a locking bolt. Therefore, no additional spacers are needed in the front panel to mount the modules. The basic module is supplied with a supply voltage of +24V/DC and the bus signal. The expansion modules are connected to each other by means of a connecting cable, thus, there is no need for an additional wiring by what the wiring outlay reduces enormously. The individual modules can be attached in the same spacing.

Control Panel Construction



Plant Engineering & Construction





CANopen basic module

CANopen Bus System ISO11898
CiA Standard DS401 version 2.0

Addressing: DIP switch
Baud rate: 10kbit up to 1Mbit are automatically detected by the bus
I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction

Bus connection: 3-pole screw terminal
Bus termination: can be activated via sliding switch

Please download the EDS file and data sheet with pin configuration from www.schlegel.biz

Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	CO_BTK25_01	CO_BTK27_01	CO_BTK30_01
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	CO_BTK25_02	CO_BTK27_02	CO_BTK30_02

Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	CO_BTK25_03	CO_BTK27_03	CO_BTK30_03
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	CO_BTK25_04	CO_BTK27_04	CO_BTK30_04

suitable actuators											
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Profibus basic module

Profibus specification: DPVO
Data length: 96 byte I/O
Module name: 8 byte input 8 byte output
Addressing: DIP switch
I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction

Bus connection: 3-pole screw terminal
Bus termination: can be activated via sliding switch

Please download the GSD file and data sheet with pin configuration from www.schlegel.biz



Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	DP_BTK25_01	DP_BTK27_01	DP_BTK30_01
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	DP_BTK25_02	DP_BTK27_02	DP_BTK30_02

Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	DP_BTK25_03	DP_BTK27_03	DP_BTK30_03
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	DP_BTK25_04	DP_BTK27_04	DP_BTK30_04

suitable actuators											
--------------------	--	--	--	--	--	--	--	--	--	--	--



EtherCAT

EtherCAT basic module

Transmission: 100 Mbit/s
 I/O data length: 8 byte input 8 byte output
 I/Os: 8 byte input 8 byte output
 Addressing: DIP switch
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 2 x RJ45 plug connectors 8P4C

Please download the XML file and data sheet with pin configuration from www.schlegel.biz

Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	EC_BTK25_01	EC_BTK27_01	EC_BTK30_01
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EC_BTK25_02	EC_BTK27_02	EC_BTK30_02
Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	EC_BTK25_03	EC_BTK27_03	EC_BTK30_03
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EC_BTK25_04	EC_BTK27_04	EC_BTK30_04

suitable actuators



PROFI
INDUSTRIAL ETHERNET
NET

Profinet I/O basic module

ProfiNET I/O specification: 2 ports with transformer
 Fieldbus Baud rates: up to 100 MBaud
 IP address: assignment via bus
 Fieldbus functions: TCP/IP
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction.
 Bus connection: 2 x RJ45 plug connectors 8P4C

Please download the GSDML file and the data sheet with pin configuration from www.schlegel.biz

Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	PN_BTK25_01	PN_BTK27_01	PN_BTK30_01
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	PN_BTK25_02	PN_BTK27_02	PN_BTK30_02
Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	PN_BTK25_03	PN_BTK27_03	PN_BTK30_03
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	PN_BTK25_04	PN_BTK27_04	PN_BTK30_04

suitable actuators

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RTD

Enclosures

Pedal Switches

Terminal Blocks

Type Index



EtherNet IP basic module

Transmission: 100 Mbit/s
 I/O data length: 8 byte input 8 byte output
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 2 x RJ45 plug connectors 8P4C

Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	EN_BTK25_01	EN_BTK27_01	EN_BTK30_01
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EN_BTK25_02	EN_BTK27_02	EN_BTK30_02
Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	EN_BTK25_03	EN_BTK27_03	EN_BTK30_03
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EN_BTK25_04	EN_BTK27_04	EN_BTK30_04
suitable pushbuttons and switches			



IO-Link basic module

IO-Link device specification: V1.2
 Class: A
 Bit rate: COM 2 / 38.4 Kbps
 Data width: 18 byte in/out (for 127 I/Os)
 Min. cycle time: 5000µs
 Vendor ID: 0x0545
 IODD device description file: is stored in the IODD finder via IO-Link
 Diagnosis: LED monitoring, hardware monitoring, operating hours meter, monitoring of switching cycles, 1 x AD conversion integrated














Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	IL_BTK25_01	IL_BTK27_01	IL_BTK30_01
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs L5,5K. LEDs to be ordered separately.	IL_BTK25_02	IL_BTK27_02	IL_BTK30_02
Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	IL_BTK25_03	IL_BTK27_03	IL_BTK30_03
8 contact blocks with snap action (CTLP) for 8 pluggable LEDs L5,5K. LEDs to be ordered separately.	IL_BTK25_04	IL_BTK27_04	IL_BTK30_04
suitable pushbuttons and switches			

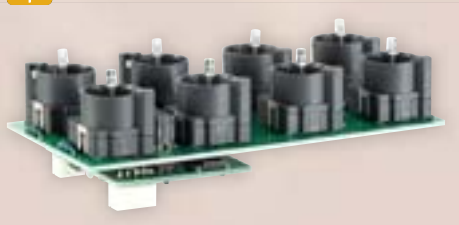


Powerlink basic module

Powerlink specification: V2, 800 byte cyclic
 Baud rate: 100 Mbit/s, half-duplex
 Supported protocols: SDO via ASND and UDP
 Bus connection: galvanically isolated via RJ45
 XDD file: 00000044_NIC52-REPLS_Schlegel_1

Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	PL_BTK25_01	PL_BTK27_01	PL_BTK30_01
8 contact blocks with snap action (CTLTP) for 8 pluggable LEDs L5,5K. LEDs to be ordered separately.	PL_BTK25_02	PL_BTK27_02	PL_BTK30_02
Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	PL_BTK25_03	PL_BTK27_03	PL_BTK30_03
8 contact blocks with snap action (CTLTP) for 8 pluggable LEDs L5,5K. LEDs to be ordered separately.	PL_BTK25_04	PL_BTK27_04	PL_BTK30_04
suitable pushbuttons and switches	    	 	   

Accessories



Expansion module

I/O's: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK_.... (please order separately, see next page)

Control Panel Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	E_BTK25_01	E_BTK27_01	E_BTK30_01
8 contact blocks with snap action (CTLTP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02
Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	E_BTK25_03	E_BTK27_03	E_BTK30_03
8 contact blocks with snap action (CTLTP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04



External IO expansion module

General: expansion module for 8 external inputs & outputs for DIN rail mounting

Connection: designed for command and signaling devices

Cross section flexible: min. 0.25 mm², max. 1.00 mm²

Mounting type: on DIN rail

Electrical data

Voltage supply: The unit must not be operated with an external voltage supply. The voltage supply is provided from the basic unit.

Input: via external switching contact: wiring acc. to the connection diagram.

Maximum cable length 3 m, minimum cross section 0.25 mm².

No external voltage must be applied to the input, otherwise it will be destroyed.

Output via an external signaling device with maximum current carrying capacity of 20 mA

Wiring acc. to the connection diagram.

Attention: The output is not short-circuit proof.



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)

when connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour

white



L5,5K24UW



Connecting cable for control panel construction

cable length 50 mm VK_BTK_001_50

cable length 100 mm VK_BTK_001_100

cable length 220 mm VK_BTK_001_220



Connecting cable for plant engineering & construction

cable length 90 mm VK_BTK_002_90

cable length 140 mm VK_BTK_002_140

cable length 300 mm VK_BTK_002_300



ASI-Interface module

I/Os: 8 I/Os, 8 inputs and 8 outputs
 AS-Interface specification: V3.0
 AS-Interface profile: S-7.A.7.A
 Communication protocol: CTT3 for Master M4
 Diagnostics: data communication error signaling unit S5 protocol or peripheral error signaling unit S6
 Power supply: 26.5...31.6 V, from AS-Interface line
 Total power consumption: 220 mA
 Input: supply through AS-Interface line
 Voltage range: 19 ... 26V DC
 Input filter: < 5 ms
 Output: supply through AS-Interface line
 Total current limitation: > 150 mA / with peripheral error message to the master
 Output load current: max. 50mA DC per output
 Outputs: dimmable in 4 steps via P0...P2
 Rated voltage: 24 V DC (+10%)

Control Panel Construction /Plant Engineering and Construction	25 x 25 mm	27 x 27 mm	30 x 30 mm
8 contact blocks with snap action (CTP) and 8 soldered in white LEDs.	ASI_BTK25_01	ASI_BTK27_01	ASI_BTK30_01
8 contact blocks with snap-action function (CTLP) to accept 8 pluggable LEDs L5,5K Please order the LEDs separately	ASI_BTK25_02	ASI_BTK27_02	ASI_BTK30_02

suitable pushbuttons and switches



Accessories



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
 when connecting to DC, the correct polarity must be observed:
 + ... X1/- ... X2
 storage temperature: -25°C ... +80°C
 ambient temperature: -20°C ... +60°C
 voltage tolerance: + 10 %

colour white  **L5,5K24UW**

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

→ Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index





→ **RFID**

- Schlegel RFID systems
- RFID Standard
- RFID SKS
- RFID TMS

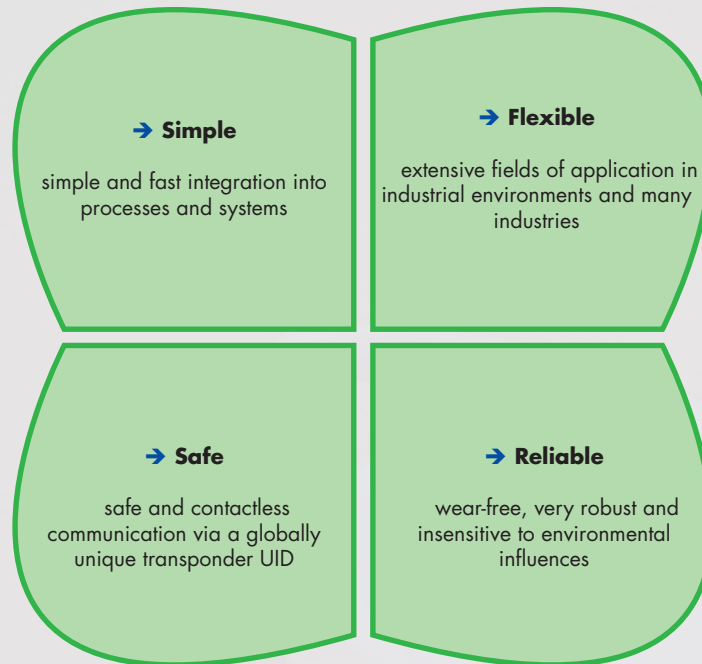
page	651
page	652
page	658
page	664

→ RFID system

The Schlegel RFID systems are based on the principle of contactless communication via radio waves. The data is exchanged via a transponder which contains the data and a reading/writing unit that reads the data from the transponder or writes it onto the transponder. The application options for RFID systems are quite diverse

and they require also different system requirements. That is why Schlegel offers various RFID systems so that the customer can have the best possible benefit with the respective system.

→ Advantages of RFID



→ Application fields of RFID

- time recording
- driver identification
- ticket registration
- access control
- machine control
- object detection/management
- charging stations
- leisure/sports equipment
- customer/product identification
- product protection
- data collection
- alternative to key switches

→ Schlegel RFID Systems - Decision Making Tool

Overview on the characteristics and possibilities of the different systems.

Features	RFID System				
	Standard	SKS		TMS	
Variant	-	TRA	TCA	TRA	TCA
Individual programming	✓	✗	✗	✗	✗
Own evaluation electronics	✗	✓	✓	✓	✓
Required interface	USB / RS232	none	none	none	none
Outputs	via PLC/industrial PC	3 relays	5 open collectors	3 relays	8 open collectors
Number of transponders*	unlimited	25	25	unlimited	unlimited
Number of authorisations*	unlimited	7	25	7	255
Group authorisations	✓	✓	✗	✓	✓
Operating modes (reading mode)	cyclic / single	cyclic / single	cyclic	cyclic	cyclic
Integration into fieldbus systems**	via PLC/industrial PC	✗	✓	✗	✓
Management software	✗	✗	✗	✓	✓
Field of application	individually for special requirements	plug & work, less administrative effort, basic requirements		high administrative effort, customisation, complex requirements	

* in theory, an unlimited number is possible

** via the modular operating concept of Schlegel for the following fieldbus systems: Profibus, Profinet, CANopen, Ethernet IP, EtherCAT, Powerlink, IO-Link and AS-Interface

→ Accessories for RFID reader



Holder for RFID reader with LED status indication



LED light ring for status indication



Card holder with LED status indication

→ What is RFID Standard?

The RFID Standard is a flexible, freely configurable system. With the help of commands the reading/writing unit can be programmed via an external control (PLC or industrial PC) with USB or RS232 connection according to one's own needs. The user can freely define the data structure on the transponder and evaluate it via the external control according to the requirements. Thanks to the flexible system, theoretically any number of transponders can be managed with RFID Standard.

RFID Standard supports two operating modes: cyclic and single

reading. Cyclic reading means that the presence of the transponder is permanently being checked at regular intervals. As long as the transponder is registered, the function activated with the transponder remains active. Single reading means that each new registration of a transponder is being evaluated and that the assigned action is being activated.



→ USB
→ RS232

→ How is the RFID Standard used?

Depending on the operating mode the transponder is either permanently fixed to the tag holder of the reading/writing unit (cyclic reading) or is held on the reading/writing unit for a moment (single reading). The data content of the transponder is transmitted contactlessly to the reading/writing unit and is redirected to the

external control (PLC or industrial PC) for further processing from there. Thus it is e.g. possible to assign authorisations to persons, to identify persons, to control processes or to record and evaluate data.

→ Product features

- individual programming
- any number of transponders can be managed
- simple connection to an external control (PLC/industrial PC)
- reading and writing function
- 2 operating modes (cyclic, single reading)
- LED status indication
- high-quality and appealing design
- black or silver-coloured

→ Technical features

- USB or RS232 connection
- +5 V DC supply voltage
- 22.3 mm panel cut-out (30.5 mm with LED ring)
- degree of protection IP65/IP69K
- 13.56 MHz frequency (license free worldwide)
- baud rate from 9.600 to 115.200 baud
- operating temperature from -20°C to +70°C
- mean operation of 200.000 h
- supports transponders of the standards: ISO 14443A, ISO 14443B, ISO 15693

RFID

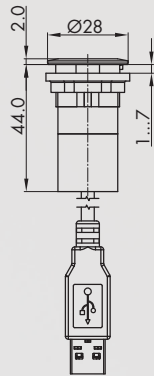
Illustration

Dimensions

Description

Type

IP65
IP69K



RFID reading/writing unit with USB interface

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- read and write function
- LED status indication
- USB drivers for Windows, Linux, Android 4.2 and Macintosh OSX
- 2 operating modes: cyclic reading (continuous operation) or manual reading (on/off)
- supply voltage from USB port (5V)
- cable length: 80 cm (other lengths on request)
- transponder standards ISO 14443A/B (MIFARE-Classic/-DESFire), ISO 15693 and compatibles like EM4135, EM4043

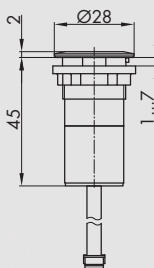
colour

silver-coloured
black



RRJ_RFID_USB
RRJSW_RFID_USB

IP65
IP69K



RFID reading/writing unit with RS232 interface

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- baud rate 9600 up to 115200 bit/s
- read and write function
- LED status indication
- USB drivers for Windows, Linux, Android 4.2 and Macintosh OSX
- 2 operating modes: cyclic reading (continuous operation) or manual reading (on/off)
- supply voltage of 5V is necessary
- cable length: 80 cm (other lengths on request)
- transponder standards ISO 14443A/B (MIFARE-Classic/-DESFire), ISO 15693 and compatibles like EM4135, EM4043

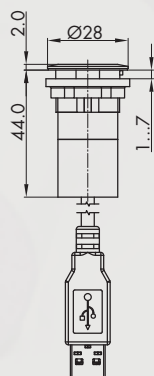
colour

silver-coloured
black



RRJ_RFID_RS2
RRJSW_RFID_RS2

IP65
IP69K



RFID/HID keyboard interface

Simulation of a keyboard input.
The transponder UID is being read via the RFID reader and outputted and terminated at the actual cursor position of the operating system via the simulated HID keyboard interface. This allows e.g. to implement an automatic password entry and login to an application in case the password corresponds to the transponder UID.

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- LED status indication
- supply voltage from USB port (5V)
- cable length: 80 cm
- supports the standards ISO 14443A/B (MIFARE-Classic/-DESFire), ISO 15693 and compatibles like EM4135, EM4043

colour

silver-coloured
black



RRJ_RFID_HID
RRJSW_RFID_HID

RFID

Illustration	Dimensions	Description	Type
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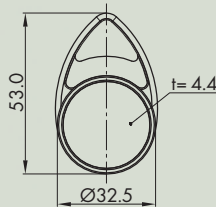
Zubehör



RS232 interface connector

RFID_ST_24V

The RS232 interface connector is equipped with an internal 5V/DC voltage converter to operate the RFID reader in an electrical system of 10 to 24V/DC. The connector is directly screwed to the RS232 interface with the 9-pole Sub-D socket. A 2-pole screw terminal is included. The connection cable of the RFID reader is being plugged inside.



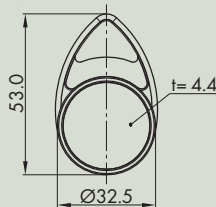
RFID tag drop-shaped 1 KB

NXP Mifare Classic EV1
inscription on request

colour	
blue	ESRT1_B
red	ESRT1_R
yellow	ESRT1_Y
green	ESRT1_G
black	ESRT1_S



ESRT1_B
ESRT1_R
ESRT1_Y
ESRT1_G
ESRT1_S



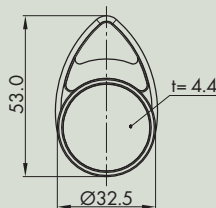
RFID tag drop-shaped 2 KB

NXP Mifare DESFire EV1
inscription on request

colour	
blue	ESRT2_B
red	ESRT2_R
yellow	ESRT2_Y
green	ESRT2_G
black	ESRT2_S



ESRT2_B
ESRT2_R
ESRT2_Y
ESRT2_G
ESRT2_S



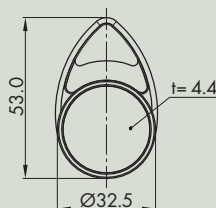
RFID tag drop-shaped 4 KB

NXP Mifare Classic
inscription on request

colour	
blue	ESRT4_B
red	ESRT4_R
yellow	ESRT4_Y
green	ESRT4_G
black	ESRT4_S



ESRT4_B
ESRT4_R
ESRT4_Y
ESRT4_G
ESRT4_S



RFID tag drop-shaped 8 KB

NXP Mifare DESFire EV1
inscription on request

colour	
blue	ESRT8_B
red	ESRT8_R
yellow	ESRT8_Y
green	ESRT8_G
black	ESRT8_S



ESRT8_B
ESRT8_R
ESRT8_Y
ESRT8_G
ESRT8_S

RFID

Illustration

Dimensions

Description

Type



RFID chip card 1 KB

NXP Mifare Classic EV1

- length: 85 mm, width: 54 mm, height: 0.9 mm

ESRC1



LED light ring for status indication

LED light ring for an optical amplification of the status indication

- system connection to the RFID reader

- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)

- panel cut-out \varnothing 30.5 mm

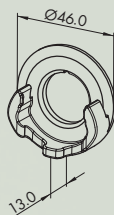
delivery without RFID reader

colour

blue/green



LR22K5DUO_GB_619



RFID tag holder

for fixing the transponder from the top or from the front,

e.g. combined with a bunch of key

- panel cut-out \varnothing 30.5 mm

Only suitable for the use of Schlegel RFID tags!

colour

white

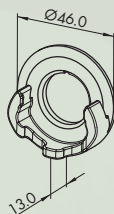


RRJ_RFID_HR_WS

black



RRJ_RFID_HR_SW



RFID tag holder with LED status indication

for fixing the transponder from the top or from the front,

e.g. combined with a bunch of key,

with LED illuminated ring for an optical amplification of the status indication

- system connection to the RFID reader

- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)

- panel cut-out \varnothing 30.5 mm

Only suitable for the use of Schlegel RFID tags!

Delivery without RFID reader.

colour

blue/green



RRJ_RFID_HR_LBG

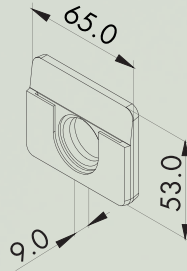
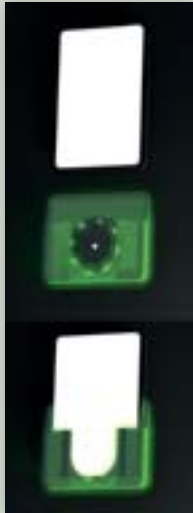
RFID

Illustration

Dimensions

Description

Type



RFID card holder with LED status indication

for fixing the chip card,
with LED illuminated ring for an optical amplification of the status indication

- system connection to the RFID reader
- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
- panel cut-out \varnothing 30.5 mm

Only suitable for the use of Schlegel RFID chip cards!
Delivery without RFID reader.

colour

blue/green



RRJ_RFID_KH_LBG



Empty enclosure with LED illuminated ring

RFID_SL

aluminium enclosure with LED illuminated ring for the installation of an RFID interface
- \varnothing 100 mm, height: 70 mm



→ What is RFID SKS?

The RFID SKS is an independent RFID system which is designed for a simple and fast integration into existing operating environments. It does not require special connections, like e.g. USB or RS232 and the outputs can be accessed directly. The system consists of a reader, evaluation electronics, a master key (admin transponder) and the user keys (user transponder). Reader, evaluation electronics and master key are components that are assigned to each other. This means that the reader can only communicate with the appropriate evaluation electronics and that the system can only be

set up with the appropriate master key.

On the SKS RFID the validation of transponders is done via the reader, they have not to be programmed via an external control. If a transponder has been detected by the reader, the read UID of the transponder is validated via an internal table. If the UID is valid, the reader transmits the internal transponder number to the evaluation electronics. This information will then be processed by the RFID SKS variants SKS TRA and SKS TCA differently.

→ What is SKS TRA?

The SKS TRA is an evaluation electronics with 3 potential-free relay outputs and a special housing for quick mounting on a standard top-hat rail. Terminal devices can be connected directly via the 3 relay outputs, that is why no external control such as e.g. a PLC or an industrial PC is necessary. The evaluation electronics has an internal assignment table which is used to determine which relay outputs are switched to the respective transponder and which functions are thus enabled (TRA = transponder relay assignment). The assignment table contains several programmes with different combinations of transponder number and relay outputs to be enabled (see table 1). The programme can be set by a selector switch on the evaluation electronics.

The SKS TRA supports two operating modes: cyclic and single reading. Cyclic reading means that the presence of the transponder is permanently being checked at regular intervals. As long as the transponder is registered, the function switched with the transponder is active. Single reading means that each new registration of a transponder is being evaluated and that the assigned action is being activated.



Up to 25 user keys can be managed with the SKS TRA. Depending on the selected programme up to 7 authorisation levels for different user groups are possible.

→ What is SKS TCA?

The evaluation electronics of the SKS TCA is designed as an embedded plug-in module and has 5 open collector outputs which can be connected directly to the inputs of a PLC or any other control system with open collector inputs. These inputs can thus be addressed directly via the SKS TCA. In combination with the modular operating concept of Schlegel** the SKS TCA can also be used with fieldbus systems. For this purpose, the status of the open collector outputs is transmitted to the corresponding fieldbus system via the modular operating concept and can be evaluated there. The transponder number validated by the reader is switching the outputs. This number is mapped as a binary value to the open collector outputs of the evaluation electronics (TCA = transponder collector assignment) and therefore is defined for each transponder (see table 2). As each transponder has a unique combination of outputs, this means that no user groups can be formed on the SKS TCA. SKS TCA supports the operating mode of cyclic reading. Cyclic reading means that the presence of the transponder is permanently being checked at regular intervals. As long as the transponder is registered, the function switched with the transponder is active.

The SKS TCA can manage up to 25 user keys. Each user key has its own authorisation level.



** The modular operating concept of Schlegel allows an easy integration of operating units into the following fieldbus systems: Profibus, Profinet, CANopen, Ethernet IP, EtherCAT, Powerlink, IO-Link and AS-Interface. The modular operating concept communicates externally via the corresponding bus node, internally the communication is done via a proprietary protocol from Schlegel.

→ How to set up the RFID SKS

The programming of the user keys (transponders) on the RFID SKS is always done via the master key. The master key is specially set for the reader, so that only the RFID SKS that matches the master key can be set up. The set-up mode of the systems is activated on the reader with the master key. Then the user keys can be read one by one by simply placing them on the reader. The reader saves the UID of the user key in its internal table. Once all the required

user keys have been registered the set-up mode is completed by placing the master key on the reader once again. The system is then completely set up and can be used immediately. For each user key, the respective outputs on the evaluation electronics can now be activated via the reader.

→ **How is the RFID SKS used?**

Depending on the operating mode and the RFID SKS variant the transponder is either permanently fixed to the tag holder of the reader (cyclic reading) or is held on the reader for a moment (single reading). The data content of the transponder is transmitted contactlessly to the reading device and from the reading device to the evaluation electronics. The evaluation electronics then releases

the outputs that match the user key and thus the associated function. With the RFID SKS, it is e.g. possible to assign authorisations to persons, to identify persons, to control processes or to record and evaluate data.

→ **Product features**

Bundle SKS TRA	Bundle SKS TCA
<ul style="list-style-type: none"> • plug & work: no programming required, no external control necessary • terminal devices can be connected directly • easy mounting on top-hat rail • 3 potential-free relay outputs • up to 25 transponders • up to 7 authorisation levels • single or group authorisations • 2 operating modes (cyclic, single reading) • LED status indication • high-quality and appealing design 	<ul style="list-style-type: none"> • plug & work: no programming required, outputs go directly to the external control • embedded pluggable module • integration in fieldbus systems via Schlegel's modular operating concept • 5 open collector outputs • up to 25 transponders • up to 25 authorisation levels • no group authorisations • cyclic reading operating mode • LED status indication • high-quality and appealing design

→ **Technical features**

Bundle SKS TRA	Bundle SKS TCA
SKS reader	
<ul style="list-style-type: none"> • 22.3 mm panel cut-out (30.5 mm with LED ring) • degree of protection IP65/IP69K • frequency 13.56 MHz (license free worldwide) • baud rate from 9.600 to 115.200 • baud operating temperature from -20°C to +70°C • mean operation of 200.000 h 	
SKS TRA evaluation electronics	SKS TCA evaluation electronics
<ul style="list-style-type: none"> • system voltage 24 V DC ±10% • relay outputs: AC15 230V / 3A, DC13 24V / 1A • degree of protection IP20 • operating temperature from -20°C to +70°C • mean operation of 200.000 h • mounting on DIN rail N35 	<ul style="list-style-type: none"> • system voltage 24 V DC ±10% • open collector outputs: 50 mA low active • degree of protection IP00 • operating temperature from -20°C to +70°C • mean operation of 200.000 h • mounting via pin connectors, 2.54 mm grid

➔ Allocation table SKS TRA

Pos	Relay 1	Relay 2	Relay 3	Relay 1,2	Relay 1,3	Relay 2,3	Relay 1,2,3
0	Pairing						
Cyclic reading							
Assignment of the transponders to the individual relay							
1	1, 7, 13, 19	2, 8, 14, 20	3, 9, 15, 21	4, 10, 16, 22		5, 11, 17, 23	6, 12, 18, 24
2	1, 4, 7, 10, 13, 16, 19, 22			2, 5, 8, 11, 14, 17, 20, 23			3, 6, 9, 12, 15, 18, 21, 24
3	1, 4, 7, 10, 13	2, 5, 8, 11, 14		3, 6, 9, 12, 15			
4	1, 8, 15, 22	2, 9, 16, 23	3, 10, 17, 24	4, 11, 18	5, 12, 19	6, 13, 20	7, 14, 21, 25
5	1, 5, 9, 13, 17	2, 6, 10, 14, 18	3, 7, 11, 15, 19				4, 8, 12, 16, 20
6	1, 2, 3, 4, 5	6, 7, 8, 9, 10	11, 12, 13, 14, 15	16, 17, 18	19, 20, 21	22, 23, 24	25
Single reading							
Assignment of the transponders to the individual relay							
7	1, 7, 13, 19	2, 8, 14, 20	3, 9, 15, 21	4, 10, 16, 22		5, 11, 17, 23	6, 12, 18, 24
8	1, 4, 7, 10, 13, 16, 19, 22			2, 5, 8, 11, 14, 17, 20, 23			3, 6, 9, 12, 15, 18, 21, 24
9	1, 4, 7, 10, 13	2, 5, 8, 11, 14		3, 6, 9, 12, 15			
A	1, 8, 15, 22	2, 9, 16, 23	3, 10, 17, 24	4, 11, 18	5, 12, 19	6, 13, 20	7, 14, 21, 25
B	1, 5, 9, 13, 17	2, 6, 10, 14, 18	3, 7, 11, 15, 19				4, 8, 12, 16, 20
C	1, 2, 3, 4, 5	6, 7, 8, 9, 10	11, 12, 13, 14, 15	16, 17, 18	19, 20, 21	22, 23, 24	25
D..F	reserved						

table 1: Allocation of the transponders to the relay outputs. Customised table possible on request.

➔ Allocation table SKS TCA

Transponder	OC 1	OC 2	OC 3	OC 4	OC 5
1	•				
2		•			
3	•	•			
4			•		
5	•		•		
6		•	•		
7	•	•	•		
8				•	
...					
24				•	•
25	•			•	•

table 2: Binary-coded assignment of the transponders to the open collector outputs.

RFID

Illustration

Dimensions

Description

Type



SKS bundle TRA

SKS bundle comprising:

- 1 x RFID reader RRJ(XX)_RFID_SKS01 (incl. 1 x master key ESRTM)
- 1 x evaluation electronics RFID_SKS_TRA
- 5 x user key ESRTU_S

Data reader:

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- only reading function
- LED status indication
- cable length: 80 cm (other lengths on request)
- IP65/IP69K
- incl. 1 master key (ESRTM)

Data evaluation electronics:

- 3 potential-free relay outputs
- max. 7 authorisation levels
- max. 25 transponders
- supply voltage 24V / DC
- contacts designed for AC15 230V / 3A, DC13 24V / 1A
- design with housing
- mounting on standard DIN rail for switching cabinets
- IP20

colour

silver-coloured
black



SKS_RRJ_TRA
SKS_RRJSW_TRA



SKS bundle TCA

SKS bundle comprising:

- 1 x RFID reader RRJ(XX)_RFID_SKS01 (incl. 1 x master key ESRTM)
- 1 x evaluation electronics RFID_SKS_TCA
- 5 x user key ESRTU_S

Data reader:

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- only reading function
- LED status indication
- cable length: 80 cm (other lengths on request)
- IP65/IP69K
- incl. 1 master key (ESRTM)

Data evaluation electronics:

- 5 OC outputs
- max. 1 authorisation level
- max. 25 transponders
- supply voltage 24V / DC
- pluggable module version
- suitable for the integration in bus systems via Schlegel's modular operating concept

colour

silver-coloured
black



SKS_RRJ_TCA
SKS_RRJSW_TCA

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

↑ RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

RFID SKS

Ø 22.3 mm

MADE IN GERMANY



About Us

Pushbuttons/Switches

Panel Mount Locks

Emergency-Stop Buttons

Bus Technology

RFID

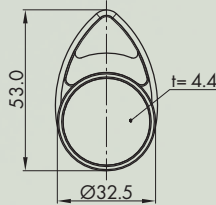
Illustration

Dimensions

Description

Type

Zubehör



RFID master key SKS

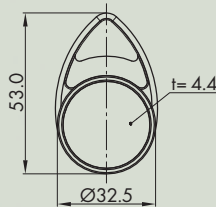
red RFID tag, drop-shaped, for the administrative access to the Schlegel Control System, the master key can only be used with the SKS evaluation electronics belonging to the master key inscription on request

colour

red



ESRTM



RFID user key for Schlegel Control System (SKS)

black RFID tag, drop-shaped, for the user access to the Schlegel Control System further colours (blue, green, yellow) and inscription on request

colour

black



ESRTU_S



RFID user card SKS

RFID chip card for the user access to the Schlegel Control System - length: 85 mm, width: 54 mm, height: 0.9 mm

ESRCU



LED light ring for status indication

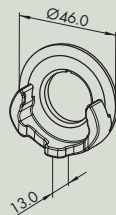
LED light ring for an optical amplification of the status indication
 - system connection to the RFID reader
 - colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
 - panel cut-out Ø 30.5 mm
 delivery without RFID reader

colour

blue/green



LR22K5DUO_GB_619



RFID tag holder

for fixing the transponder from the top or from the front, e.g. combined with a bunch of key,
 - panel cut-out Ø 30.5 mm

Only suitable for the use of Schlegel RFID tags!

colour

white



RRJ_RFID_HR_WS

black



RRJ_RFID_HR_SW

→ RFID

Enclosures

Petal Switches

Terminal Blocks

Type Index

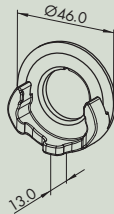
RFID

Illustration

Dimensions

Description

Type



RFID tag holder with LED status indication

for fixing the transponder from the top or from the front, e.g. combined with a bunch of key, with LED illuminated ring for an optical amplification of the status indication

- system connection to the RFID reader
- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
- panel cut-out Ø 30.5 mm

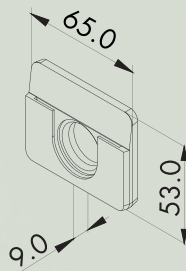
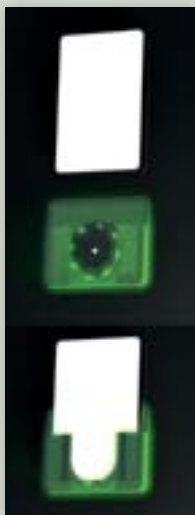
Only suitable for the use of Schlegel RFID tags!
Delivery without RFID reader.

colour

blue/green



RRJ_RFID_HR_LBG



RFID card holder with LED status indication

for fixing the chip card, with LED illuminated ring for an optical amplification of the status indication

- system connection to the RFID reader
- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
- panel cut-out Ø 30.5 mm

Only suitable for the use of Schlegel RFID chip cards!
Delivery without RFID reader.

colour

blue/green



RRJ_RFID_KH_LBG



Interference filter

external filter for disturbances from 2000 V for extreme EMC requirements

- mounting on top-hat rail (N35)

colour

silver-coloured



EE_ESF_1

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

→ What is RFID TMS?

The RFID TMS is an independent RFID system which is designed for a simple and fast integration into existing operating environments. It does not require special connections, like e.g. USB or RS232 and the outputs can be accessed directly. The system consists of a reading/writing unit, an evaluation electronics, transponders and a management software. The transponders, the evaluation electronics and the software are protected through a customised serial number. That means that the evaluation electronics can only communicate with the appropriate transponders and those transponders can only be programmed with the appropriate management software.

On the RFID TMS the validation of transponders is done via the evaluation electronics, they have not to be programmed via an external control. If the reading/writing unit detects a transponder with a valid serial number, the data of the transponder is processed by the evaluation electronics and the corresponding outputs are activated. For RFID TMS there are two variants, TMS_TRA and TMS_TCA. Both systems need the SKS_TMS_XXXXXX for the installation and the management.

In case customer wants to use the system without software Schlegel can also programme the transponders on request.

→ What is SKS TMS?

The SKS TMS consists of a management software and a programming station. The software is absolutely necessary for programming the transponders, as the software is created with a customer-specific serial number, which is saved when the transponders are programmed. This means that the transponders can only be processed by the evaluation electronics that have the same serial number. This ensures that no functions can be activated by external transponders. In addition to the serial number there are two other sectors on the transponder on which the customer can save data with the software. On the one hand, this is a special password-protected sector where the customer can store an own number for his own customers so that the systems remain unique across the customers. On the other hand, the software can be used to manage the transponder. This includes defining the outputs that are to be activated by the evaluation electronics for the transponder and the optional possibility of user-specific data, e.g. to file the name of the user. The management software can be installed on a standard PC with the latest Windows operating system and USB connection. All required programmes, files and instructions are available on the USB stick being supplied with the SKS TMS.



The programming station belonging to the management software consists of a desktop housing and a reading/writing unit with USB connection. Together with the management software the transponders can be programmed simple and easy.

→ What is TMS TRA?

The TMS TRA is an evaluation electronics with 3 potential-free relay outputs and a special housing for quick mounting on a standard top-hat rail. Terminal devices can be connected directly via the 3 relay outputs, so no external control such as e.g. a PLC or an industrial PC is necessary when using the TMS TRA. The evaluation electronics enables the relay outputs depending on the transponder information received (TRA = transponder relay assignment). The authorisation levels are mapped in binary code to the outputs of the evaluation electronics (see table 1).

TMS TRA supports the operating mode of cyclic reading. Cyclic reading means that the presence of the transponder is permanently being checked at regular intervals. As long as the transponder is registered, the function activated with the transponder remains active. With TMS TRA any number of user keys can be managed and up to 7 different authorisation levels can be assigned to individual persons or groups.



→ What is TMS TCA?

The evaluation electronics of the TMS TCA is designed as an embedded plug-in module and has 8 open collector outputs which can be connected directly to the inputs of a PLC or any other control system with open collector inputs. These inputs can thus be addressed directly via the TMS TCA. In combination with the modular operating concept of Schlegel** the TMS TCA can also be used with fieldbus systems. For this purpose, the status of the open collector outputs is transmitted to the corresponding fieldbus system via the modular operating concept and can be evaluated there. The evaluation electronics enables the open collector outputs depending on the transponder information received (TCA = transponder collector assignment). The authorisation levels are mapped in binary code to the outputs of the evaluation electronics (see table 2).

TMS TCA supports the operating mode of cyclic reading. Cyclic reading means that the presence of the transponder is permanently being checked at regular intervals. As long as the transponder is registered, the function activated with the transponder remains active.

With TMS TCA any number of user keys can be managed and up to 255 different authorisation levels can be assigned to individual persons or groups.



** The modular operating concept of Schlegel allows an easy integration of operating units into the following fieldbus systems: Profibus, Profinet, CANopen, Ethernet IP, EtherCAT, Powerlink, IO-Link and AS-Interface. The modular operating concept communicates externally via the corresponding bus node, internally the communication is done via a proprietary protocol from Schlegel.

→ How to set up RFID TMS

The complete setup and administration of the RFID TMS is done via the TMS management software. The operating instructions for the management software are supplied with the SKS TMS software bundle.



→ How is the RFID TMS used?

With the RFID TMS the data is read cyclically. This means that the data content of the transponder is recorded by the reading/writing unit at regular intervals and transmitted to the evaluation electronics. As long as the data collected by the transponder is valid, the evaluation electronics releases the outputs that match the

user key and thus the associated function.

With the RFID TMS it is e.g. possible to assign authorisations to persons, to identify persons, to control processes or to record and evaluate data.

→ Product features

Bundle TMS TRA	Bundle TMS TCA
<ul style="list-style-type: none"> plug & work: no programming required, no external control necessary - terminal devices can be connected directly easy mounting on top-hat rail 3 potential-free relay outputs any number of transponders up to 7 authorisation levels single or group authorisations cyclic reading operating mode LED status indication high-quality and appealing design 	<ul style="list-style-type: none"> plug & work: no programming required, outputs go directly to the external control embedded pluggable module integration in fieldbus systems via Schlegel's modular operating concept 8 open collector outputs: any number of transponders up to 255 authorisation levels single or group authorisations cyclic reading operating mode LED status indication high-quality and appealing design

→ Technical features

Bundle TMS TRA	Bundle TMS TCA
TMS reading/writing unit	
<ul style="list-style-type: none"> 22.3 mm panel cut-out (30.5 mm with LED ring) degree of protection IP65/IP69K 13.56 MHz frequency (license free worldwide) baud rate from 9.600 to 115.200 baud operating temperature from -20°C to +70°C mean operation of 200.000 h supports transponders of the standards: ISO 14443A, ISO 14443B, ISO 15693 	
TMS TRA evaluation electronics	TMS TCA evaluation electronics
<ul style="list-style-type: none"> system voltage 24 V DC ±10% relay outputs: AC15 230V / 3A, DC13 24V / 1A degree of protection IP20 operating temperature from -20°C to +70°C mean operation of 200.000 h mounting on DIN rail N35 	<ul style="list-style-type: none"> system voltage 24 V DC ±10% open collector outputs: 50 mA low active degree of protection IP00 operating temperature from -20°C to +70°C mean operation of 200.000 h mounting via pin connectors, 2.54 mm grid

→ Authorisation levels TMS TRA

Level	Relay 1	Relay 2	Relay 3
1	•		
2		•	
3	•	•	
4			•
5	•		•
6		•	•
7	•	•	•

Table 1: Binary-coded assignment of the transponder to the relay outputs.

→ Authorisation levels TMS TCA

Level	OC 1	OC 2	OC 3	OC 4	OC 5	OC 6	OC 7	OC 8
1	•							
2		•						
3	•	•						
4			•					
5	•		•					
6		•	•					
7	•	•	•					
8				•				
9	•			•				
10		•		•				
11	•	•		•				
12			•	•				
...								
250		•		•	•	•	•	•
251	•	•		•	•	•	•	•
252			•	•	•	•	•	•
253	•		•	•	•	•	•	•
254		•	•	•	•	•	•	•
255	•	•	•	•	•	•	•	•

Table 2: Binary-coded assignment of a transponder to the open collector outputs. Authorisations levels TMS TCA.

RFID

Illustration

Dimensions

Description

Type



TMS bundle TRA

TMS bundle comprising:

- 1 x RFID reader RRJ(XX)_RFID_RS2
- 1 x evaluation electronics RFID_TMS_TRA
- 5 x user key ESRT1_S

Data reader:

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- baud rate 9600 up to 115200 bit/s
- read and write function
- LED status indication
- cable length: 80 cm
- IP65/IP69K

Data evaluation electronics:

- 3 potential-free relay outputs
- max. 7 authorisation levels
- any number of transponders
- supply voltage 24V / DC
- contacts designed for AC15 230V / 3A
- design with housing
- mounting on standard DIN rail for switching cabinets
- IP20

For the programming of the transponders the transponder management software RFID_TMS_Sxxxxxx is required

colour

silver-coloured
black



TMS_RRJ_TRA
TMS_RRJSW_TRA



TMS bundle TCA

TMS bundle comprising:

- 1 x RFID reader RRJ(XX)_RFID_RS2
- 1 x evaluation electronics RFID_TMS_TCA
- 5 x user key ESRT1_S

Data reader:

- panel cut-out Ø 22.3 mm
- frequency range 13.56 MHz
- baud rate 9600 up to 115200 bit/s
- read and write function
- LED status indication
- cable length: 80 cm
- IP65/IP69K

Data evaluation electronics:

- 8 OC outputs
- max. 255 authorisation levels
- any number of transponders
- supply voltage 24V / DC
- pluggable module version
- suitable for the integration in bus systems via Schlegel's modular operating concept

For the programming of the transponders the transponder management software RFID_TMS_Sxxxxxx is required

colour

silver-coloured
black



TMS_RRJ_TCA
TMS_RRJSW_TCA

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

RFID

Illustration

Dimensions

Description

Type



RFID programming bundle

SKS_TMS_XXXXXX

For the RFID_SKS_TMS / RFID_TMS_TCA for writing the RFID transponders via a PC with USB connection

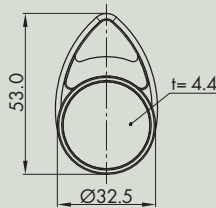
Consisting of:

- RFID programming station
- RFID programming software

Requirement:

Microsoft Windows® XP / 7 / 8 / 10 32-Bit / 64-Bit

Zubehör



RFID tag drop-shaped 1 KB

NXP Mifare Classic EV1 inscription on request

colour			
blue			ESRT1_B
yellow			ESRT1_Y
green			ESRT1_G
red			ESRT1_R
black			ESRT1_S



RFID chip card 1 KB

ESRC1

NXP Mifare Classic EV1

- length: 85 mm, width: 54 mm, height: 0.9 mm



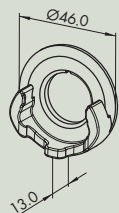
LED light ring for status indication

LED light ring for an optical amplification of the status indication

- system connection to the RFID reader
- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
- panel cut-out Ø 30.5 mm
- delivery without RFID reader

colour			
blue/green			LR22K5DUO_GB_619

LR22K5DUO_GB_619



RFID tag holder

for fixing the transponder from the top or from the front, e.g. combined with a bunch of key

- panel cut-out Ø 30.5 mm

Only suitable for the use of Schlegel RFID tags!

colour			
white			RRJ_RFID_HR_WS
black			RRJ_RFID_HR_SW

RRJ_RFID_HR_WS
RRJ_RFID_HR_SW

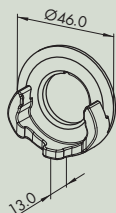
RFID

Illustration

Dimensions

Description

Type



RFID tag holder with LED status indication

for fixing the transponder from the top or from the front, e.g. combined with a bunch of key, with LED illuminated ring for an optical amplification of the status indication

- system connection to the RFID reader
- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
- panel cut-out Ø 30.5 mm

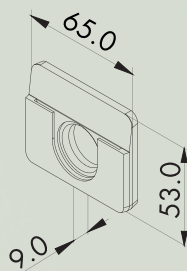
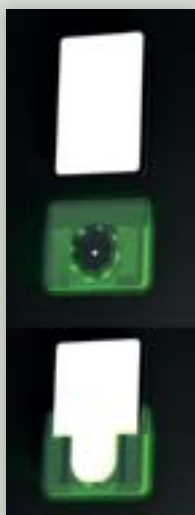
Only suitable for the use of Schlegel RFID tags!
Delivery without RFID reader.

colour

blue/green



RRJ_RFID_HR_LBG



RFID card holder with LED status indication

for fixing the chip card, with LED illuminated ring for an optical amplification of the status indication

- system connection to the RFID reader
- colouring via the RFID reader (SKS, TMS) or an external control (RFID Standard)
- panel cut-out Ø 30.5 mm

Only suitable for the use of Schlegel RFID chip cards!
Delivery without RFID reader.

colour

blue/green



RRJ_RFID_KH_LBG



Interference filter

external filter for disturbances from 2000 V for extreme EMC requirements

- mounting on top-hat rail (N35)

colour

silver-coloured



EE_ESF_1

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index





→ Enclosures

- Stainless steel enclosure for hygienic application (SVA...) page 672
- Stainless steel enclosures for profile rail mounting (S4...) page 673
- Insulated plastic enclosures (SIL...) page 675
- E-stop enclosures (SIL...) page 676
- ASI e-stop enclosures (SIL...) page 678
- E-stop control stations M12 (SIL...) page 679
- Compact e-stop enclosures minibox page 681
- Insulated plastic enclosures (DIR...) page 688
- Equipped insulated plastic enclosures (DIR...) page 691
- Insulated plastic enclosures (IRL...) page 692
- Equipped insulated plastic enclosures (IRF...) page 694

Equipped Stainless Steel Enclosure

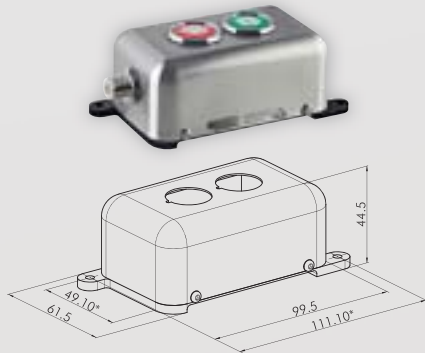
Illustration

Dimensions

Description

Type

IP69K



Stainless steel enclosure with 2 illuminated pushbuttons

Mounting hole diameter: Ø 4.3mm

Actuators: 2 pushbutton heads ref.RRJAFT

Contacts: 1 ea. inverter

Operating temperature: -30 °C ... +65 °C

Storage temperature: -50 °C ... +85 °C

Connection: 8-pole M12 female connector

Rated voltage: 1 V ... 30/36 V /AC/DC

Rated current: 0.01 mA ... 100 mA

LED rated voltage: 24 V / AC/DC

LED rated current: 7 /15 mA

other versions on request

mounting holes: 2

equipped: Yes

Panel cut-out: Ø 22.3 mm

Colour:

stainless steel, brushed finish



SVAB22/2_01


Equipped Stainless Steel Enclosure


Illustration

Dimensions


Description


Type

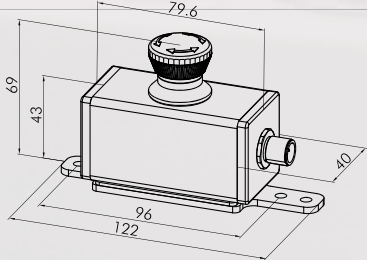
IP54




Equipped stainless steel enclosure with M12 cable entry (8 poles) for profile rail mounting - 1 mounting hole
1 emergency-stop FRVKOO
Equipped: yes



Mounting holes: 1
Colour: stainless steel, brushed finish  **S41_01**



IP54






Equipped stainless steel enclosure with M12 cable entry (8 poles) for profile rail mounting - 2 mounting holes
1 emergency-stop FRVKOO
1 pushbutton SSWTI
incl. lenses (clear, red, green, yellow, blue)
Equipped: yes




Mounting holes: 2
Colour: stainless steel, brushed finish  **S42_02**




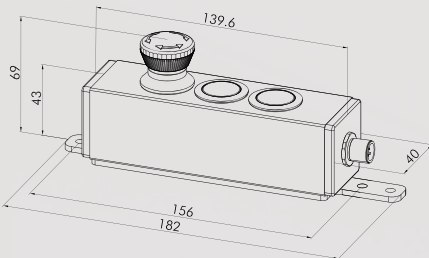
IP54




Equipped stainless steel enclosure with M12 cable entry (8 poles) for profile rail mounting - 3 mounting holes
1 emergency-stop FRVKOO
2 pushbuttons SSWTI
incl. lenses (clear, red, green, yellow, blue)
Equipped: yes



Mounting holes: 3
Colour: stainless steel, brushed finish  **S43_03**



Equipped Stainless Steel Enclosure

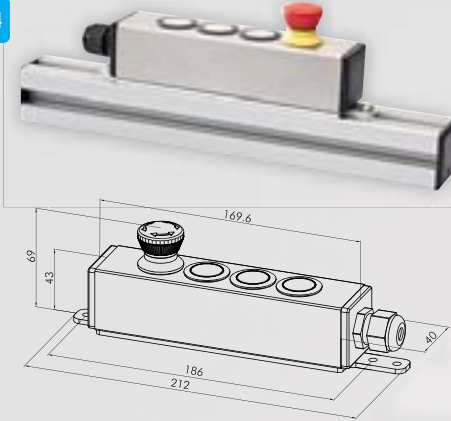
Illustration

Dimensions

Description

Type

IP54



Equipped stainless steel enclosure with cable gland for profile rail mounting - 4 mounting holes

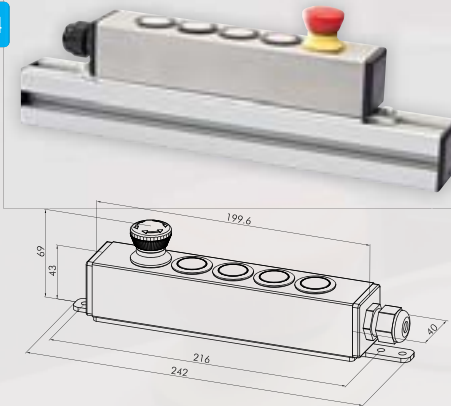
1 emergency-stop FRVKOO
3 pushbuttons SSWTI
incl. lenses (clear, red, green, yellow, blue)
Equipped: yes



Mounting holes: 4
Colour: stainless steel, brushed finish

 **S44_04**

IP54



Equipped stainless steel enclosure with cable gland for profile rail mounting - 5 mounting holes

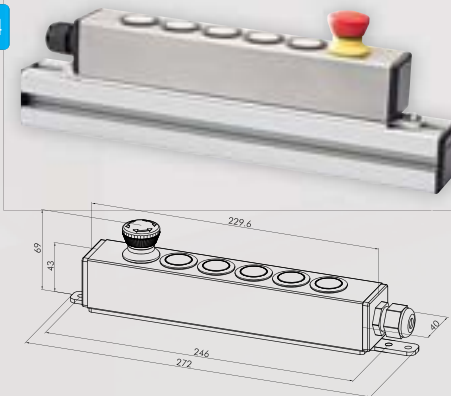
1 emergency-stop FRVKOO
4 pushbuttons SSWTI
incl. lenses (clear, red, green, yellow, blue)
Equipped: yes



Mounting holes: 5
Colour: stainless steel, brushed finish

 **S45_05**

IP54



Equipped stainless steel enclosure with cable gland for profile rail mounting - 6 mounting holes

1 emergency-stop FRVKOO
5 pushbuttons SSWTI
incl. lenses (clear, red, green, yellow, blue)
Equipped: yes



Mounting holes: 6
Colour: stainless steel, brushed finish

 **S46_06**

Insulated Plastic Enclosures

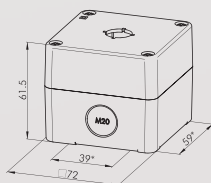
Illustration

Dimensions

Description

Type

IP65
IP69K



Insulated plastic enclosure with 1 mounting hole

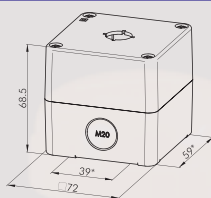
Equipped: no
Weight: 96 g
Cable entry: break-through wall M20



Mounting holes: 1
Panel cut-out: Ø 16.2 mm
Colour: black bottom part/yellow cover

SIL16/1

IP65
IP69K



High insulated plastic enclosure with 1 mounting hole

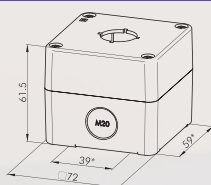
Equipped: no
Weight: 104 g
Cable entry: break-through wall M20



Mounting holes: 1
Panel cut-out: Ø 16.2 mm
Colour: black bottom part/yellow cover

SILH16/1

IP65
IP69K



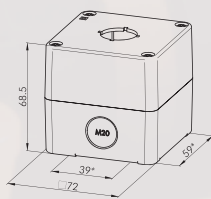
Insulated plastic enclosure with 1 mounting hole

Equipped: no
Weight: 96 g
Cable entry: break-through wall M20

Mounting holes: 1
Panel cut-out: Ø 22.3 mm
Colour: black bottom part/yellow cover

SIL22/1

IP65
IP69K



High insulated plastic enclosure with 1 mounting hole

Equipped: no
Weight: 104 g
Cable entry: break-through wall M20



Mounting holes: 1
Panel cut-out: Ø 22.3 mm
Colour: black bottom part/yellow cover

SILH22/1

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Equipped Insulated Plastic Enclosures

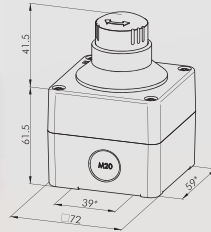
Illustration

Dimensions

Description

Type

IP65
IP69K



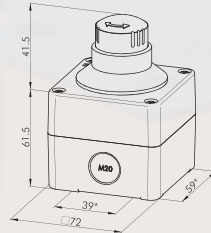
Emergency-stop control station

with switching position indicator and yellow anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

mounting hole dia. 4.2 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Equipped: yes
 Cable entry: break-through wall M20
 Colour: black bottom part/yellow cover

SIL_QRBUVOO

IP65



Emergency-stop control station, illuminated

with switching position indicator and yellow illuminated anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

mounting hole dia. 4.2 mm
 Contact equipment: 2NC
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: yes
 Release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Equipped: yes
 Cable entry: break-through wall M20
 Colour: black bottom part/yellow cover

SIL_QRBLUVOO

Equipped Insulated Plastic Enclosures

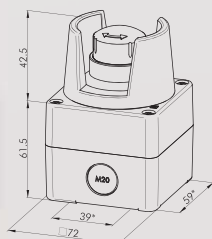
Illustration

Dimensions

Description

Type

IP65
IP69K



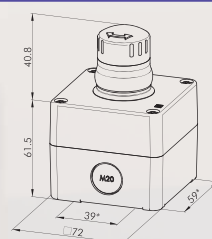
Emergency-stop control station

with switching position indicator and yellow protective shroud, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

- mounting hole dia. 4.2 mm
- NOTE: The user must ensure the emergency-stop with protective shroud to be easy accessible!
- Contact equipment: 2NC
- Foolproof: yes
- Switching position indicator: yes
- Anti-lock collar: yes
- Release: twist right or left
- Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
- Equipped: yes
- Cable entry: break-through wall M20
- Colour: black bottom part/yellow cover

SIL_QRSKUV00

IP66
IP69K



Emergency-stop control station for hygienic application

twist release e-stop, compliant to BG acc. to DIN EN 1672-2 and GS-FW 01/01

- mounting hole dia. 4.2 mm
- Contact equipment: 2NC
- Foolproof: yes
- Switching position indicator: no
- Anti-lock collar: no
- Release: twist right or left
- Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
- Equipped: yes
- Cable entry: break-through wall M20
- Colour: black bottom part/yellow cover

SIL_QRUVPO0

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Equipped Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
		<p>AS-Interface emergency-stop control station - Safety at Work -</p> <p>ASI slave: ASI_SAW22E actuator: QRBUV, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles) Contact equipment: bus-compatible Equipped: yes</p>	<p>Colour: black bottom part/yellow cover</p> <p>SILH_ASIE_QRBUV</p>
		<p>AS-Interface emergency-stop control station, illuminated - Safety at Work -</p> <p>ASI slave: ASI_SAW22A actuator: QRBLUV, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles) Contact equipment: bus-compatible Equipped: yes</p>	<p>Colour: black bottom part/yellow cover</p> <p>SILH_ASI_QRBLUV</p>
		<p>AS-Interface emergency-stop control station - Safety at Work -</p> <p>ASI-Slave: ASI_SAW22E Equipment: QRUVV for hygienic applications (compliant to BG acc. to DIN EN 1672-2 and GS-FW 01/01), foolproof acc. to EN ISO 13850 Connection: M12 (4 poles) Contact equipment: bus-compatible Equipped: yes</p>	<p>Colour: black bottom part/yellow cover</p> <p>SILH_ASIE_QRUVV</p>
		<p>AS-Interface emergency-stop control station - Safety at Work -</p> <p>ASI slave: ASI_SAW22E actuator: QRSKUUV, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles) Contact equipment: bus-compatible Foolproof: no Switching position indicator: no Anti-lock collar: no Equipped: yes</p>	<p>Colour: black bottom part/yellow cover</p> <p>SILH_ASIE_QRSKUV</p>

Equipped Insulated Plastic Enclosures

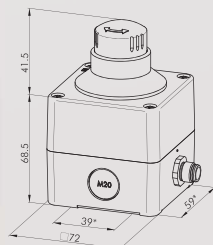
Illustration

Dimensions

Description

Type

IP65



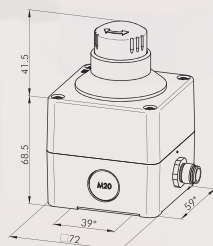
Emergency-stop control station with M12 connector - 2NC

with switching position indicator and yellow anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

- mounting hole dia. 4.2 mm
- Contact equipment: 2NC
- Foolproof: yes
- Switching position indicator: yes
- Anti-lock collar: yes
- Release: twist right or left
- Equipped: yes
- Cable entry: 4-pole M12, A coded
- Colour: dark-grey bottom part/yellow cover

SIL_QRBUVOO_M12

IP65



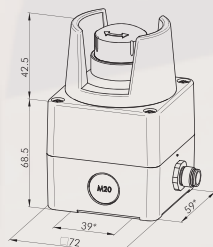
Emergency-stop control station with M12 connector - 2NC+1NO

with switching position indicator and yellow anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

- mounting hole dia. 4.2 mm
- Contact equipment: 2NC + 1NO
- Foolproof: yes
- Switching position indicator: yes
- Anti-lock collar: yes
- Release: twist right or left
- Equipped: yes
- Cable entry: 8-pole M12, A coded
- Colour: dark-grey bottom part/yellow cover

SIL_QRBUVOOI_M12

IP65



Emergency-stop control station with M12 connector - 2NC

with switching position indicator and yellow collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

- mounting hole dia. 4.2 mm
- Contact equipment: 2NC
- Foolproof: yes
- Switching position indicator: yes
- Permissive Contact: no
- Anti-lock collar: yes
- Release: twist right or left
- Equipped: yes
- Cable entry: 4-pole M12, A coded
- Colour: dark-grey bottom part/yellow cover

SIL_QRSKUVOO_M12

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

→ Enclosures

Pedal Switches

Terminal Blocks

Type Index

Equipped Insulated Plastic Enclosures

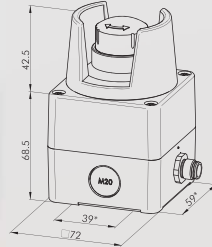
Illustration

Dimensions

Description

Type

IP65



Emergency-stop control station with M12 connector - 2NC+1NO

with switching position indicator and yellow collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5

mounting hole dia. 4.2 mm

Contact equipment: 2NC + 1NO

Foolproof: yes

Switching position indicator: yes

Permissive Contact: no

Anti-lock collar: yes

Release: twist right or left

Equipped: yes

Cable entry: 8-pole M12, A coded

Colour: dark-grey bottom part/yellow cover

SIL_QRSKUV00IM12

Minibox with cable entry M16/M20 for profile rail or wall mounting

General data - contact module

- > Operating temperature: -25°C ... 70°C
- > Storage temperature: -40°C ... 85°C
- > Vibration / shock resistance: acc. to EN 60068-2-6/-27
- > Environmental conditions: acc. to EN 60068-2

Technical data - switch element

- > Ratings (gold-plated contacts): 20mV...42V AC/DC
1mA...250mA
- > Ratings (silver contacts) acc. to EN 60947-5-1: non-illuminated AC15 B300 250V/1.5A, lth 5A DC13 Q300, 250V/0.27A
- > Electrical life (rated load): illuminated SELV
50,000
- > Positive opening contact: EN 60947-5-1, app. K

Technical data - LED

- > Operating voltage: 24V DC
- > Power consumption: max. 15 mA (at 24 V DC)

Using the fastening clip, the minibox can be mounted both on a profile rail or on a wall.

Assembly sequence using the example of profile rail mounting with lateral cable entry (not M12 version)



- > screw down mounting clip

1



- > attach lower box part
- > insert cable
- > contact wire ends
- > snap in PC board

2



- > snap on upper box part

3



ready

4

Equipped Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
 <p>IP65</p> <p></p> <p>Technical drawing showing dimensions: 108.60 (width), 23.80 (height), 28.60 (depth), and 41.80 (cable entry offset).</p>	<p>minibox with lateral cable entry M16 and illuminated emergency-stop</p> <p>Contact equipment: 2NC Foolproof: yes Switching position indicator: yes Anti-lock collar: no Standard: EN60947-1/5-5 Equipped: yes</p> <p> </p>	<p>Colour: dark-grey bottom part/yellow cover</p> <p>MBP_FRVKL00</p>	
 <p>IP65</p> <p>Technical drawing showing dimensions: 108.60 (width), 23.80 (height), 28.60 (depth), and 41.80 (cable entry offset).</p>	<p>minibox with lateral cable entry M16</p> <p>Contact equipment: 2NC Foolproof: yes Switching position indicator: yes Anti-lock collar: no Standard: EN60947-1/5-5 Equipped: yes</p> <p> </p>	<p>Colour: dark-grey bottom part/yellow cover</p> <p>MBP_FRVK00</p>	
 <p>IP65</p> <p></p> <p>Technical drawing showing dimensions: 108.60 (width), 23.80 (height), 28.60 (depth), and 41.80 (cable entry offset).</p>	<p>minibox with bottom-side cable entry M20 and illuminated emergency-stop</p> <p>Contact equipment: 2NC Foolproof: yes Switching position indicator: yes Anti-lock collar: no Standard: EN60947-1/5-5 Equipped: yes</p> <p> </p>	<p>Colour: dark-grey bottom part/yellow cover</p> <p>MBW_FRVKL00</p>	
 <p>IP65</p> <p>Technical drawing showing dimensions: 108.60 (width), 23.80 (height), 28.60 (depth), and 41.80 (cable entry offset).</p>	<p>minibox with bottom-side cable entry M20</p> <p>Contact equipment: 2NC Foolproof: yes Switching position indicator: yes Anti-lock collar: no Standard: EN60947-1/5-5 Equipped: yes</p> <p> </p>	<p>Colour: dark-grey bottom part/yellow cover</p> <p>MBW_FRVK00</p>	

Equipped Insulated Plastic Enclosures

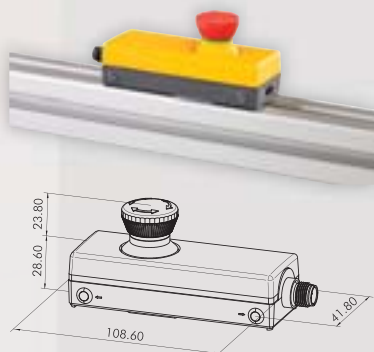
Illustration

Dimensions

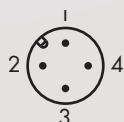
Description

Type

IP65



minibox with M12 cable entry (4 poles)



Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Connection: M12, 4 poles (m)
 Pin 1,2: NC 1; Pin 3,4: NC 2
 Contact material: AgNi
 Electrical life: 50.000 at rated load
 Positive opening: acc. to EN 60947-5-1, append. K
 Test voltage M12 plug: 2.0 kV
 Electrical Data acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

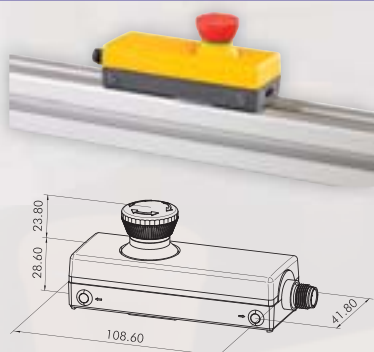
alternating current direct current
 Utilisation category: AC15 DC13
 Rated operating voltage Ue: 240V 250V
 Rated operating current Ie: 1.5A 0.27A
 Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Standard: EN60947-1/5-5
 Equipped: yes



Colour: dark-grey bottom part/yellow cover

MBM124_FRVK00

IP65



minibox with M12 cable entry (8 poles)



Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Connection: M12, 8 poles (m)
 Pin 1,2: NC 1; Pin 3,4: NC 2
 Pin 5,6: NO ; Pin 7,8: NC.
 Contact material: AgNi, gold-plating 5µm
 Electrical life: 50.000 at rated load
 Positive opening: acc. to EN 60947-5-1, append. K
 Test voltage M12 plug: 1.5 kV

Electrical Data
 Operating voltage: 1V... 36V
 Operating current: 1mA ... 250mA
 Contact equipment: 1 NO + 2 NC (positive opening contacts)

Foolproof: yes
 Switching position indicator: yes
 Anti-lock collar: no
 Standard: EN60947-1/5-5
 Equipped: yes



Colour: dark-grey bottom part/yellow cover

MBM128_FRVK00I

Equipped Insulated Plastic Enclosures

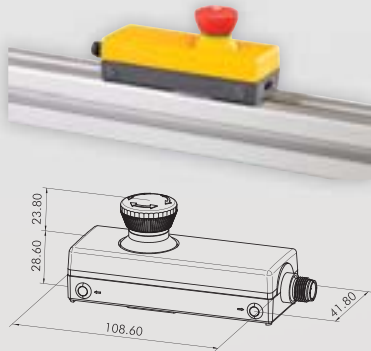
Illustration

Dimensions

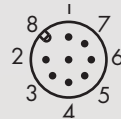
Description

Type

IP65



minibox with M12 cable entry (8 poles) and illuminated emergency-stop



Operating temperature:

-25 °C...+70 °C

Storage temperature:

-25°C...+85 °C

Connection:

M12, 8 poles (m)

Pin 1,2: NC 1; Pin 3,4: NC 2

Pin 5 (X1/+), Pin 6 (X2/-): LED;

Pin 7,8: n.c.

Contact material:

AgNi, gold-plated 5µm

Electrical life:

50.000 at rated load

Positive opening:

acc. to EN 60947-5-1,

appendix K

1.5 kV

Test voltage M12 plug:

Electrical Data

Operating voltage:

1V... 36V

Operating current:

1mA ... 250mA

LED lighting:

max. 30 V AC/DC, type 4 mA
(at 24 V DC)

Contact equipment:

2NC, positive opening contact

Foolproof:

yes

Switching position indicator:

yes

Anti-lock collar:

no

Standard:

EN60947-1/5-5

Equipped:

yes



Colour:

dark-grey bottom part/yellow cover

MBM128_FRVKLOO

Equipped Insulated Plastic Enclosures

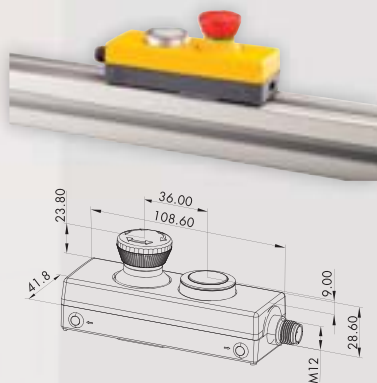
Illustration

Dimensions

Description

Type

IP65



**minibox with M12 cable entry (8 poles)
with emergency-stop and pushbutton**



Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 E-stop/button type: emergency-stop: 2 NC (positive opening), 1 NO pushbutton: 1 NO with fastening clip on the rear
 Fixation: M12 8 pole (m) pos.1 (emergency-stop)
 Connection: NC 1, Pin 1-2; NC 2, Pin 3-4; NO, Pin 5-6 pos.2: (pushbutton) NO, pin 7-8
 Contact material: AgNi, gold-plated 5µm

Electr./mech. life: 50.000 at rated load (ambient temperature = 20°C)
 Emergency-stop: 1 million (ambient temperature = 20°C)
 Pushbutton: NC contact, acc. to EN 60947-5-1, appendix K
 Positive opening: 1.5kV
 Test voltage M12 plug: 1V... 36V
 Electrical Data Operating voltage: 1mA ... 250mA
 Operating current: yes
 Foolproof: yes
 Switching position indicator: no
 Anti-lock collar: EN60947-1/5-5
 Standard: yes
 Equipped:



Colour: dark-grey bottom part/yellow cover

MBM128_NOOIT1

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Equipped Insulated Plastic Enclosures

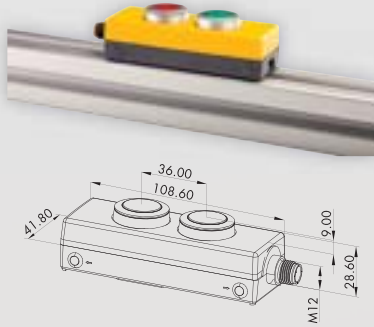
Illustration

Dimensions

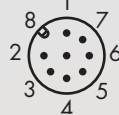
Description

Type

IP65



minibox with 2 pushbuttons and M12 cable entry (8 poles)



Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C

Storage temperature: -25 °C...+85 °C

Pushbutton type: 1 NO and 1 NC (positive opening)

Fixation: with fastening clip on the rear
 Connection: M12 8 poles (m) Pos. 1 (pushbutton) NO, pin 1-2; lamp, pin 3-4; Pos. 2 (pushbutton); NC, pin 5-6; lamp, pin 7-8

Contact material: AgNi, gold-plated 5µm
 Electrical life: 1 million at rated load (ambient temp. = 20 °C)

Mechanical life: 1 million operations (ambient temp. = 20 °C)

Positive opening: NC contact acc. to EN 60947-5-1, appendix K

Test voltage M12 plug: 1.5 kV

Electrical Data Operating voltage: 1V... 36V

Operating current: 1 mA ... 250mA

LED illumination: max. 30 V AC/DC, typ. 4 mA (at 24 V DC)

Equipped: yes

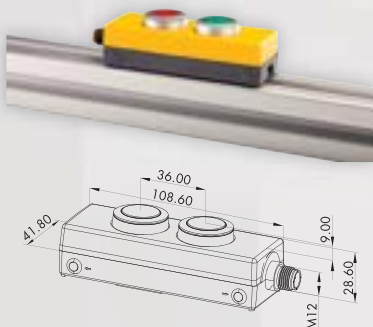
Colour: dark-grey bottom part/yellow cover

dark-grey bottom part/light-grey cover

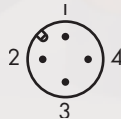
MBM128_TLITLO

MBM128_GR_TLITLO

IP65



minibox with 2 pushbuttons and M12 cable entry (4 poles)



Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C

Storage temperature: -25 °C...+85 °C

Pushbutton type: 1 NO and 1 NC (positive opening)

Fixation: with rear mounting clip

Connection: M12 4 poles (m)

Pos. 1 (pushbutton 1) NO, pin 1-2 Pos. 2 (pushbutton 2) NC, pin 3-4

Contact material: AgNi

Mechanical life: 1 million (ambient temp. = 20 °C)

Positive opening: NC contact, acc. to EN 60947-5-1, appendix K

Test voltage M12 plug: 2.0kV

Electrical Data acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

Utilisation category: AC15 alternating current DC13 Rated

Operating voltage U_e: 240V 250V Rated

Operating current I_e: 1.5A 0.27A

Equipped: yes

Colour: dark-grey bottom part/yellow cover

MBM124_TITO

Equipped Insulated Plastic Enclosures

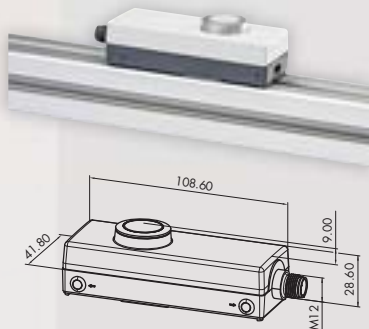
Illustration

Dimensions

Description

Type

IP65



minibox with pushbutton and M12 cable entry (4 poles)

Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C

Storage temperature: -25 °C...+85 °C

Pushbutton type: 1 NO

Degree of protection: IP65

Fixation: with rear mounting clip

Connection: M12 4 poles (m)

NO, Pin 1-2

lamp, Pin 3 (X1 +) - Pin 4 (X2 -)

Contact material: AgNi

Mechanical life: 1m (ambient temp. 20°C)

Bouncing time: < 10ms

Test voltage M12 plug: 2.0 kV

Electrical Data - Contact Element acc. to IEC/EN 60947-5-1

(VDE 0660 sect. 200)

Utilisation category:

alternating current direct current

Operating voltage U_e:

AC15 DC13 Rated

240V / 120V 250V /

125V / 60V / 24V

Rated operating current I_e:

1.5A / 3A 0.27A /

0.55A / 1A / 2A

Breaking capacity:

10I_e 1.1I_e

Continuous thermal current:

4A (40°C) 2.5A

Electrical Data - diode LED:

max. 30 V AC/DC, typ. 14 mA

(at 24 V DC)

Equipped:

yes

Colour:

dark-grey bottom part/light-
grey cover

MBM124_GR_TLI

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

→ Enclosures

Pedal Switches

Terminal Blocks

Type Index

Insulated Plastic Enclosures

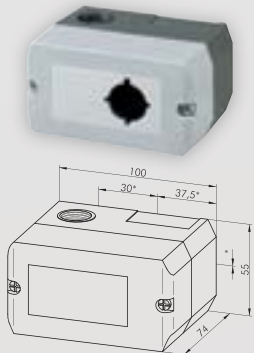
Illustration

Dimensions

Description

Type

IP65



*Dimensions for fastening holes

Insulated plastic enclosure, 1 mounting hole

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

Equipped: no
 Weight: 165 g
 Material: polyamide 6
 Cable entry: M20x1.5

Mounting holes: 0
 Panel cut-out: without mounting hole
 Colour: dark-grey bottom part/light-grey cover

DIRLTV

0
 without mounting hole
 colour: dark-grey bottom part/yellow cover

DIRLTVGB

Mounting holes: 1
 Panel cut-out: Ø 16.2 mm
 Colour: dark-grey bottom part/light-grey cover

DIRLTV-R16

1
 Ø 16.2 mm
 colour: dark-grey bottom part/yellow cover

DIRLTVGB-R16

Mounting holes: 1
 Panel cut-out: Ø 22.3 mm
 Colour: dark-grey bottom part/light-grey cover

DIRLTV-R22

1
 Ø 22.3 mm
 colour: dark-grey bottom part/yellow cover

DIRLTVGB-R22

Mounting holes: 1
 Panel cut-out: Ø 30.5 mm
 Colour: dark-grey bottom part/light-grey cover

DIRLTV-R30

1
 Ø 30,5 mm
 Farbe: dark-grey bottom part/yellow cover

DIRLTVGB-R30

Mounting holes: 1
 Panel cut-out: 23 x 23 mm
 Colour: dark-grey bottom part/light-grey cover

DIRLTV-Q23

1
 23 x 23 mm
 colour: dark-grey bottom part/yellow cover

DIRLTVGB-Q23

Mounting holes: 1
 Panel cut-out: 24 x 24 mm
 Colour: dark-grey bottom part/light-grey cover

DIRLTV-Q24

1
 24 x 24 mm
 colour: dark-grey bottom part/yellow cover

DIRLTVGB-Q24

Mounting holes: 1
 Panel cut-out: 26 x 26 mm
 Colour: dark-grey bottom part/light-grey cover

DIRLTV-Q26

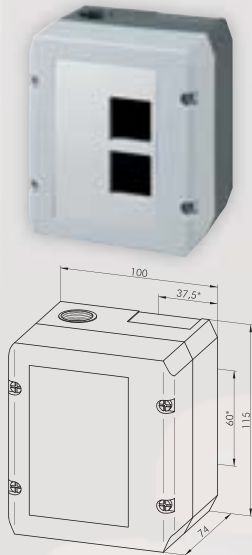
1
 26 x 26 mm
 Colour: dark-grey bottom part/yellow cover

DIRLTVGB-Q26

Insulated Plastic Enclosures

Illustration Dimensions Description Type

IP65



*Dimensions for fastening holes

Insulated plastic enclosure, 2 mounting holes

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

Equipped: no
Weight: 270 g
Material: polyamide 6
Cable entry: M20x1.5

Panel cut-out:	without mounting hole	
Colour:	dark-grey bottom part/light-grey cover	DIRL2-3V
Mounting holes:	2	
Panel cut-out:	Ø 16.2 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL2V-R16
Mounting holes:	2	
Panel cut-out:	Ø 22.3 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL2V-R22
Mounting holes:	2	
Panel cut-out:	23 x 23 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL2V-Q23
Mounting holes:	2	
Panel cut-out:	24 x 24 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL2V-Q24
Mounting holes:	2	
Panel cut-out:	26 x 26 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL2V-Q26

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

→ Enclosures

Pedal Switches

Terminal Blocks

Type Index

Insulated Plastic Enclosures

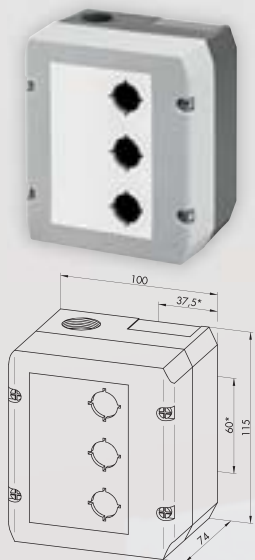
Illustration

Dimensions

Description

Type

IP65



*Dimensions for fastening holes

Insulated plastic enclosure, 3 mounting holes

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

Equipped: no
 Weight: 270 g
 Material: PA6
 Cable entry: M20x1.5

Mounting holes: 3
 Panel cut-out: Ø 16.2 mm
 Colour: dark-grey bottom part/light-grey cover

DIRL3V-R16

Mounting holes: 3
 Panel cut-out: Ø 22.3 mm
 Colour: dark-grey bottom part/light-grey cover

DIRL3V-R22

Mounting holes: 3
 Panel cut-out: 23 x 23 mm
 Colour: dark-grey bottom part/light-grey cover

DIRL3V-Q23

Mounting holes: 3
 Panel cut-out: 24 x 24 mm
 Colour: dark-grey bottom part/light-grey cover

DIRL3V-Q24

Mounting holes: 3
 Panel cut-out: 26 x 26 mm
 Colour: dark-grey bottom part/light-grey cover

DIRL3V-Q26

Equipped Insulated Plastic Enclosures

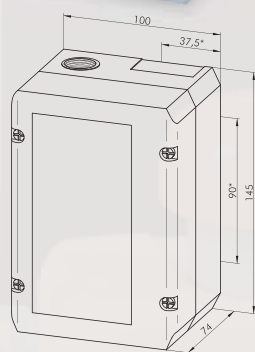
Illustration

Dimensions

Description

Type

IP65



*Dimensions for fastening holes

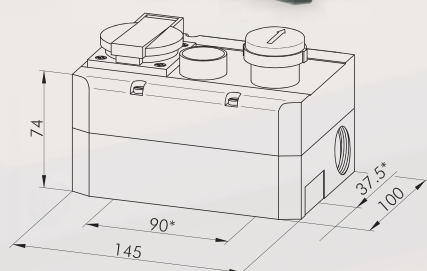
Insulated plastic enclosure, 3 resp. 4 mounting holes

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

Equipped: no
Weight: 310 g
Material: polyamide 6
Cable entry: M25x1.5

Panel cut-out:	without mounting hole	
Colour:	dark-grey bottom part/light-grey cover	DIRL4V
Mounting holes:	4	
Panel cut-out:	Ø 16.2 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL4V-R16
Mounting holes:	4	
Panel cut-out:	Ø 22.3 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL4V-R22
Mounting holes:	4	
Panel cut-out:	23 x 23 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL4V-Q23
Mounting holes:	4	
Panel cut-out:	24 x 24 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL4V-Q24
Mounting holes:	4	
Panel cut-out:	26 x 26 mm	
Colour:	dark-grey bottom part/light-grey cover	DIRL4V-Q26

IP54



Elevator safety control station I

Insulated plastic enclosure made of polyamide 6, printed "STOP", including 1 emergency-stop with yellow arrow marking which clearly defines the switching position, 1 illuminated pushbutton for the hoist-way lighting and a Schuko socket

Equipped: yes
Cable entry: M25x1.5

Colour: dark-grey bottom part/yellow cover **DIR/GRU-I**

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
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IP54



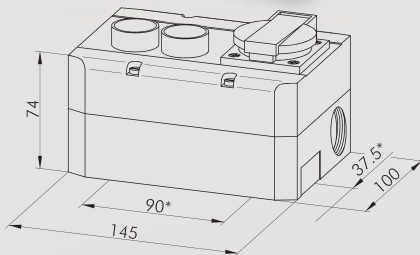
Elevator safety control station II

Insulated plastic enclosure made of polyamide 6, including 1 illuminated pushbutton for the hoistway lighting, 1 alarm pushbutton and a Schuko socket

Equipped: yes
Cable entry: M25x1.5

Colour: dark-grey bottom part/light-grey cover

DIR/GRU-II



IP54



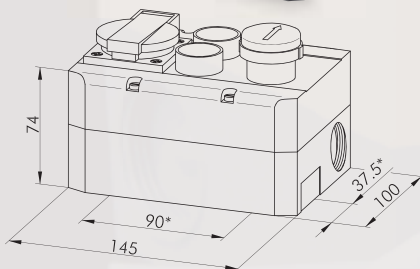
Elevator safety control station III

Insulated plastic enclosure made of polyamide 6, printed "STOP", including 1 emergency-stop with yellow arrow marking which clearly defines the switching position, 1 illuminated pushbutton for the hoistway lighting, 1 alarm pushbutton and a Schuko socket

Equipped: yes
Cable entry: M25x1.5

Colour: dark-grey bottom part/yellow cover

DIR/GRU-III



IP65



Emergency-stop station for the elevator cage roof

Insulated plastic enclosure marked STOP. The yellow arrow on the emergency-stop clearly defines the switching position. The standard version includes 1 NC (screw connection).

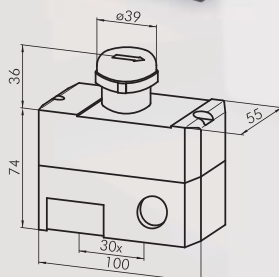
Acc. to the EN81 regulations new lifts have to be equipped with an emergency-stop switch with switching position indicator.

Equipped: yes
Cable entry: M20x1.5

Panel cut-out: Ø 22.3 mm

Colour: dark-grey bottom part/yellow cover

DIR1GB_OS



Insulated Plastic Enclosures

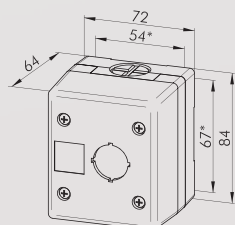
Illustration

Dimensions

Description

Type

IP65



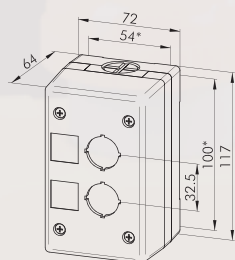
Insulated plastic enclosure, 1 mounting hole

Fastening holes: Ø 5.2mm
 Equipped: no
 Weight: 165 g
 Material: ABS
 Cable entry: with PVC cable entry on the top: Ø 20.2 mm
 break-through wall at the bottom: Ø 20.2 mm

Mounting holes: 1
 Panel cut-out: Ø 22.3 mm
 colour: light-grey
 Colour: yellow



IP65



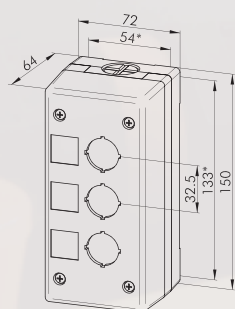
Insulated plastic enclosure, 2 mounting holes

Fastening holes: Ø 5.2mm
 Equipped: no
 Weight: 195 g
 Material: ABS
 Cable entry: with PVC cable entry on the top: Ø 20.2 mm
 break-through wall at the bottom: Ø 20.2 mm

Mounting holes: 2
 Panel cut-out: Ø 22.3 mm
 Colour: light-grey



IP65



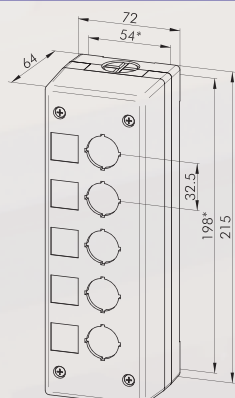
Insulated plastic enclosure, 3 mounting holes

Fastening holes: Ø 5.2mm
 Equipped: no
 Weight: 230 g
 Material: ABS
 Cable entry: with PVC cable entry on the top: Ø 20.2 mm
 break-through wall at the bottom: Ø 20.2 mm

Mounting holes: 3
 Panel cut-out: Ø 22.3 mm
 Colour: light-grey



IP65



Insulated plastic enclosure, 5 mounting holes

Fastening holes: Ø 5.2mm
 Equipped: no
 Weight: 300 g
 Material: ABS
 Cable entry: with PVC cable entry on the top: Ø 20.2 mm
 break-through wall at the bottom: Ø 20.2 mm

Mounting holes: 5
 Panel cut-out: Ø 22.3 mm
 Colour: light-grey



Equipped Insulated Plastic Enclosures

Illustration

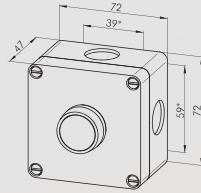
Dimensions

Description

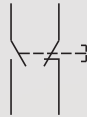
Type

IP65

6 mm



Equipped insulated plastic enclosure for one actuator

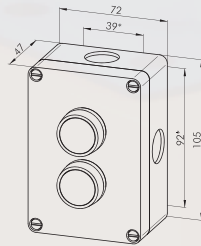


Fastening holes: \varnothing 4.2mm
 Contact equipment: 1NC + 1NO
 Equipped: yes
 Weight: 115 g
 Material: ABS
 Cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.
 Switching function: momentary action
 Mounting holes: 1
 Colour: light-grey

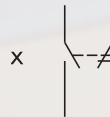
 IRF1

IP65

6 mm



Equipped insulated plastic enclosure for two actuators



Fastening holes: \varnothing 4.2mm
 Contact equipment: 1NC + 1NO (per switching point)
 Equipped: yes
 Weight: 171 g
 Material: ABS
 Cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.
 Switching function: momentary action
 Mounting holes: 2
 Colour: light-grey

 IRF2

Equipped Insulated Plastic Enclosures

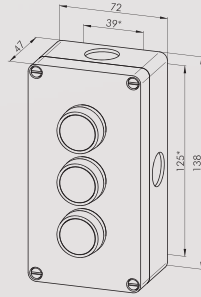
Illustration

Dimensions

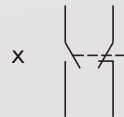
Description

Type

IP65
↓ 6 mm



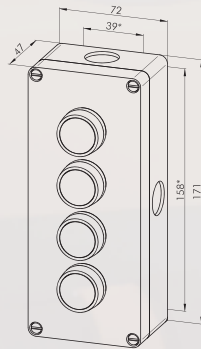
Equipped insulated plastic enclosure for three actuators



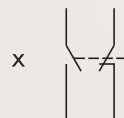
Fastening holes: \varnothing 4.2mm
 Contact equipment: 1NC + 1NO (per switching point)
 Equipped: yes
 Weight: 217 g
 Material: PA6
 Cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.
 Switching function: momentary action
 Mounting holes: 3
 Colour: light-grey

IRF3

IP65
↓ 6 mm



Equipped insulated plastic enclosure for four actuators



Fastening holes: \varnothing 4.2mm
 Contact equipment: 1NC + 1NO (per switching point)
 Equipped: yes
 Weight: 269 g
 Material: PA6
 Cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.
 Switching function: momentary action
 Mounting holes: 4
 Colour: light-grey

IRF4



General Data

Type reference:	ET_KEF
Description:	Contact block for base-plate mounting, with positive opening contact
Approvals:	CE
Contact type:	1NC + 1NO
Protection class:	II (protective insulation)
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 70°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 million switching cycles
Electrical life (rated load):	1 million at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage U_i :	400V	400V
Rated operating voltage U_e :	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current I_e :	5A / 3A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~ / 440 V~
Rated current I_e :	10(6) A / 6(3) A

Note

Note for emergency-stop contact blocks:

In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

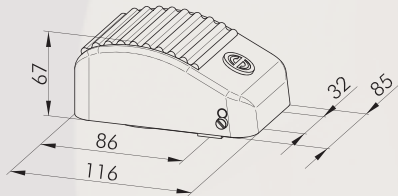
Illustration

Description

Type

IP65

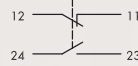
6 mm



Pedal Switch

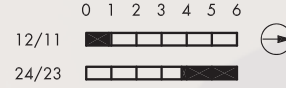
with red pedal (powder-coated)
other colours on request
Cable entry: 1xM16x1.5
Connection type:

Contact material:



colour:

screw connection 2x2.5mm²,
finger-protected acc. to BGVA3
AgNi

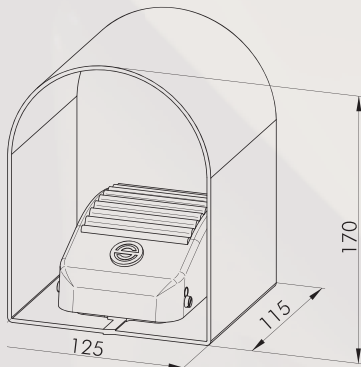


red

KEFM

IPOO

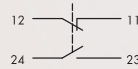
6 mm



Pedal Switch with domed protection cover

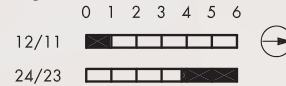
with red pedal and yellow protective cover made of steel sheet
(powder-coated)
other colours on request
Cable entry: 1x M16x1.5
Connection type:

Contact material:



colour:

screw connection 2x2.5mm²,
finger-protected acc. to VBG4
AgNi



red

KEFBM

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

→ Pedal Switches

Terminal Blocks

Type Index

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

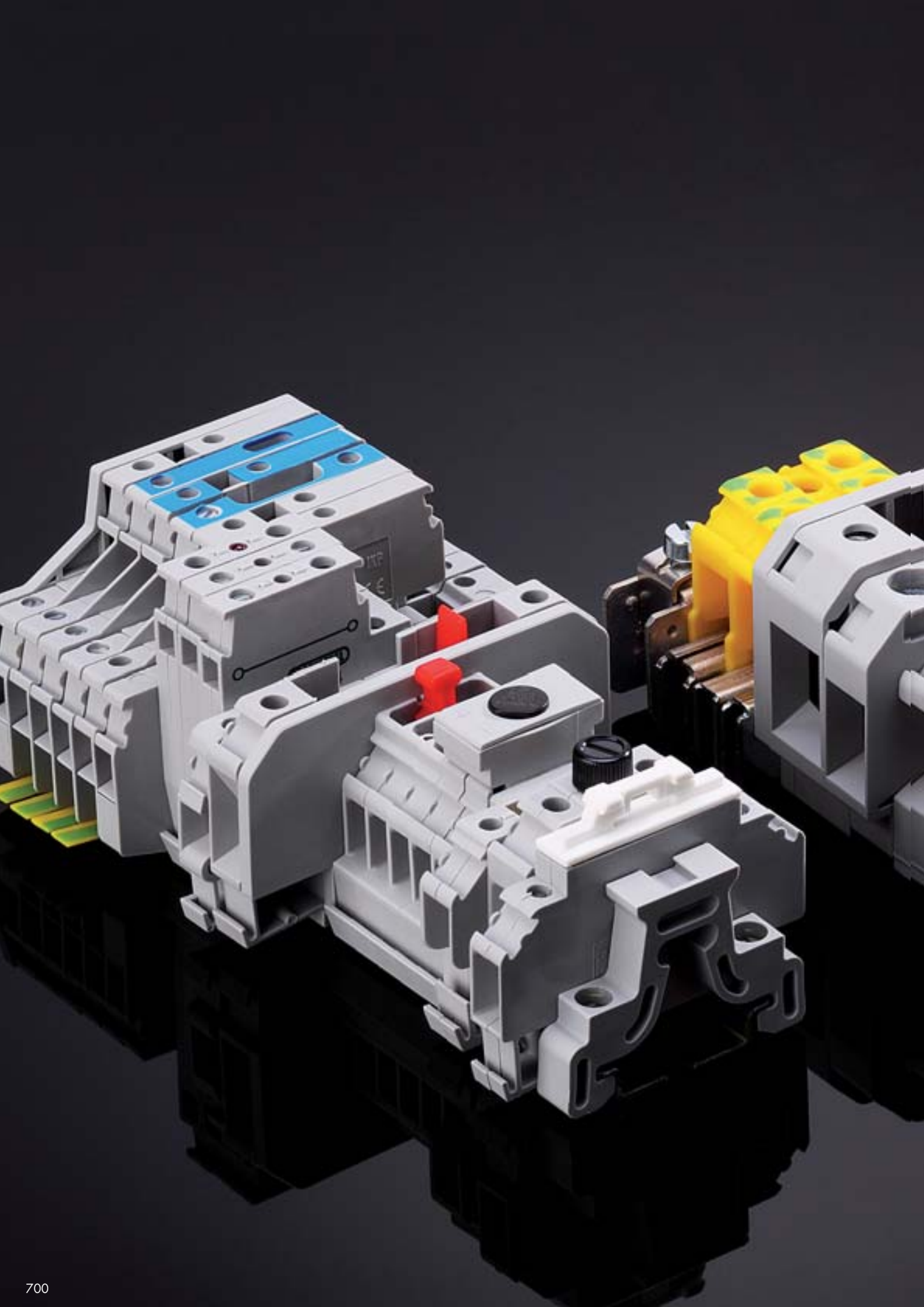
Enclosures

→ Pedal Switches

Terminal Blocks

Type Index







Terminal blocks with screw connections

- ➔ Description page 702
- ➔ Feed-through terminals page 706
- ➔ Disconnecting terminals page 710
- ➔ Combined terminals page 712
- ➔ Initiator terminals page 713
- ➔ Distribution terminals page 713
- ➔ Fuse terminals page 715
- ➔ Earth conductor terminals page 717
- ➔ Pick-a-back terminals page 719
- ➔ Railless feed-through terminals page 720
- ➔ Accessories page 722

Terminal blocks with screw connections

Summary information

Schlegel terminal blocks are standard terminals for industrial applications, especially for electrical machine controls, for switching, distribution and measuring systems and for the lift and apparatus construction. The terminal blocks are suitable for high and low current, as well as for direct and alternating current. They are featuring by a short assembly time and their small dimensions. With a complete documentation of the production process according

to ISO 9001, we guarantee the highest quality standards. Precise mold construction is an important prerequisite for the production of high quality terminal blocks. That is why we are manufacturing our production tools ourselves since many years in order to retain control on one of the most important quality criteria.

Conductivity

To ensure a tight contact between conductor and metal (clamping) body with the lowest possible contact resistance, several factors are playing an important role. That includes the use of solid, drawn or bent metal (clamping) bodies and corrosion-proof materials, such as e.g. nickel-plated copper alloys, and soft surface coatings as e.g. tin in which the conductors can "embed". Even the wire protection bracket, preventing the wire from screw damage, provides a high contact pressure. The relatively large conductor cross-sections of the terminals reduce voltage drop to a minimum. Schlegel also uses zinc-plated steel for the foot of the earth terminal where a safe contact to the support rail (= earthing) is extremely important.

On screw-type terminals the quality of the screws dictates the quality of the terminal connection. Even when applying high tightening torques, the screws must not break nor melt with the female thread. For this reason, Schlegel terminal blocks are using rolled steel screws with a good galvanic surface coating with passivated zinc. The structure of rolled screws is compressed and strengthened, contrary to turned screws which have damaged fibres. The combination of steel screws and female threads made of copper alloy or steel successfully avoids melting, as can happen with brass-brass combinations.

Insulation

Insulating casings (insulating bodies) ensure the insulation from the surrounding area and the adjacent terminals. They must comply with the national and international specifications with regard to the creepage distance (transmission along the surface) and clearance distance (transmission through the air). This is achieved both by using high-quality polyamide 6.6 and by the specific construction of Schlegel terminal blocks (cavities in the casings extending the creepage distance).

The variety of approvals which Schlegel terminal blocks have

obtained worldwide are assured by utilising top-quality raw materials. The exclusive use of such materials is monitored by regular follow-up inspections carried through by the approval authorities.

The higher the quality of the insulating material, the smaller can be the creepage distance. As a matter of fact, using high-quality plastics exerts direct influence on the external dimensions of a terminal block: The better the material, the smaller the terminal!

Installation

Considering the respective connection diameter, Schlegel screw-type terminals are the smallest terminals in the market with regard to their

height, length (across the support rail) and width (in line with the rail). At the same time they have a relatively large clamping space compared to competitors' products.

Wire insertion

For screw-type terminals the conductor must be stripped before wiring. The optimal insulation stripping length must be observed as defined in the description of the relative terminals.

Basically, the Schlegel terminal blocks securely accept all wire types (solid, multiple and fine-stranded) even without wire end ferrules. Soldering of fine-stranded conductors is prohibited, because the tin-solder tends to creep.

The grading system of the available rated cross-sections is standardised (1.5/2.5/4/6/... mm²) and defined in a way to enable the trouble-free connection of conductors with ferrules or solid conductors to the cross-section next in size without having to use the next larger terminal size (this does not apply to multiple or

fine-stranded conductors!).

The Schlegel product portfolio offers terminals for the most popular rated cross-sections. With the 4mm² screw-type terminal Schlegel offers the cheapest terminal in this most frequently demanded range. Also, it should be pointed out that Schlegel terminals for 4mm² rated cross-section accept conductors down to 0.2mm in diameter. In case of screw-type terminals with very large rated cross-sections (IK120 and IK240) the conductors are connected using cable lugs. It should be taken care to use wide partition walls between two such terminals sizes in order to insulate the blank cable lugs against each other.

Assembly

The screws of Schlegel terminals are tightened or loosened by means of a slotted-screw driver or a customary hexagonal screwdriver (for the large-sized terminals).

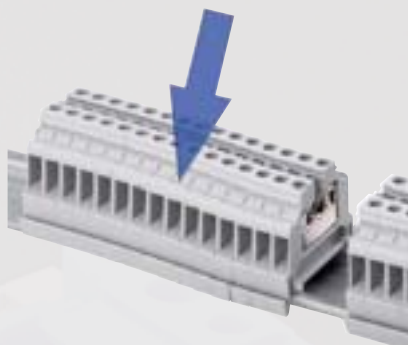
The interlocking insulating bodies of the Schlegel terminals facilitate the assembly work.

Due to this interlocking feature it is also possible to snap on the terminals as pre-assembled blocks. Another advantage of this interlocking system is the straight alignment of all terminals, even in case of different tractive forces of the wires or a slightly bent support

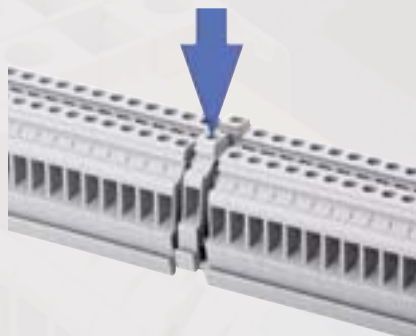
rail. Moreover, once snapped onto the rail, the terminal feet are relieved from stress which prevents material fatigue. However, if individual terminals have to be exchanged, the end clamp bracket must be loosened and the adjacent terminals must be shifted slightly. But this disadvantage takes only effect on the small number of exchanged terminals whereas the specified advantages become effective in general.



1. Slide-fitting of pre-assembled terminal blocks



2. Snap fitting of pre-assembled terminal blocks Important: Once the terminals are mounted onto the rail, the snap-fit terminal feet are relieved from stress preventing the plastics from material fatigue.



3. Snap or slide fitting of individual terminals



4. Replacement of individual terminals: Once the terminal to be replaced has been set free by slightly shifting the adjacent terminals aside (each by approx. 3mm), it can be easily levered out by applying a screwdriver to the terminal foot.

Mounting on support rail N35

Schlegel terminal blocks have feet that simply snap onto the terminal rail from both sides and can be easily levered out with a screwdriver. Also, the terminals can be easily slid on the mounting rail from the side.

Rail-less mounting

The terminals FK5 (for a rated cross-section of 4mm²) and FK16 (for a rated cross-section of 16mm²) are directly mounted e.g. on a switch cabinet. Since the terminals interlock securely into one another, only every 10th terminal has to be tightened by a screw. Attention should be paid to the fact that the FK5 and FK16 have different interlocking pins. Therefore, they cannot be mixed up when mounted.

PCB-mounting

The 1.5mm² terminals with screw connection (type ref.: GK13) are directly soldered onto a PCB. Two soldering pins keep the terminals in place even when tightening the screw strongly (protection of the solder connections). Moreover, the wire inserts of the terminals face upwards inclining by 30° from the horizontal in order to facilitate wire insertion. The galvanic tin-plating on a nickel diffusion barrier ensures excellent solderability.

“OSK - original Schlegel clamping system”

On the screw-type terminals with wire protection bracket the conductors are pressed onto the basis of the conductive clamping body by the lower foot of the wire protection bracket which is fastened by a screw. This system is called the “OSK” system

(original Schlegel clamping system), because it is unique in the terminal market. This construction ensures the so-called “Six securities” :



Secure wire insertion due to:

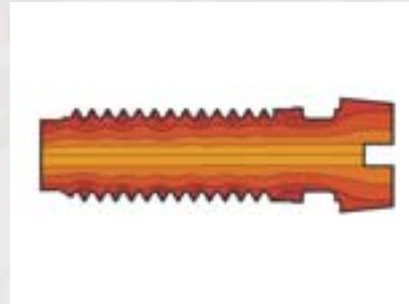
1. insulating walls next to wire insertion opening of the metal body,
2. reliable opening of the clamp when loosening the screws (because wire protection bracket snap-fits below screw head) and
3. limitation of clamping space by the lower arm of the wire protection bracket, thus no slipping of single wires or strands.



Security against screw loosening under vibration by the resilient wire protection bracket that presses against the screw head (this makes the screws captive).



Direct clamping pressure transmission onto the wire at full bearing of the screw and protection of the wire (no damaging or piercing by the screw)



High tightening torque:
The Schlegel terminals have rolled screws which, contrary to turned screws, feature a high-compressed structure with unbroken fibres in the thread area. The very high mechanical strength properties are achieved by thread rolling and assure high tightening torques



Security against tilting of the clamp (the solid metal clamping body prevents the connection "cages" from tilting when using thin wires)



Security against wire loosening thanks to resilient wire protection brackets and elastic deformation properties of the clamping body

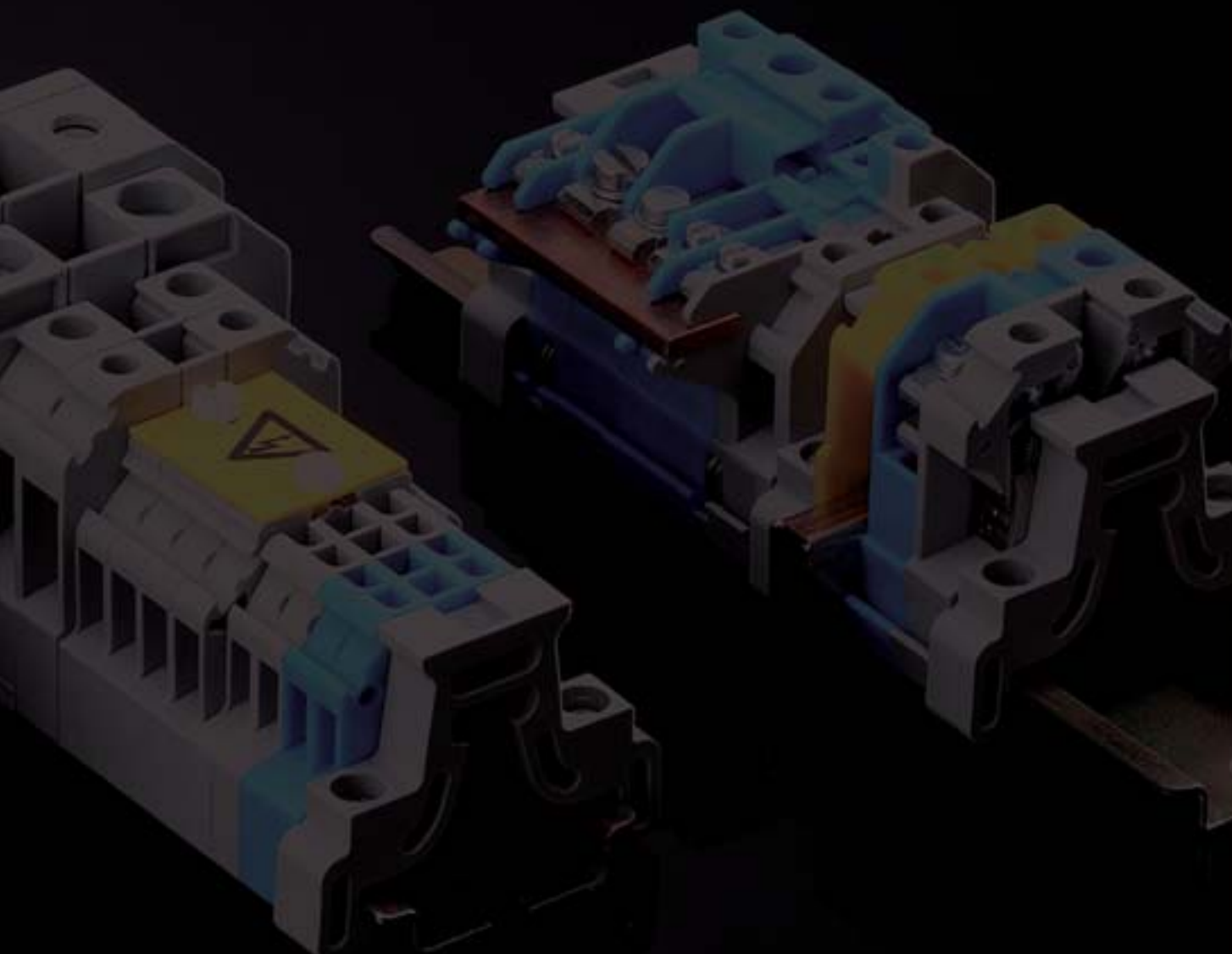
Miniature terminals

The miniature screw-type terminals for 2.5mm² (type ref. HK3) are normal feed-through terminals (same as IK3), which does not fit the top-hat rail N35 but snaps on its smaller variant N15. Accordingly, they are smaller in dimension, apart from their width.

Terminal blocks with flat-plug connections

Brief description

Particularly for the automotive industry, Schlegel also offer 4mm²-terminals with 2 x 2 flat plug connections for 6.3mm insulating sleeves (type ref. IZZ4). This connection system features very quick and easy connection of the conductors, keeping them well in place.



About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

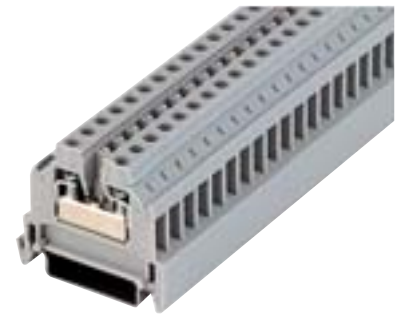
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Enclosures

Pedal Switches

→ Terminal Blocks

Type Index



Quick-assembly terminal blocks

rated cross section	2.5 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.1 mm

tightening torque	0.5 Nm
rated voltage	750 V
rated current	25 A
operating temperature	-30°C ... 40°C

data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	8 mm

data acc. to UL1059	
tightening torque	5 Lb In
connection range (solid wire)	22-12 AWG
rated voltage	600 V
rated current	20 A

data acc. to CSA C22.2 No 158-1987, ECN 548B	
tightening torque	
connection range (solid wire)	18-12 AWG
rated voltage	600 V
rated current	25 A

identification labels	HSKM50...
end sections	IW2, IW4
jumpers	VB2-12, VB2-2

Type	light-grey IK3
	blue IK3BL



Quick-assembly terminal blocks

rated cross section	4 mm²
solid	0.5 ... 6 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN 60715 TH35
terminal width	6 mm

tightening torque	0.8 Nm
rated voltage	750 V
rated current	32 A
operating temperature	-30°C ... 40°C

data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	9 mm

data acc. to UL1059	
tightening torque	9...13 Lb In
connection range (solid wire)	10-22 AWG
rated voltage	600 V
rated current	30 A

data acc. to CSA C22.2 No 158-1987, ECN 548B	
tightening torque	
connection range (solid wire)	20-10 AWG
rated voltage	600 V
rated current	40 A

identification labels	HSKM60...
end sections	IW16, IW4
jumpers	VB4-12, VB4-2

Type	light-grey IK5
	blue IK5BL

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

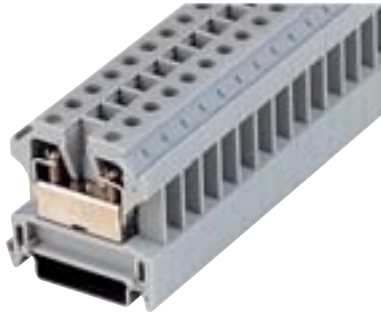
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Enclosures

Pedal Switches

→ Terminal Blocks

Type Index



Quick-assembly terminal blocks

10 mm²
0.5 ... 10 mm²
0.5 ... 10 mm²
Top hat rail N35, EN 60715 TH35
8 mm

0.8 Nm
830V/1000V (-> Hinweis!)
57 A
-30°C ... 40°C (bei 57A)

V2
3
III
I

11 mm

24-8 AWG
600 V
50 A

HSKM80...
IW16, IW50
VB6-12, VB6-2

light-grey **IK10**
blue **IK10BL**



Quick-assembly terminal blocks

16 mm²
0.5 ... 16 mm²
0.5 ... 16 mm²
Top hat rail N35, EN 60715 TH35
10 mm

1.2 Nm
1000 V
76 A
-30°C ... 40°C

V2
3
III
I

11 mm

18 Lb In
6-22 AWG
600 V
65 A

2 Nm
20-6 AWG
600 V
68 A

HSKM100...
IW16, IW50
VB16-12, VB16-2

light-grey **IK16**
blue **IK16BL**



Quick-assembly terminal blocks

25 mm²
10 ... 25 mm²
10 ... 25 mm²
Top hat rail N35, EN 60715 TH35
12 mm

2.5 Nm
1000 V
101 A
-30°C ... 40°C

V2
3
III
I

16 mm

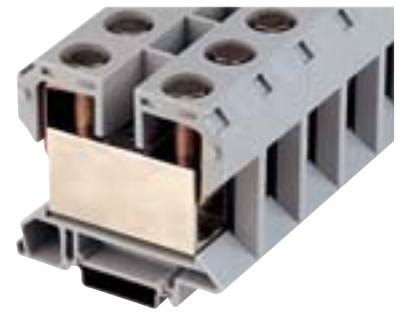
27 Lb In
4-8 AWG Str
600 V
85 A

10-4 AWG
600 V
70 A

HSKM60...
IW50, IW70
VB25, VBU35

light-grey **IK25**
blue **IK25BL**

1000 V max. when using a partition wall IW16 between the terminals



Quick-assembly terminal blocks

rated cross section	50 mm²
solid	2x16/1x16 50 mm ²
multiple wire	2x16/1x16 50 mm ²
mounting method	Top hat rail N35, EN 60715 TH35
terminal width	16 mm

tightening torque	5.6 Nm / 4 Nm (hexagon socket / slotted screw)
rated voltage	1000 V
rated current	150 A
operating temperature	-30°C ... 40°C

data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I

stripping length	16 mm
------------------	-------

data acc. to UL1059	
tightening torque	5,6 Nm
connection range (solid wire)	1/0-6 AWG
rated voltage	600 V
rated current	150 A

data acc. to CSA C22.2 No 158-1987, ECN 548B	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HSKM60...
end sections	IW51, IW70
jumpers	VB35, VBU35

Type	light-grey IK51
	blue IK51BL



Quick-assembly terminal blocks

rated cross section	70 mm²
solid	25 ... 70 mm ²
multiple wire	25 ... 70 mm ²
mounting method	Top hat rail N35, EN 60715 TH35
terminal width	23 mm

tightening torque	10 Nm
rated voltage	1000 V
rated current	192 A
operating temperature	-30°C ... 40°C

data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I

stripping length	26 mm
------------------	-------

tightening torque	123 Lb In
connection range (solid wire)	4/0-2 AWG
rated voltage	600 V
rated current	250 A

data acc. to UL1059	
tightening torque	20 Nm
connection range (solid wire)	2-0000 AWG
rated voltage	600 V
rated current	200 A
identification labels	HSKM60...
end sections	IW70
jumpers	VB70, VBU35

Type	light-grey IK70
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About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index



Quick-assembly terminal blocks

120 mm²
120 mm ²
120mm ²
Top hat rail N35, EN 60715 TH35
48 mm
10 Nm
750 V
269 A
-30°C ... 40°C
V2
3
III
II
360 Lb In
3/0 AWG
600 V
200 A
0-0000 AWG
600 V
280 A
HSKM100...
IW120
light-grey
IK120

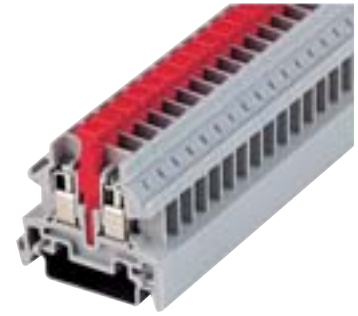


Quick-assembly terminal blocks

240 mm²
240 mm ²
240mm ²
Top hat rail N35, EN 60715 TH35
58 mm
14 Nm
750 V
415 A
-30°C ... 40°C
V2
3
III
II
480 Lb In
300 MCM
600 V
285 A
000 AWG-350 MCM
600 V
380 A
HSKM100...
light-grey
IK240

Quick-assembly terminal blocks

4 mm²
Top hat rail N35, EN 60715 TH35
6.1 mm
750 V
32 A
-30°C ... 40°C
V2
3
III
II
HSKM60...
VB4-12, VB4-2
light-grey
IZZ4



Separator terminals

Separator terminals

rated cross section

solid
multiple wire
mounting method
terminal width

4 mm²
0.5 ... 4 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
6 mm

4 mm²
0.5 ... 4 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
6 mm

tightening torque
rated voltage
rated current
operating temperature

0.8 Nm
500 V
16 A
-30°C ... 40°C

0.8 Nm
500 V
16 A
-30°C ... 40°C

data acc. to IEC 60947-7-1

flammability rating acc. to UL94
pollution degree
overvoltage category
material group
rated impulse voltage
stripping length

V2
3
III
II
7 mm

V2
3
III
II
7 mm

data acc. to UL1059

tightening torque
connection range (solid wire)
rated voltage
rated current

data acc. to CSA C22.2 No 158-1987, ECN 548B

tightening torque
connection range (solid wire)
rated voltage
rated current

22-12 AWG
300 V
20 A

identification labels
end sections
jumpers

HSKM60...
IW16, IW4

HSKM60...
IW16, IW4

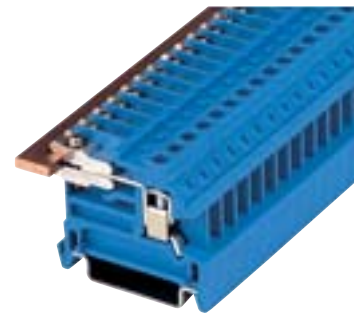
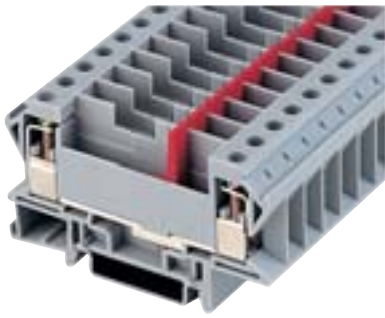
Type

light-grey **IKT4**
red **IKT4RT**
blue **IKT4BL**

light-grey **IKTS4**

Separator terminal + disconnecting plug (captive)

Separator terminal without disconnecting plug



Separator terminals with disconnect slider

10 mm²

0.5 ... 10 mm²

0.5 ... 10 mm²

Top hat rail N35, EN 60715 TH35

8 mm

0.8 Nm

500 V

57 A

-30°C ... 40°C

V2

3

III

II

6 kV

9 mm

HSKM80...

IWT10, IWTT10

VBL10, VBT10-4

light-grey

IKT10

Neutral wire separator terminals

4 mm²

0.5 ... 6 mm²

0.5 ... 4 mm²

Top hat rail N35, EN 60715 TH35

6 mm

0.5 Nm

500 V

32 A

-30°C ... 40°C

V2

3

III

II

8 mm

HSKM60...

IWTR4

blue

IKTR4

Neutral wire separator terminals

10 mm²

0.5 ... 10 mm²

0.5 ... 10 mm²

Top hat rail N35, EN 60715 TH35

8 mm

0.8 Nm

500 V

57 A

-30°C ... 40°C

V2

3

III

II

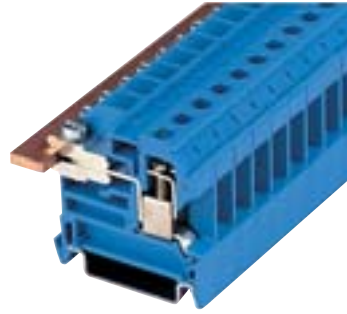
10 mm

HSKM80...

IWTR4

blue

IKTR10



rated cross section

solid
multiple wire
mounting method
terminal width

Neutral wire separator terminals

16 mm²
0.5 ... 16 mm²
0.5 ... 16 mm²
Top hat rail N35, EN 60715 TH35
10 mm

PE/N combined three-wire terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
12 mm

tightening torque
rated voltage
rated current
operating temperature

1.2 Nm
500 V
76 A
-30°C ... 40°C

0.5 Nm
500 V
32 A
-30°C ... 40°C

data acc. to IEC 60947-7-1

flammability rating acc. to UL94
pollution degree
overvoltage category
material group
rated impulse voltage

V2
3
III
II

V2
3
III
II

stripping length

10 mm

Earth connection terminal 10 mm,
separator terminal 7 mm,
feed-through terminal 9 mm

data acc. to UL1059

tightening torque
connection range (solid wire)
rated voltage
rated current

data acc. to CSA C22.2 No 158-1987, ECN 548B

tightening torque
connection range (solid wire)
rated voltage
rated current

identification labels
end sections
jumpers

HSKM100...
IWTR4

HSKM50...
IW2

Type

blue **IKTR16**

blue/light-grey **IKTR16**

Combined three-wire terminal for the neutral, for the phase and for the PE conductor (with green/yellow marking)



Initiator terminals

2.5 mm²
0.5 ... 2.5 mm ²
0.5 ... 2.5 mm ²
Top hat rail N35, EN 60715 TH35
6 mm
0.5 Nm
24 A
-30°C ... 40°C
V2
3
III
II

Distribution terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN 60715 TH35
6 mm
0.8 Nm
380 V
32 A
-30°C ... 40°C
V2
3
III
II

Distribution terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN 60715 TH35
6 mm
0.8 Nm
380 V
32 A
-30°C ... 40°C
V2
3
III
II

Feed-through terminal 7 mm, connecting rail connectors 8 mm

7 mm / earth connection terminal 10 mm

7 mm / earth connection terminal 10 mm

HSKM60...

HSKM60...
IWEPTR
VB4-12, VB4-2

HSKM60...
IWEPTR
VB4-12, VB4-2

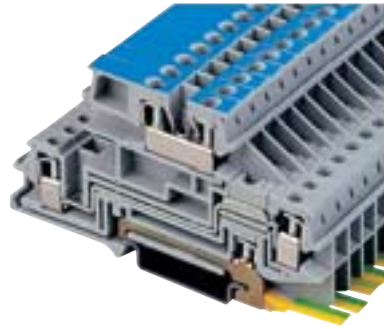
light-grey **IKI4**

light-grey **IKEPTR**

light-grey **IKEPT**

PE conductor on support rail, neutral wire isolation on busbar

PE conductor on support rail, neutral wire isolation



About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index

rated cross section

solid
multiple wire
mounting method
terminal width

tightening torque
rated voltage
rated current
operating temperature

data acc. to IEC 60947-7-1

flammability rating acc. to UL94
pollution degree
overvoltage category
material group
rated impulse voltage

stripping length

data acc. to UL1059

tightening torque
connection range (solid wire)
rated voltage
rated current

data acc. to CSA C22.2 No 158-1987, ECN 548B

tightening torque
connection range (solid wire)
rated voltage
rated current

identification labels
end sections
jumpers

Type

Distribution terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
6 mm

0.8 Nm
380 V
32 A
-30°C ... 40°C

V2
3
III
II

Earth connection terminal 10 mm, neutral wire 9 mm, feed-through terminal 7 mm

HSKM60...
IWEPTR
VB4-12, VB4-2

light-grey **IKEPN**

PE conductor on support rail, continuous neutral wire

Distribution terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
6 mm

0.8 Nm
380 V
32 A
-30°C ... 40°C

V2
3
III
II

9 / 7 mm

HSKM60...
IWEPTR
VB4-12, VB4-2

light-grey **IKPP**

2-pole feed-through terminal



Distribution terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
6 mm

0.8 Nm
380 V
32 A
-30°C ... 40°C

V2
3
III
II

Earth connection terminal 10 mm, feed-through terminal 7 / 9 mm

HSKM60...
IWEPTR
VB4-12, VB4-2

light-grey **IKEPP**

2-pole, PE conductor on support rail



Fuse terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
10 mm

0.8 Nm
500 V
6.3 A
-30°C ... 40°C

V2
3
III
II

7 mm

24-12 AWG
150 V
15 A

HSKM100...

light-grey **IKSI4**

with fuseholder, fuse cartridge*) not included, please order separately *) fuse cartridges acc. to DIN 41571



Fuse terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
8.1 mm

0.5 Nm
250 V
6.3 A
-30°C ... 40°C

V2
3
III
II

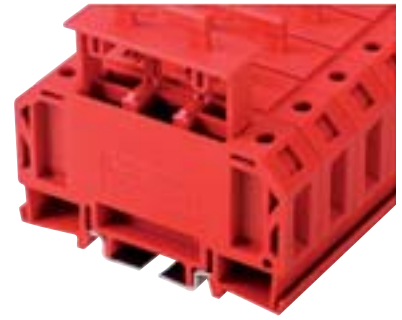
4 kV
7 mm

10 Lb In
14-22 AWG
300 V
10 A

HSKM80...

light-grey **IKSI5**
red **IKSI5RT**

for G-fuses 5x20 mm, with fuseholder, fuse cartridge*) not included, please order separately *) fuse cartridges acc. to DIN 41571



About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index

rated cross section

solid
multiple wire
mounting method
terminal width

tightening torque
rated voltage

rated current

operating temperature

data acc. to IEC 60947-7-1

flammability rating acc. to UL94
pollution degree
overvoltage category
material group
rated impulse voltage
stripping length

data acc. to UL1059

tightening torque
connection range (solid wire)
rated voltage
rated current

data acc. to CSA C22.2 No 158-1987, ECN 548B

tightening torque
connection range (solid wire)
rated voltage
rated current

identification labels
end sections
jumpers

Type

Fuse terminals

4 mm²

0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN 60715 TH35
8.1 mm

0.8 Nm

20 A max.

-30°C ... 40°C

V2

3

III

II

7 mm

light-grey

IKFS15

For automotive fuse links, used e.g. in construction machinery and caravans.



Fuse terminals

6 mm²

0.5 ... 6 mm²
0.5 ... 6 mm²
Top hat rail N35, EN 60715 TH35
16 mm

0.8 Nm

850 V

13.5 A/20 A max.
(composite/individual arrangement)

-30°C ... 55°C

V0

3

III

I

9 mm

8-22 AWG

600 V

20 A

light-grey

IKS110

red

IKS10RT

for 10,3x38 mm fuses incl. fuseholder but without cartridge fuses (please order separately)



Earth connection terminals

4 mm²

0.5 ... 4 mm²

0.5 ... 4 mm²

Top hat rail N35, EN 60715 TH35

7.5 mm

0.5 Nm

-30°C ... 40°C

V2

3

III

9 mm

8 Lb In

10-22 AWG

HSKM80...

yellow/green

IKE4

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth connection terminals

10 mm²

4 ... 10 mm²

4 ... 10 mm²

Top hat rail N35, EN 60715 TH35

8.5 mm

0.8 Nm

-30°C ... 40°C

V2

3

III

10 mm

13.3 Lb In

8 AWG, Str

HSKM80...

yellow/green

IKE10

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth connection terminals

16 mm²

0.5 ... 16 mm²

0.5 ... 16 mm²

Top hat rail N35, EN 60715 TH35

10.5 mm

1.2 Nm

-30°C ... 40°C

V2

3

III

11 mm

18 Lb In

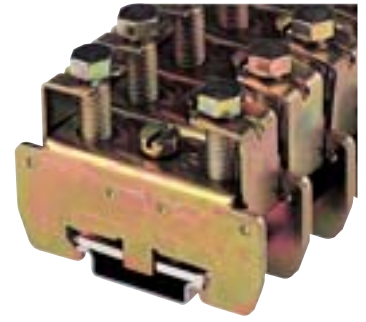
6 AWG, Str

HSKM100...

yellow/green

IKE16

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth connection terminals

Earth connection terminals

rated cross section

35 mm²

70 mm²

solid

2x16/1x16 35 mm²

16 70 mm²

multiple wire

2x16/1x16 35 mm²

16 70 mm²

mounting method

Top hat rail N35, EN 60715 TH35

Top hat rail N35, EN 60715 TH35

terminal width

19 mm

20 mm

tightening torque

5.6 Nm

6 Nm

rated voltage

rated current

operating temperature

-30°C ... 40°C

-30°C ... 40°C

data acc. to IEC 60947-7-1

flammability rating acc. to UL94

V2

pollution degree

3

3

overvoltage category

III

III

material group

II

rated impulse voltage

stripping length

13 mm

22 mm

data acc. to UL1059

tightening torque

connection range (solid wire)

rated voltage

rated current

data acc. to CSA C22.2 No 158-1987, ECN 548B

tightening torque

connection range (solid wire)

rated voltage

rated current

identification labels

HSKM100...

end sections

jumpers

Type

IKE51

IKE70

Please follow the instructions about the electrical short-term withstand current of top hat rails.

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Pickaback terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN 60715 TH35
6 mm
0.5 Nm
750 V
32 A
-30°C ... 40°C
V2
3
III
II
7 mm
9...13 Lb In
10-22 AWG
600 V
30 A
20-10 AWG
600 V
40 A
HSKM60...
IWH4
VB4-12, VB4-2
light-grey IKH4
blue IKH4BL

Terminal types that fit on the second level:
IK3 up to IK16, IKS14, IKT4, IKTR4, IKTR16

Double-level terminal

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN 60715 TH35
6 mm
0,5...0,8 Nm
750 V
32 A
-30°C ... 40°C
V2
3
III
I
top level 9 mm, bottom level 7 mm
9...13 Lb In
10-22 AWG
600 V
30 A
18-12 AWG
300 V
25 A
HSKM60...
HSKM60_1-100, IWD5
VB4-12, VB4-2
light-grey IKD5



Miniature terminals

2.5 mm²
0.5 ... 4 mm ²
0.5 ... 2.5 mm ²
Top hat rail N 15
5.1 mm
0.5 Nm
500 V
25 A
-30°C ... 40°C
V2
3
III
II
8 mm
5 Lb In
22-12 AWG
300 V
20 A
18-12 AWG
300 V
25 A
HSKM50...
EH2
VB2-12, VB2-2
light-grey HK3



Rail-less terminal blocks

Rail-less terminal blocks

rated cross section

solid
multiple wire
mounting method
terminal width

4 mm²

0.5 ... 6 mm²
0.5 ... 4 mm²
screw fastening
6.9 mm

16 mm²

0.5 ... 16 mm²
0.5 ... 16 mm²
screw fastening
10 mm

tightening torque
rated voltage
rated current
operating temperature

0.8 Nm
750 V
32 A
-30°C ... 40°C

1.2 Nm
750 V
76 A
-30°C ... 40°C

data acc. to IEC 60947-7-1

flammability rating acc. to UL94
pollution degree
overvoltage category
material group
rated impulse voltage
stripping length

V2
3
III
II
7 mm

V2
3
III
II
11 mm

data acc. to UL1059

tightening torque
connection range (solid wire)
rated voltage
rated current

18 Lb In
6-22 AWG
600 V
65 A

data acc. to CSA C22.2 No 158-1987, ECN 548B

tightening torque
connection range (solid wire)
rated voltage
rated current

6 AWG
600 V
80 A

identification labels
end sections
jumpers

HSKM60...
VBS4-2, VBS4-3

HSKM100...
VB16-2

Type

light-grey **FK5**

light-grey **FK16**

Easy and simple mounting. Screw every tenth terminal to secure the interlocking of the terminal row.

Easy and simple mounting. Screw every tenth terminal to secure the interlocking of the terminal row.



Rail-less terminal blocks

1.5 mm²

0.15 ... 1.5 mm²

0.15 ... 1.5 mm²

PCB-mount terminals

5mm

0.5 Nm

250 V

-30°C ... 40°C

V2

7 mm

HSKM50...

GWL3

light-grey

GKL3

Fixation on PCB: 2 soldering pins for PCB's with 1.3 mm holes
Wire insertion: at an angle of 30° upward from the horizontal line

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index

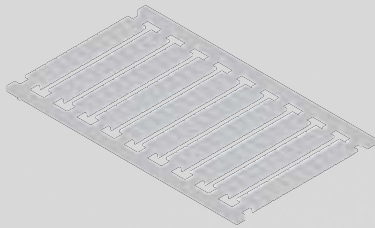
Illustration

Dimensions

Description

Type

Accessories



Identification labels, blank 100-piece sheet

suitable for
GKL3, HK3, IK3, IKTRED, IK3BL

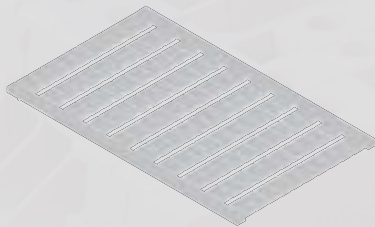
HSKM50U



Identification labels, printed 100-piece sheet

printed from 1 ... 100
other imprints on request
suitable for
GKL3, HK3, IK3, IKTRED, IK3BL

HSKM50_1-100



Identification labels, blank 100-piece sheet

suitable for
FK5, IK25, IK5, IK51, IK70, IKEPN, IKEPP, IKEPT, IKEPTR, IKH4,
IK14, IKPP, IKT4, IKTR4, IKTS4, IZZ4, IK5BL, IK25BL, IK51BL, IKT4RT,
IKT4BL, IKH4BL, IKD5

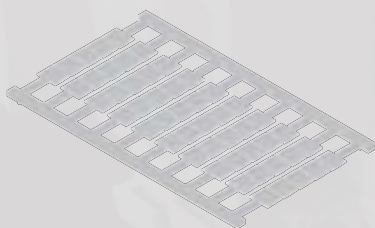
HSKM60U



Identification labels, printed 100-piece sheet

printed from 1 ... 100
other imprints on request
suitable for
FK5, IK25, IK5, IK51, IK70, IKEPN, IKEPP, IKEPT, IKEPTR, IKH4,
IK14, IKPP, IKT4, IKTR4, IKTS4, IZZ4, IK5BL, IK25BL, IK51BL, IKT4RT,
IKT4BL, IKH4BL, IKD5

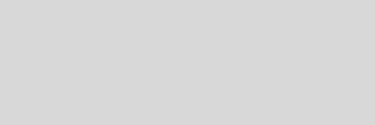
HSKM60_1-100



Identification labels, blank 50-piece sheet

suitable for
IK10, IKE10, IKE4, IKFSI5, IKS15, IKT10, IKTR10, IK10BL

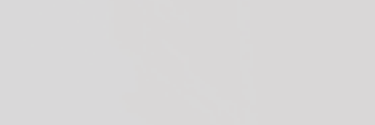
HSKM80U



Identification labels, printed 50-piece sheet

printed from 1 ... 50
other imprints on request
suitable for
IK10, IKE10, IKE4, IKFSI5, IKS15, IKT10, IKTR10, IK10BL

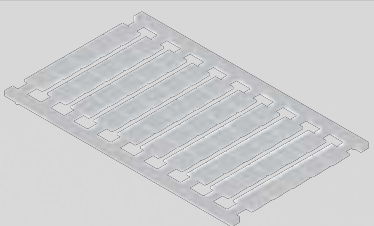

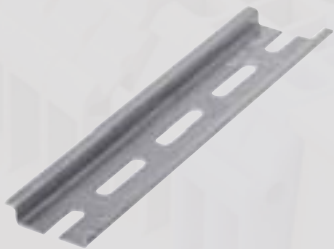
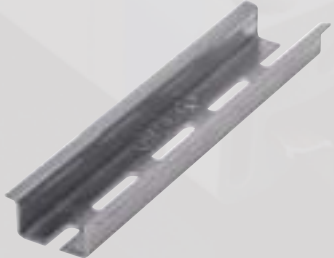

HSKM80_1-50



Identification labels, printed 50-piece sheet

printed from 51 ... 100
other imprints on request
suitable for
IK10, IKE10, IKE4, IKFSI5, IKS15, IKT10, IKTR10, IK10BL

HSKM80_51-100

Illustration	Dimensions	Description	Type
		Identification labels, blank 50-piece sheet suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKS14, IKTR16, IK16BL	HSKM100U
		Identification labels, printed 50-piece sheet printed from 1 ... 50 other imprints on request suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKS14, IKTR16, IK16BL	HSKM100_1-50
		Identification labels, printed 50-piece sheet printed from 51 ... 100 other imprints on request suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKS14, IKTR16, IK16BL	HSKM100_51-100
		Top-hat rail N35-7.5 mm The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35-2
		Top-hat rail N35-7.5 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35L-2
		Top-hat rail N35-15 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 6kA 2 m long	N35L-2_15MM
		End clamp bracket used as a fixing bracket at the end of a row of terminal blocks fits on N35-2, N35L-2, N35L-2_15MM rails	SK35

Illustration

Dimensions

Description

Type



End clamp bracket, reinforced version

used as a fixing bracket at the end of a row of terminal blocks, for terminal blocks from 50 mm² up the reinforced version is recommended,
fits on N35-2, N35L-2, N35-2_15MM rails

SKS35



End clamp bracket

used as a fixing bracket at the end of a row of terminal blocks
fits on N15-2 rails

SK15



Insulated end section

The end section of each terminal size is designed in a way that it can be used as partition for the next smallest terminal size,
fits on

IK3, IKTRED, IK3BL

IW2

IK3, IK5, IKT4, IKTS4, IK3BL, IK5BL, IKT4RT, IKT4BL

IW4

IKD5

IWD5

IK5, IK10, IK16, IK5BL, IK10BL, IK16BL, IKT4, IKT4RT, IKT4BL, IKTS4

IW16

IK10, IK16, IK25, IK10BL, IK16BL, IK25BL

IW50

IK51, IK51BL

IW51

IK25, IK51, IK70, IK25BL, IK51BL

IW70

IKEPTR, IKEPT, IKEPN, IKPP, IKEPP

IWEPTR

IKT10

IWT10

IKTR4, IKTR10, IKTR16

IWTR4

IZZ4

IWZZ4

HK3

EH2

GKL3

GWL3



Insulating partition, large size

fits on

IK3, IK5, IK3BL, IK5BL

ITW4

Insulating partition

fits on

IKT10

IWTT10

IK120, IK240

TW240

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------



Jumper, 2 poles

to connect adjacent terminals

max. current load:
the permissible total current running through the jumper must not exceed the rated current of the respective terminal blocks

2 poles, suitable for	
IK3, HK3, IK3BL	VB2-2
IK3, HK3, IK3BL	VB2-12
IK5, IZZ4, IKH4, IKEPTR, IKEPT, IKEPN, IKPP, IKEPP, IK5BL, IKH4BL, IKD5	VB4-2
IK5, IZZ4, IKEPTR, IKEPT, IKEPN, IKPP, IKEPP, IKH4, IK5BL, IKH4BL, IKD5	VB4-12
FK5	VBS4-2
FK5	VBS4-3
IK10, IK10BL	VB6-2
IK10, IK10BL	VB6-12
IK16, FK16, IK16BL	VB16-2
IK16, IK16BL	VB16-12
IK25, IK25BL	VB25
IK51, IK51BL	VB35
IK70	VB70



Connecting Strap

to connect adjacent 2 jumpers, suitable for

IK3, HK3, IK3BL	VL2-2
IK5, IKH4, FK5, IKEPN, IKPP, IKEPP, IK5BL, IKH4BL	VL4-2
IK10, IK10BL	VL6-2
IK16, FK16, IK16BL	VL16-2
IK25, IK25BL	VL25
IK25, IK25BL	VL25-3
IK51, IK51BL	VL35-3
IK70	VL70
IK70	VL70-3



Connecting plug

for bridging two terminals suitable for

IKT10	VST10
-------	--------------

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFD

Enclosures

Pedal Switches

→ Terminal Blocks

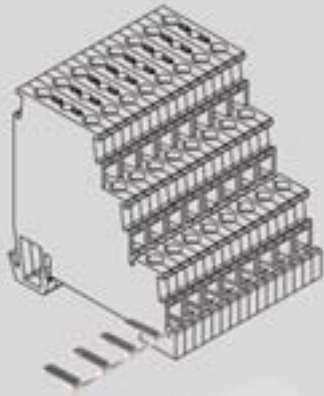
Type Index

Illustration

Dimensions

Description

Type



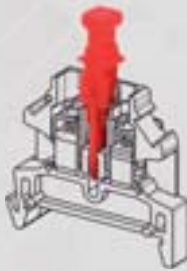
Comb-type jumper

fits on
IKFS15
IKI4

KVFI4-12
KVI4-12

IKSI10RT, IKSI10

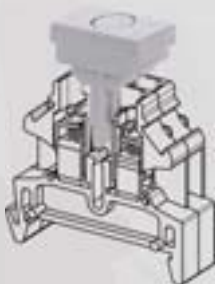
KVS10-8



Disconnecting plug

suitable for
IKT4, IKT4RT, IKT4BL

TS4



Quenching diode plug

with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for
IKT4, IKT4RT, IKT4BL




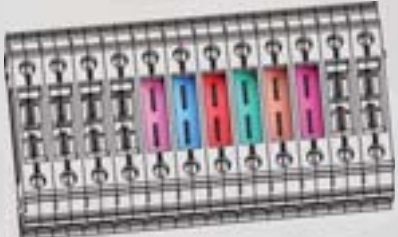

DSL



Diode plug, blue

with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for
IKT4, IKT4RT, IKT4BL

DS_BL

Illustration	Dimensions	Description	Type
		<p>Diode plug, red with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL</p>	DS_RT
		<p>Fuseholder suitable for IKS14</p>	SH20
		<p>Cartridge fuse DIN 41571 0.125A, suitable for</p>	SP20-0,125 SP20-0,2 SP20-0,5 SP20-0,8 SP20-1,0 SP20-1,6 SP20-2,0 SP20-4,0 SP20-6,3
		<p>Colour identification plate suitable for IKFS15 colour: violet</p>	EP3 EP4 EP5 EP7,5 EP10 EP15 EP20 EP25 EP30
		<p>Test plug test plug for plug socket STB2 2 mm suitable for IK5, IKH4, FK5, IK5BL, IKH4BL IK16, IK25, IK51, IK70, IKT10, FK16, IK16BL, IK25BL, IK51BL</p>	PST2 PST4

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

Type Index

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RHD

Enclosures

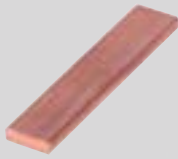
Pedal Switches

Illustration

Dimensions

Description

Type

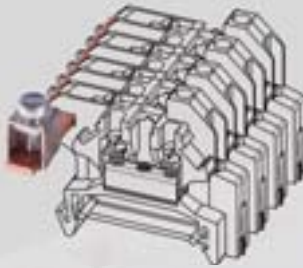


Neutral busbar

10x3mm, 1 m long, bare copper
suitable for

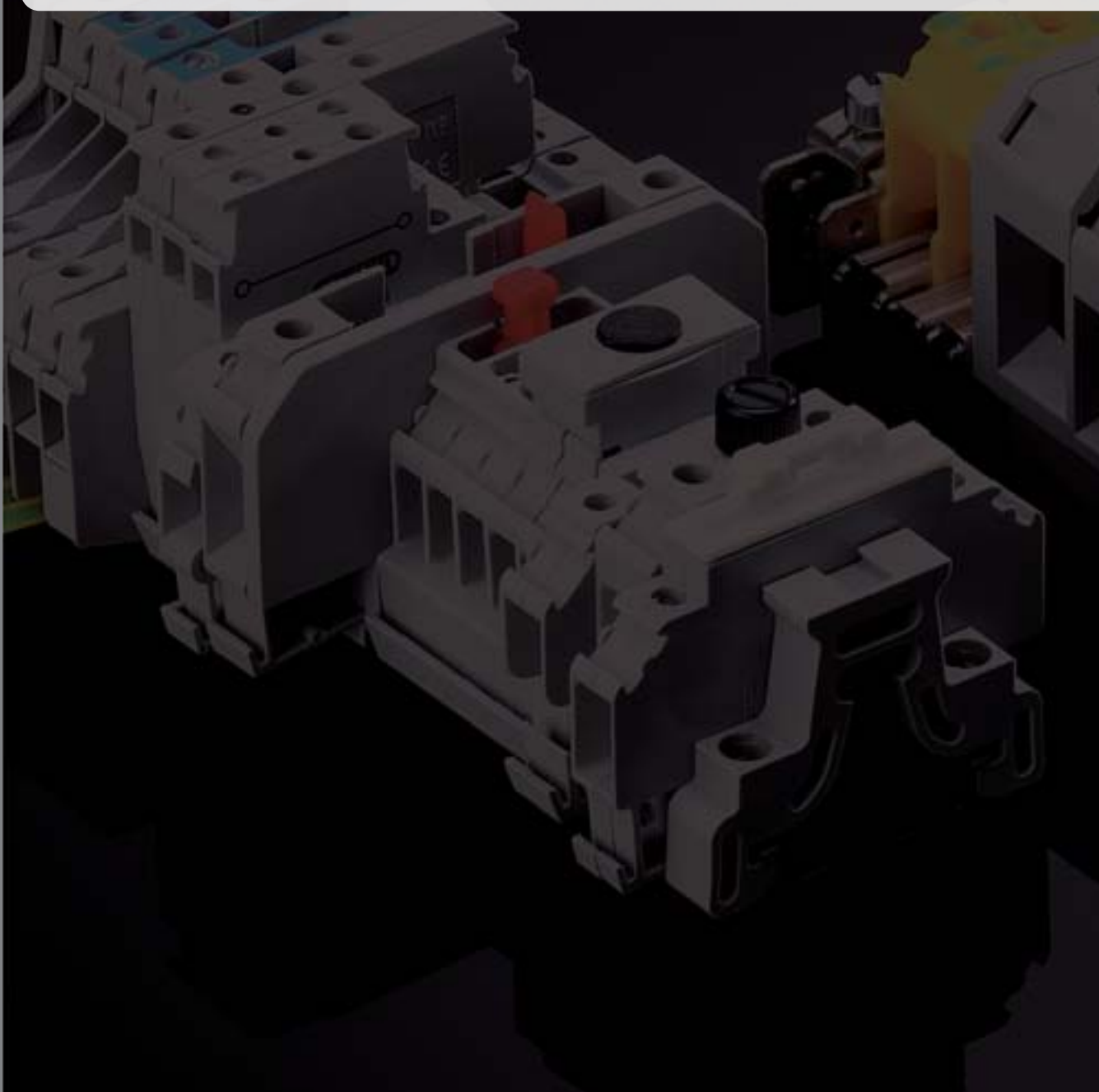
IKTR4, IKTR10, IKTR16, IKTRED, IKEPTR

S10X3



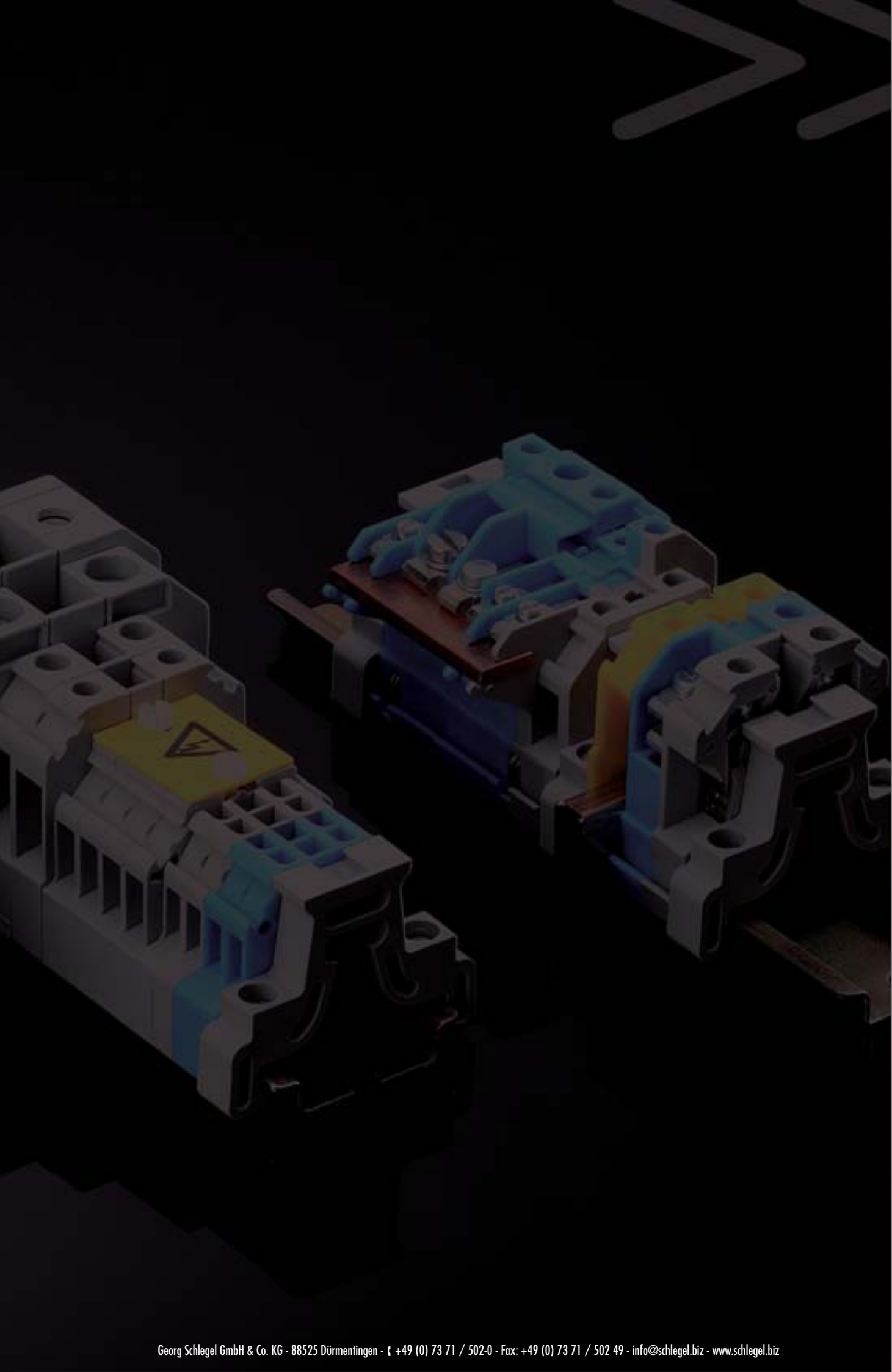
Connecting Clamp

to connect the supply line to the neutral busbar
suitable for



→ Terminal Blocks

Type Index



About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency/Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

→ Terminal Blocks

Type Index

Typenindex

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

→ Type Index

A

AF	420
AF2	420
AFL	420
AFL2	420
AK22RRSW	102,157,197,275
AL5	421
ASL_SAW16A	562
ASL_SAW16E	562
ASL_SAW22A	562
ASL_SAW22E	562
AT	419
AT2	419
ATI	419
ATL	419
ATL2	420
ATO	419
AZO11	429
AZO11_97	429
AZ111	430
AZ2	431
AZ2N	431
AZ4I	430
AZ4O	429
AZL4I	430
AZL4O	430
AZOO	429
AZOSOI	431
AZSOSO	432
AZVN	431

B

BF	439
BF_439	455
BFI	439
BFIK	447
BFK	447
BFL	439
BFL5	439
BFL5_439	455
BFL5K	447
BFL_439	455
BFLI	439
BFLI5	440
BFLI5K	447
BFLIK	447
BFLK	447
BL4	440
BL4K	448
BL5	440
BL5K	448
BSK	232,240,249,255, 302,309,386,392
BSKB	233,240,249,255, 303,309,386,392
BSKJ	328,340
BSKJB	328,340
BSKJU	329,340
BSKU	233,240,249,255, 303,310,386,392
BSOK	20,30
BSOKB	21,30
BSOKJ	350,358
BSOKJB	350,358
BSOKJU	350,358
BSOKLL	21
BSOKLLU	21
BSOKU	21,30
BSQX	62,71,366,377
BSQXB	62,71,366,377
BSQXLL	367
BSQXLLU	367
BSQXU	62,71,366,377
BSRJ	599,601

BSRJB	599,601
BSRJU	599,601
BSRR	82,99,111,120,136,156, 163,173,185,197,206,265,273
BSRRB	82,99,111,120,136,156, 163,173,185,197,206,265,273
BSRRU	81,99,111,120,136,155, 163,173,185,197,206,265,273
BSRX	41,50,216,222,233, 249,303,329,387
BSRXB	41,50,216,222,233, 250,303,330,387
BSRXU	41,50,216,222,233, 250,303,330,387
BVJR	275
BVJRM	275
BVKRJ	343
BVKRJM	343
BVOKJ	359
BVQR	311
BVQRJ	394
BVR22	257
BVRQJ	121
BVRRJ	102
BVRRJVA	102
BVRXJ	224
BVSV	102
BZ16B	31,51,72,101,157, 175,209,224,274,379
BZ16L	31,51,72,101,156, 175,209,224,274,378
BZ16U	31,51,72,101,157, 175,209,224,274,379
BZ23B	256,295,310,342
BZ23L	256,294,310,342
BZ23U	256,295,310,342
BZ26G	393
BZ26L	393
BZ26U	393
BZ_439	455
BZ_494	466
BZI	463
BZII	463
BZIIK	475
BZIK	475
BZL5_439	456
BZL_439	455
BZLI	463
BZLI5	463
BZLI5K	475
BZLII	463
BZLII5	464
BZLII5K	475
BZLIK	475
BZLIK	475
BZLO	464
BZLO5	464
BZLO5K	476
BZLOI	466
BZLOI5	466
BZLOI5K	477
BZLOIK	477
BZLOK	476
BZLOO	465
BZLOO5	465
BZLOO5K	477
BZLOOK	476
BZO	464
BZOI	465
BZOIK	477
BZOK	476
BZOO	465
BZOOK	476

C

CLF	490
CLP_485	483
CT2	505
CT2_549	505
CTF	489
CTF_250	489
CTFS_24R_G	484
CTFS_24RGB	484
CTFS_24W_B	484
CTL2	505
CTL2_549	505
CTLF	489
CTLF_250	489
CTLP_485	483
CTP_485	483
CZLP	499
CZTLP	497
CZTLP2	498
CZTLP2_549	498
CZTP	497
CZTP2	497
CZTP2_549	498

D

DFA16	568
DFA22	568
DFD22	568
DL	551
DMR	546
DMTOSFA	552
DRABT	294
DSAL	546
DSL9	545
DSTI	545
DSTO	545
DSTOSDE	545
DTI	551
DTIV	551
DTO	551
DTON	551
DXRKC	289
DXRKG	289
DXRKM	289
DXRKS	289
DXRNFC	294
DXRNFG	294
DXRNFM	294
DXRNFS	294
DXRNKC	294
DXRNKG	294
DXRNKM	294
DXRNKS	294
DXRS28C	284
DXRS28G	284
DXRS28M	284
DXRS28S	284
DXRS40C	284
DXRS40G	284
DXRS40M	284
DXRS40S	284
DXRS50C	284
DXRS50G	284
DXRS50M	284
DXRS50S	284
DXRSL28C	284
DXRSL28G	284
DXRSL28M	284
DXRSL28S	284
DXRSL40C	284
DXRSSAC...12	290
DXRSSAC...13	290
DXRSSAC...17	290
DXRSSAC...18	290

Typenindex

About Us

Pushbuttons / Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

JRMSSA28E.....	270	K30DWS.....	340	KOKJFRT.....	358
JRMSTA.....	267	KDKRT.....	343	KOKJFWS.....	358
JRMSTB.....	267	KDKRWA.....	343	KRBUV.....	331,628
JRMT.....	264	KDKRWB.....	343	KRBUV70.....	330,629
JRMTLR.....	265	KDOK.....	32	KRBUVSE.....	331,628
JRMTLRL.....	265	KDOKJ.....	359,591	KRIABT.....	342
JRMWA.....	267	KDP22RR... 101,121,157,197,274,588		KRJDAU.....	333
JRMWAL.....	267	KDP24.....	379	KRIK.....	336
JRMWB.....	267	KDPR22RR... 102,121,157,197,275,588		KRIL_230R_G.....	341
JRMWBL.....	267	KDPR22RR_SW... 102,121,157,197,275		KRIL_24R_G.....	341
JRMWC.....	267	KDQ16.....	73	KRJM22R.....	339,583
JRMWCL.....	268	KDQRJ.....	393	KRJMABT.....	342
JRN.....	273	KEFBM.....	698	KRJMDAU.....	333
JRSSA12E.....	269	KEFM.....	698	KRJMDAU_ET.....	333
JRSSA13E.....	269	KF20BL.....	222	KRJMCK.....	336
JRSSA14E.....	269	KF20GB.....	222	KRJML_230R_G.....	341
JRSSA15E.....	269	KF20GN.....	222	KRJML_24R_G.....	341
JRSSA16E.....	269	KF20KL.....	222	KRJMN.....	340
JRSSA17E.....	269	KF20RT.....	222	KRJMR.....	333
JRSSA18E.....	269	KF20WS.....	222	KRJMS.....	332
JRSSA19E.....	269	KF23BL..... 240,255,309,392		KRJMSSA12E.....	337
JRSSA23E.....	270	KF23GB..... 240,255,309,392		KRJMSSA13E.....	337
JRSSA28E.....	270	KF23GN..... 240,255,309,392		KRJMSSA14E.....	337
JRSTA.....	267	KF23KL..... 240,255,309,392		KRJMSSA15E.....	337
JRSTB.....	267	KF23RT..... 240,255,309,392		KRJMSSA17E.....	337
JRT.....	264	KF23WS..... 240,255,309,392		KRJMSSA18E.....	337
JRVAD.....	264	KF25BL..... 70,377		KRJMSSA23E.....	338
JRVADLR.....	265	KF25GB..... 70,377		KRJMSSA24E.....	338
JRVAF.....	264	KF25GN..... 70,377		KRJMSSA27E.....	338
JRVAGSTA.....	268	KF25KSBL..... 71,377		KRJMSTB.....	334
JRVAGSTB.....	268	KF25KSGB..... 71,377		KRJMT.....	328
JRVAGWA.....	268	KF25KSGN..... 71,377		KRJMTLR.....	329
JRVAGWB.....	268	KF25KSKL..... 71,377		KRJMTLRL.....	329
JRVAGWC.....	268	KF25KSRT..... 71,377		KRJMTM.....	329
JRVAN.....	273	KF25SRT..... 70,377		KRJMV.....	332
JRVASSA12E.....	269	KF25WS..... 70,377		KRJMWA.....	334
JRVASSA13E.....	269	KG22BL..... 241		KRJMWAL.....	335
JRVASSA14E.....	269	KG22GB..... 241		KRJMWB.....	334
JRVASSA15E.....	269	KG22GN..... 241		KRJMWBL.....	335
JRVASSA16E.....	269	KG22KL..... 241		KRJMWC.....	334
JRVASSA17E.....	269	KG22RT..... 241		KRJMWCL.....	336
JRVASSA18E.....	269	KG22WS..... 241		KRJMZSSA12E.....	338
JRVASSA19E.....	269	KH20BL..... 50,222		KRJMZSSA13E.....	338
JRVASSA23E.....	270	KH20GB..... 50,222		KRJMZSTB.....	335
JRVASSA28E.....	270	KH20GN..... 50,222		KRJMZWB.....	334
JRVASTA.....	267	KH20KL..... 50,222		KRJMZWC.....	335
JRVASTB.....	267	KH20RT..... 50,222		KRJN.....	340
JRVAT.....	264	KH20WS..... 50,222		KRJR.....	333
JRVATLR.....	265	KH23BL..... 232,240,248,		KRJS.....	332
JRVATLRL.....	265	255,302,309,392		KRJSSA12E.....	337
JRVAWA.....	267	KH23GB..... 232,240,248,		KRJSSA13E.....	337
JRVAWAL.....	267	255,302,309,392		KRJSSA14E.....	337
JRVAWB.....	267	KH23GN..... 232,240,248,		KRJSSA15E.....	337
JRVAWBL.....	267	255,302,309,392		KRJSSA17E.....	337
JRVAWC.....	267	KH23KL..... 232,240,248,		KRJSSA18E.....	337
JRVAWCL.....	268	255,302,309,392		KRJSSA23E.....	338
JRWA.....	267	KH23RT..... 232,240,248,		KRJSSA24E.....	338
JRWAL.....	267	255,302,309,392		KRJSSA27E.....	338
JRWB.....	267	KH23WS..... 232,240,248,		KRJSTB.....	334
JRWBL.....	267	255,302,309,392		KRJTB.....	328
JRWC.....	267	KH25BL..... 71		KRJTM.....	329
JRWCL.....	268	KH25GB..... 71		KRIJUV.....	330
K		KH25GN..... 71		KRIJ.....	332
K22RRBL..... 99,120,155,173,197,273		KH25KL..... 71		KRIJAK.....	336
K22RRGB..... 99,120,155,173,197,273		KH25RT..... 71		KRIJAL_230R_G.....	341
K22RRGN..... 99,120,155,173,197,273		KH25WS..... 71		KRIJAL_24R_G.....	341
K22RRKL..... 99,120,155,173,197,273		KOKFBL..... 30		KRIJAN.....	340
K22RRRT..... 99,120,155,173,197,273		KOKFGB..... 30		KRIJAR.....	333
K22RRWS..... 99,120,155,173,197,273		KOKFGN..... 30		KRIJAS.....	332
K30DBL..... 340		KOKFKL..... 30		KRIJASSA12E.....	337
K30DGB..... 340		KOKFRT..... 30		KRIJASSA13E.....	337
K30DGN..... 340		KOKFWS..... 30		KRIJASSA14E.....	337
K30DKL..... 340		KOKJFBL..... 358		KRIJASSA15E.....	337
K30DRT..... 340		KOKJFGB..... 358		KRIJASSA17E.....	337
		KOKJFGN..... 358		KRIJASSA18E.....	337
		KOKJFKL..... 358		KRIJASSA23E.....	338

KRJVASSA24E	338
KRJVASSA27E	338
KRJVASTB	334
KRJVAT	328
KRJVATLR	329
KRJVATLRL	329
KRJVATM	329
KRJVAV	332
KRJVAWA	334
KRJVAWAL	335
KRJVAWB	334
KRJVAWBL	335
KRJVAWC	334
KRJVAWCL	336
KRJWA	334
KRJWAL	335
KRJWB	334
KRJWBL	335
KRJWC	334
KRJWCL	336
KRJZSSA12E	338
KRJZSSA13E	338
KRJZSTB	335
KRJZWB	334
KRJZWC	335
KRJZWD	335

L

L4	440
L5	70,421
L5_5K24UW	646-647
L9R	532
LD9-24MW	241
LDT	304
LDTL	304
LR22K5DUO_GB_619	655,662,668
LR22K_24B	100
LR22K_24G	100
LR22K_24R	100
LR22K_24R_G	100
LR22K_24RGB	100
LR22K_24W	100
LR22K_24Y	100
LXJ_RS232_100CM	376,593
LXJ_VGA_100CM	376,593
LXLASCE-SPS	378
LXLASCE-SPS	71

M

M22F	584
MAK6	71,378
MAL	539,625
MF	539
MFL	539
MFLED230W	540
MFLED24W	540
MHR_3	541
MHR_5	541
MHW3I	538
ML	539
MLED12-120W	539
MLED230W	540
MLED24W	540
MT97	537
MTI	537
MTIV	537
MTO	537
MTON	537
MTOSFE	538
MTZU	538
MTZU_564	538

N

NAS_16	31,51,72,604
NAS_16_548	31,52,73,604
NAS_22	101,121,144,157,175, 209,224,256,274,295, 311,611,615,628
NAS_22_548	101,121,144,157,175, 209,224,256,274,295, 311,611,615,628
NAS_23	359,630
NAS_23_548	359,630
NAS_24	379,631
NAS_24_548	379,631
NAS_26	393
NAS_30	342
NAS_30_548	342

O

OKH	20
OKJ_2USB	357,591
OKJ_USB	357,591
OKJ_USB_AA	357,591
OKJBUV	351,630
OKJL4	358
OKJN	358
OKJNSG+SG-24V	356
OKJNSG+SGL-24V	356
OKJNSGL+SGILR-24V	356
OKJNSGL+SGLR-24V	356
OKJR	352
OKJRIK	352
OKJSSA12	354
OKJSSA13	354
OKJSSA14	354
OKJSSA15	354
OKJSSA16	354
OKJSSA17	354
OKJSSA18	354
OKJSSA23	354
OKJSSA25	355
OKJSSA28	354
OKJSSA31	354
OKJSTA	352
OKJSTAL	353
OKJSTB	352
OKJSTBL	353
OKJT	350
OKJUV	351,630
OKJWA	352
OKJWAL	353
OKJWB	352
OKJWB_514	353
OKJWBL	353
OKJWC	352
OKJWCL	353
OKK_RT	25
OKKM_RT	25
OKL4	30
OKL4M	30
OKN	30
OKNM	30
OKNMSG+SG-24V	28
OKNMSG+SGL-24V	28
OKNMSG+SGLR-24V	28
OKNSG+SG-24V	28
OKNSG+SGL-24V	28
OKNSGL+SGILR-24V	28
OKNSGL+SGLR-24V	28
OKR	24
OKRM	24
OKS	23
OKSM	23
OKSSA12	26
OKSSA13	26

OKSSA14	26
OKSSA15	26
OKSSA16	26
OKSSA17	26
OKSSA18	26
OKSSA23	27
OKSSA25	27
OKSSA28	27
OKSSA31	26
OKSSMA12	26
OKSSMA13	26
OKSSMA14	26
OKSSMA15	26
OKSSMA16	26
OKSSMA17	26
OKSSMA18	26
OKSSMA23	27
OKSSMA25	27
OKSSMA28	27
OKSSMA31	26
OKSTA	24
OKSTAL	25
OKSTALM	25
OKSTAM	24
OKSTB	24
OKSTBL	25
OKSTBLM	25
OKSTBM	24
OKT	20
OKTLL	20
OKTLLM	20
OKTM	20
OKTV	23
OKTVM	23
OKUVGB	22,598
OKVGB	22,598
OKVLBGB	22,598
OKWA	24
OKWAL	25
OKWALM	25
OKWAM	24
OKWB	24
OKWBL	25
OKWBLM	25
OKWBM	24
OKWC	24
OKWCL	25
OKWCLM	25
OKWCM	24

P

PCTS	526
PCTSL	526
PTSI	524
PTSII	526
PTSL	526
PTSLI	524
PTSLII	526
PTSLO	524
PTSLOI	525
PTSLOO	525
PTSO	524
PTSOI	525
PTSOO	524
PTSOOI	526

Q

Q16	73
Q16DG	32
QRABT	310
QRBLUV	624
QRBLUVSE	625
QRBUV	621
QRBUV43	626

Typenindex

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

QRBUV70.....	627	QXJMDG.....	368	QXSSA17E.....	65
QRBUVSE.....	622	QXJK.....	371	QXSSA18E.....	65
QRBUVSE43.....	626	QXJKDG.....	371	QXSSA23E.....	65
QRDAB.....	306	QXJL5.....	377	QXSSA24E.....	66
QRDAU.....	306	QXJL5DG.....	377	QXSSA25E.....	66
QRJABT.....	393	QXJN.....	377	QXSSA27E.....	65
QRJDAB.....	388	QXJNDG.....	377	QXSSDGA12E.....	65
QRJDAU.....	388	QXJNSG+SG-24V.....	375	QXSSDGA13E.....	65
QRJK.....	389	QXJNSG+SGL-24V.....	375	QXSSDGA14E.....	65
QRJN.....	392	QXJNSGL+SGLR-24V.....	375	QXSSDGA15E.....	65
QRJR.....	388	QXJNSGL+SGLR-24V.....	375	QXSSDGA17E.....	65
QRJSSA12E.....	390	QXJR.....	370	QXSSDGA18E.....	65
QRJSSA13E.....	390	QXJRDG.....	370	QXSSDGA23E.....	65
QRJSSA14E.....	390	QXJS.....	370	QXSSDGA24E.....	66
QRJSSA15E.....	390	QXJSDG.....	370	QXSSDGA25E.....	66
QRJSSA17E.....	390	QXJSSA12E.....	372	QXSSDGA27E.....	65
QRJSSA18E.....	390	QXJSSA13E.....	372	QXSSKA12E.....	67
QRJSSA23E.....	390	QXJSSA14E.....	372	QXSSKA13E.....	67
QRJSSA24E.....	390	QXJSSA15E.....	372	QXSSKA14E.....	67
QRJSSA27E.....	390	QXJSSA17E.....	372	QXSSKA15E.....	67
QRJSTA.....	389	QXJSSA18E.....	372	QXSSKA17E.....	67
QRJSTB.....	389	QXJSSA23E.....	372	QXSSKA18E.....	67
QRJT.....	386	QXJSSA24E.....	373	QXSSKA24E.....	67
QRJTM.....	386	QXJSSA25E.....	373	QXSSKA25E.....	67
QRJUV.....	387,632	QXJSSA27E.....	372	QXSSKA27E.....	67
QRJWA.....	389	QXJSSDGA12E.....	372	QXSTA.....	64
QRJWB.....	389	QXJSSDGA13E.....	372	QXSTADG.....	64
QRJWC.....	389	QXJSSDGA14E.....	372	QXSTB.....	64
QRK.....	307	QXJSSDGA15E.....	372	QXSTBDG.....	64
QRN.....	309	QXJSSDGA17E.....	372	QXT.....	60
QRR.....	306	QXJSSDGA18E.....	372	QXTDG.....	60
QRS.....	305	QXJSSDGA23E.....	372	QXTO.....	60
QRS_SW.PILZ.....	305	QXJSSDGA24E.....	373	QXWA.....	64
QRSKLUV.....	624	QXJSSDGA25E.....	373	QXWADG.....	64
QRSKLUVSE.....	625	QXJSSDGA27E.....	372	QXWB.....	64
QRSKUV.....	622	QXJSSKA12E.....	373	QXWBDG.....	64
QRSKUV_556.....	623	QXJSSKA13E.....	373	QXWC.....	64
QRSKUVSE.....	623	QXJSSKA14E.....	373	QXWC DG.....	64
QRSSA12E.....	308	QXJSSKA15E.....	373		
QRSSA13E.....	308	QXJSSKA17E.....	373	R	
QRSSA14E.....	308	QXJSSKA18E.....	373	R16X1.....	72
QRSSA15E.....	308	QXJSSKA23E.....	373	RABT.....	256
QRSSA17E.....	308	QXJSSKA24E.....	374	RDA.....	236
QRSSA18E.....	308	QXJSSKA25E.....	374	RFID_SL.....	656
QRSSA23E.....	308	QXJSSKA27E.....	373	RFID_ST_24V.....	654
QRSSA24E.....	308	QXJSTA.....	370	RK.....	237
QRSSA27E.....	308	QXJSTB.....	370	RKABT.....	51
QRSTA.....	306	QXJT.....	366	RKK_RT.....	45
QRSTB.....	306	QXJTDG.....	366	RKKM_RT.....	45
QRT.....	302	QXJTLL.....	366	RKL4.....	50
QRTM.....	303	QXJTLLDG.....	366	RKL4M.....	50
QRUV.....	266,621	QXJUDIP65_CR.....	399	RKN.....	50
QRUVP.....	621	QXJUV.....	369,631	RKNM.....	50
QRV.....	305,627	QXJWA.....	370	RKNMSG+SG-24V.....	48
QRWA.....	306	QXJWB.....	370	RKNMSG+SGL-24V.....	48
QRWAL.....	307	QXJWC.....	370	RKNMSG+SGLR-24V.....	48
QRWB.....	306	QXK.....	64	RKNMSG+SGLR-24V.....	48
QRWBL.....	307	QXKDG.....	64	RKNMSG+SGL-24V.....	48
QRWC.....	307	QXL5.....	70	RKNMSG+SGL-24V.....	48
QRWCL.....	307	QXL5DG.....	70	RKNMSG+SGL-24V.....	48
QX24.....	379	QXL9.....	70	RKNMSG+SGLR-24V.....	48
QXABT.....	31,72	QXN.....	70	RKNMSG+SGLR-24V.....	48
QXABT_M.....	31	QXNDG.....	70	RKR.....	43
QXDAB.....	63	QXNSG+SG-24V.....	69	RKRM.....	43
QXDABDG.....	63	QXNSG+SGL-24V.....	69	RKS.....	43
QXDAU.....	63	QXNSGL+SGLR-24V.....	69	RKSK.....	43,602
QXDAUDG.....	63	QXNSGL+SGLR-24V.....	69	RKSM.....	43
QXDI.....	60	QXP.....	60	RKSSA12.....	46
QXDM.....	60	QXR.....	63	RKSSA13.....	46
QXDMDG.....	60	QXRDG.....	63	RKSSA14.....	46
QXDO.....	61	QXS.....	62	RKSSA15.....	46
QXJABT.....	378	QXSDG.....	62	RKSSA16.....	46
QXJBUV.....	369,631	QXSSA12E.....	65	RKSSA17.....	46
QXJD.....	366	QXSSA13E.....	65	RKSSA18.....	46
QXJDDG.....	366	QXSSA14E.....	65	RKSSA23.....	47
QXJDM.....	368	QXSSA15E.....	65	RKSSA25.....	47

→ Type Index

RKSSA28.....	47	RQJ_RJ45_STB.....	119,588	RRJ_RJ45_SW.....	94,580
RKSSA31.....	46	RQJ_USB.....	118,587	RRJ_RJ45SW_150CM.....	580
RKSSMA12.....	46	RQJ_USB3_AA.....	118,587	RRJ_SVHS_200CM.....	95,581
RKSSMA13.....	46	RQJ_USB_AA.....	118,587	RRJ_USB.....	92,575
RKSSMA14.....	46	RQJ_USB_AB.....	118,587	RRJ_USB100CM_673.....	92,576
RKSSMA15.....	46	RQJ_USB_BA.....	118,587	RRJ_USB3.....	92,575
RKSSMA16.....	46	RQJ_USB_BB.....	118,587	RRJ_USB3_150CM.....	575
RKSSMA17.....	46	RQJL4.....	120	RRJ_USB3_AA.....	93,577
RKSSMA18.....	46	RQJN.....	120	RRJ_USB3_AA_633.....	93,578
RKSSMA23.....	47	RQJNSG+SG-24V.....	116	RRJ_USB3_SW.....	92,575
RKSSMA25.....	47	RQJNSG+SGL-24V.....	116	RRJ_USB3_SW_150.....	575
RKSSMA28.....	47	RQJNSGL+SGLR-24V.....	116	RRJ_USB3_SW_AA.....	93,577
RKSSMA31.....	46	RQJNSGL+SGLR-24V.....	116	RRJ_USB_150CM.....	575
RKSTA.....	44	RQJR.....	112	RRJ_USB_A_5V.....	580
RKSTAL.....	45	RQJSSA12.....	114	RRJ_USB_AA.....	93,577
RKSTALM.....	45	RQJSSA13.....	114	RRJ_USB_AA_B.....	577
RKSTAM.....	44	RQJSSA14.....	114	RRJ_USB_AB.....	93,578
RKSTB.....	44	RQJSSA15.....	114	RRJ_USB_BA.....	93,578
RKSTBL.....	45	RQJSSA16.....	114	RRJ_USB_BB.....	94,578
RKSTBLM.....	45	RQJSSA17.....	114	RRJ_USB_BB_50CM.....	94,578
RKSTBM.....	44	RQJSSA18.....	114	RRJ_USB_CA_60.....	579
RKT.....	40	RQJSSA23.....	114	RRJ_USB_CC_60.....	579
RKTM.....	40	RQJSSA25.....	115	RRJ_USB_SW.....	92,575
RKTME.....	40	RQJSSA28.....	114	RRJ_USB_SW_150CM.....	575
RKTMLR.....	40	RQJSSA31.....	114	RRJ_USB_SW_A_5V.....	580
RKTMLRL.....	40	RQJSTA.....	112	RRJ_USB_SW_AA.....	93,577
RKTSWLR.....	40	RQJSTAL.....	113	RRJ_USB_SW_AB.....	93,578
RKUV28.....	599	RQJSTB.....	112	RRJ_USB_SW_BA.....	93,578
RKUV32.....	600	RQJSTBL.....	113	RRJ_USB_SW_BB.....	578
RKUV40.....	600	RQJT.....	110	RRJ_WLA_01.....	97,272
RKUVGB.....	42,600	RQJTLR.....	110	RRJ_WLU_01.....	97,272
RKVGB.....	42,601	RQJTLRE01.....	110	RRJABT.....	101,156,175,209
RKVLBGB.....	42,601	RQJTLRE02.....	110	RRJDTLR.....	80
RKWA.....	44	RQJTLREWS.....	110	RRJDTLRGRBW_0003.....	81
RKWA_514.....	45	RQJTLRL.....	110	RRJDTLRHGR.....	81
RKWAL.....	44	RQJTLRSW.....	110	RRJE.....	84
RKWALM.....	44	RQJWA.....	112	RRJFTSW.....	82
RKWAM.....	44	RQJWAL.....	112	RRJL4.....	98
RKWB.....	44	RQJWB.....	112	RRJL4SW.....	98
RKWB_514.....	45	RQJWBL.....	112	RRJL_230R_G.....	98
RKWBL.....	44	RQJWC.....	112	RRJL_24R_G.....	98
RKWBLM.....	44	RQJWCL.....	113	RRJN.....	98
RKWBM.....	44	RR.....	236	RRJNSG+SG-24V.....	90,271
RKWC.....	44	RRDTLR.....	40	RRJNSG+SGL-24V.....	90,271
RKWCL.....	45	RRDTLRGRBW_0003.....	41	RRJNSGL+SGLR-24V.....	90,271
RKWCLM.....	45	RRJ_2USB.....	92,576	RRJNSGL+SGLR-24V.....	90,271
RKWCM.....	44	RRJ_2USB3.....	576	RRJNSW.....	98
RL9G.....	241	RRJ_2USB3_150CM.....	577	RRJR.....	84
RMCF.....	248	RRJ_2USB3_SW.....	576	RRJRSW.....	84
RMCK.....	252	RRJ_2USB3_SW_150.....	577	RRJSSA12.....	88
RMCN.....	255	RRJ_2USB_SW.....	92,576	RRJSSA13.....	88
RMCR.....	251	RRJ_FW6_STB.....	94,580	RRJSSA14.....	88
RMCS.....	250	RRJ_HDMI_STB.....	95,582	RRJSSA14SW.....	88
RMCSSA12E.....	253	RRJ_HDMI_STB_SW.....	95,582	RRJSSA15.....	88
RMCSSA13E.....	253	RRJ_KL2_5_200CM.....	95,582	RRJSSA15SW.....	88
RMCSSA14E.....	253	RRJ_KL3_5_200CM.....	96,583	RRJSSA16.....	88
RMCSSA15E.....	253	RRJ_KL6_3_200CM.....	96,583	RRJSSA17.....	88
RMCSSA17E.....	253	RRJ_LWL_IC_OM2.....	582	RRJSSA17SW.....	88
RMCSSA18E.....	253	RRJ_M124A_100CM.....	582	RRJSSA18.....	88
RMCSSA23E.....	253	RRJ_M125A_100CM.....	582	RRJSSA18SW.....	88
RMCSSA24E.....	253	RRJ_MIC_01.....	97	RRJSSA23.....	89
RMCSSA27E.....	253	RRJ_MINI_USB.....	579	RRJSSA25.....	89
RMCSTA.....	251	RRJ_MINIUSB_BB.....	579	RRJSSA28.....	89
RMCSTB.....	251	RRJ_MINIUSB3SW_BB.....	579	RRJSSA31.....	88
RMCT.....	248	RRJ_PS2_200CM.....	95,581	RRJSTA.....	85
RMCTLR.....	248	RRJ_RFID_HID.....	653	RRJSTAL.....	86
RMCTM.....	249	RRJ_RFID_HR_LBG.....	655,663,669	RRJSTB.....	85
RMCV.....	250,619	RRJ_RFID_HR_SW.....	655,662,668	RRJSTB_514.....	87
RMCWA.....	251	RRJ_RFID_HR_WS.....	655,662,668	RRJSTBL.....	86
RMCWAL.....	252	RRJ_RFID_RS2.....	653	RRJSW_MIC_01.....	97
RMCWB.....	251	RRJ_RFID_USB.....	653	RRJSW_RFID_HID.....	653
RMCWBL.....	252	RRJ_RJ45.....	94,580	RRJSW_RFID_RS2.....	653
RMCWC.....	251	RRJ_RJ45_150CM.....	580	RRJSW_RFID_USB.....	653
RMCWCL.....	252	RRJ_RJ45_STB.....	94,581	RRJSW_WLA_01.....	97
RN.....	240	RRJ_RJ45_STB_SW.....	94,581	RRJSW_WLU_01.....	97
RQJ_RJ45.....	119,588	RRJ_RJ45_STBCAT6.....	581	RRJT.....	80

Typenindex

RRJTI	80	RSSA12E	238	RXJZSSA12E	219
RRJTISW	80	RSSA13E	238	RXJZSSA13E	219
RRJTLR	80	RSSA14E	238	RXJZWBL_KL	218
RRJTLRL	80	RSSA15E	238	RXUV	602
RRJTLRLSW	80	RSSA17E	238	RXUVP	603
RRJTLRSW	80	RSSA18E	238		
RRJTSW	80	RSSA23E	238	S	
RRJUV	83,604	RSSA24E	238	S16	31,51,72,99,120, 223,359,378,585,593
RRJVA_2USB	92,576	RSSA27E	238	S22	99,121,156,174, 208,255,273,294, 310,321,341,392,591
RRJVA_FW6_STB	94,580	RSTA	236	S_CW145	199
RRJVA_HDMI_STB	95,582	RSTB	236	S_CW190	198
RRJVA_KL2_5_200	95,582	RT	232	S_CW245	199
RRJVA_KL3_5_200	96,583	RTB	234	S_CW290	198
RRJVA_RJ45	94,580	RTG	234	S_CW345	199
RRJVA_RJ45_STB	94,581	RTM	233	S_CW390	198
RRJVA_USB	92,575	RTR	234	SDAL22RR	102,275,584
RRJVA_USB3	92,575	RTS	234	SDR	156,174,198
RRJVA_USB3_AA	93,577	RTW	234	SDRSW	156,174,198
RRJVA_USB3_AA633	93,578	RTY	234	SDVA22RR	102,275,584
RRJVA_USB_150CM	575	RV	235,619	SKS_RRJ_TCA	661
RRJVA_USB_AA	93,577	RVAN	321	SKS_RRJ_TRA	661
RRJVA_USB_AB	93,578	RVASSA12E	320	SKS_RRJSW_TCA	661
RRJVA_USB_BA	93,578	RVASSA13E	320	SKS_RRJSW_TRA	661
RRJVA_USB_BB	94,578	RVASSA14E	320	SKS_TMS_XXXXXX	668
RRJVAFT	82	RVASSA15E	320	SN	173
RRJVAFTGN	82	RVASSA17E	320	SNLRB	174
RRJVAFTRT	82	RVASSA18E	320	SNLRG	174
RRJVAL4	98	RVASTB	319	SNLRR	174
RRJVAN	98	RVAT	318	SNLRW	174
RRJVANS+SG-24V	90,271	RVATLR	318	SNLRY	174
RRJVANS+SGI-24V	90,271	RVATLRL	318	SRA	31,51,72,99,121,156,174, 208,223,256,273,294,310, 321,342,359,378,393
RRJVANSGL+SGILR-24V	90,271	RVAWA	319	SRZ	169
RRJVANSGL+SGLR-24V	90,271	RVAWB	319	SSSA12	171
RRJVAR	84	RVAWC	319	SSSA12II_M07	208
RRJVASSA12	88	RWA	236	SSSA13	171
RRJVASSA13	88	RWAL	237	SSSA14	171
RRJVASSA14	88	RWB	236	SSSA15	171
RRJVASSA15	88	RWBL	237	SSSA16	171
RRJVASSA16	88	RWC	236	SSSA17	171
RRJVASSA17	88	RWCL	237	SSSA18	171
RRJVASSA18	88	RX16	52	SSSA31	172
RRJVASSA23	89	RXBLUV	603	SSTA	170
RRJVASSA25	89	RXBUV	602	SSTB	170
RRJVASSA28	89	RXBUV43	603	SSWCFT	165
RRJVASSA31	88	RXJABT	223,274	SSWN	173
RRJVASTA	85	RXJBUT	618	SSWNLRB	174
RRJVASTAL	86	RXJL5	222	SSWNLRG	174
RRJVASTB	85	RXJMABT	274	SSWNLRR	174
RRJVASTBL	86	RXJN	222	SSWNLRW	174
RRJVAT	80	RXJN_FSB2_110V	223	SSWNLRY	174
RRJVATLR	80	RXJN_FSB2_220V	223	SSWRZ	169
RRJVATLRL	80	RXJN_FSB2_24V	223	SSWSSA12	171
RRJVAWA	85	RXJN_FSB2_48V	223	SSWSSA13	171
RRJVAWAL	85	RXJN_FSB3_110V	223	SSWSSA14	171
RRJVAWB	85	RXJN_FSB3_220V	223	SSWSSA15	171
RRJVAWBL	85	RXJN_FSB3_24V	223	SSWSSA16	171
RRJVAWC	85	RXJN_FSB3_48V	223	SSWSSA17	171
RRJVAWCL	86	RXJNSG+SG-24V	220	SSWSSA18	171
RRJVL	83,604	RXJNSG+SGI-24V	220	SSWSSA31	172
RRJWA	85	RXJNSGL+SGILR-24V	220	SSWSTA	170
RRJWA_514	87	RXJNSGL+SGLR-24V	220	SSWSTB	170
RRJWAL	85	RXJR	218	SSWT	163
RRJWALS	85	RXJS	217	SSWTLRB	164
RRJWASW	85	RXJSSA12E	219	SSWTLRG	164
RRJWB	85	RXJSSA13E	219	SSWTLRR	164
RRJWB_514	87	RXJSSA14E	219	SSWTLRW	164
RRJWBL	85	RXJSSA15E	219	SSWTLRY	164
RRJWBLSW	85	RXJSSA17E	219	SSWWA	170
RRJWBLSW	85	RXJSSA18E	219	SSWWB	170
RRJWC	85	RXJSTB	218	SSWWC	170
RRJWCL	86	RXJT	216		
RRSK	83,144,605,611	RXJUH	399		
RS	235	RXJUV	618		
RS_SW.PILZ	235	RXJWA	218		
RSG-230V	239,254	RXJWB	218		
RSG-24V	239,254	RXJWC	218		

ST	163
STLI_M03	204
STLO_M05	205
STLRB	164
STLRG	164
STLRR	164
STLRW	164
STLRY	164
STOI_M01	204
SV_FKC2,5	580
SVACFT	165
SVAN	173
SVANLRB	174
SVANLRG	174
SVANLRR	174
SVANLRW	174
SVANLRY	174
SVASSA12	171
SVASSA13	171
SVASSA14	171
SVASSA15	171
SVASSA16	171
SVASSA17	171
SVASSA18	171
SVASSA31	172
SVASTA	170
SVASTB	170
SVAT	163
SVATLRB	164
SVATLRG	164
SVATLRR	164
SVATLRW	164
SVATLRY	164
SVAWA	170
SVAWB	170
SVAWC	170
SWA	170
SWALI_M03	207
SWB	170
SWBII_M07	206
SWC	170

T

T20DBL	216
T20DGB	216
T20DGBL	216
T20DGGB	216
T20DGGN	216
T20DGN	216
T20DGRT	216
T20DGSW	216
T20DGWS	216
T20DKL	216
T20DRT	216
T20DWS	216
T20FBL	41,50,233,249,303,329,387
T20FGB	41,50,233,249,303,329,387
T20FGBL	41
T20FGGB	41
T20FGGN	41
T20FGN	41,50,233,249,303,329,387
T20FGRT	41
T20FGSW	41
T20FGWS	41
T20FKL	41,50,233,249,303,329,387
T20FRT	41,50,233,249,303,329,387
T20FWS	41,50,233,249,303,329,387
T22HRRBL	81,111,136,163,185,205,265
T22HRRGB	81,111,136,163,185,205,265
T22HRRGN	81,111,136,163,185,205,265
T22HRRKL	81,111,136,163,185,205,265

T22HRRRT	81,111,136,163,185,205,265
T22HRRWS	81,111,136,163,185,205,265
T22RRBL	81,111,135,163,185,205,264
T22RRGB	81,111,135,163,185,205,264
T22RRGBL	81,111,136,163,185,205,264
T22RRGGB	81,111,136,163,185,205,264
T22RRGGN	81,111,136,163,185,205,264
T22RRGM	81,111,136,264
T22RRGN	81,111,135,163,185,205,264
T22RRGRT	81,111,136,163,185,205,264
T22RRGSW	81,111,136,163,185,205,264
T22RRGWS	81,111,136,163,185,205,264
T22RRKL	81,111,135,163,185,205,264
T22RRRT	81,111,135,163,185,205,264
T22RRWS	81,111,135,163,185,205,264
T25DBL	61,366
T25DGB	61,366
T25DGN	61,366
T25DKL	61,366
T25DRT	61,366
T25DWS	61,366
T25FBL	61,367
T25FGB	61,367
T25FGBL	61,367
T25FGGB	61,367
T25FGGN	61,367
T25FGN	61,367
T25FGRT	61,367
T25FGSW	61,367
T25FGWS	61,367
T25FKL	61,367
T25FRT	61,367
T25FWS	61,367
T25HBL	61,367
T25HGB	61,367
T25HGN	61,367
T25HKL	61,367
T25HRT	61,367
T25HWS	367
T26DBL	302,309,386
T26DGB	302,309,386
T26DGBL	302,386
T26DGGB	302,386
T26DGGN	302,386
T26DGN	302,309,386
T26DGRT	302,386
T26DGSW	302,386
T26DGWS	302,386
T26DKL	302,309,386
T26DRT	302,309,386
T26DWS	302,309,386
T30DBL	328
T30DGB	328
T30DGN	328
T30DKL	328
T30DRT	328
T30FBL	328
T30FGB	328
T30FGBL	328
T30FGGB	328
T30FGGN	328
T30FGN	328

T30FGRT	328
T30FGSW	328
T30FGWS	328
T30FKL	328
T30FRT	328
T30FWS	328
T30HBL	328
T30HGB	328
T30HGN	328
T30HKL	328
T30HRT	328
TG22BL	232,248
TG22GB	232,248
TG22GBL	232,248
TG22GGB	232,248
TG22GGN	232,248
TG22GHBL	232,249,302
TG22GHGB	232,249,302
TG22GHGN	232,249,302
TG22GHRT	232,249,302
TG22GHSW	232,249,302
TG22GHWS	232,249,302
TG22GN	232,248
TG22GRT	232,248
TG22GSW	232,248
TG22GWS	232,248
TG22KL	232,248
TG22RT	232,248
TG22WS	232,248
TK25S	61
TK26S	41
TK27S	367
TK28S	136,164,185,206,216,266
TK29S	233,249,318
TK50S	304
TMS_RRJ_TCA	667
TMS_RRJSW_TCA	667
TMS_RRJSW_TRA	667
TOKFBL	20
TOKFGB	20
TOKFGBL	20
TOKFGDG	20
TOKFGGB	20
TOKFGGN	20
TOKFGN	20
TOKFGRT	20
TOKFGSW	20
TOKFGWS	20
TOKFKL	20
TOKFRT	20
TOKFWS	20
TOKJFBL	350,358
TOKJFGB	350,358
TOKJFGBL	350
TOKJFGGB	350
TOKJFGGN	350
TOKJFGN	350,358
TOKJFGRT	350
TOKJFGSW	350
TOKJFGWS	350
TOKJFKL	350,358
TOKJFRT	350,358
TOKJFWS	350,358

U

USK	32,52,73,102,121,157,175,209,224,256,275,295,311,321,343,359,379,394
-----	--

V

VK_BKL034	627
VK_BTK_001_50	646
VK_BTK_002_90	646
VK_JST025BKL	627

Typenindex

About Us

Pushbuttons/Switches

Panel Mount Jacks

Emergency-Stop Buttons

Bus Technology

RFID

Enclosures

Pedal Switches

Terminal Blocks

VK_JST3_014..... 100
VK_LRR22_RGB..... 100

Y

YMTB 408
YMTG 408
YMTGB 410
YMTGG 410
YMTGR 410
YMTGS 410
YMTGW 410
YMTGY 410
YMTLB 409
YMTLB_ 409
YMTLG 409
YMTLG_ 409
YMTLR 409
YMTLR_ 409
YMTLW 409
YMTLW_ 409
YMTLY 409
YMTLY_ 409
YMTR 408
YMTW 408
YMTW_ 408
YMTY 408
YTB 408
YTG 408
YTGB 410
YTGG 410
YTGR 410
YTGS 410
YTGW 410
YTGy 410
YTLB 409
YTLB_ 409
YTLG 409
YTLG_ 409
YTLR 409
YTLR_ 409
YTLW 409
YTLW_ 409
YTLY 409
YTLY_ 409
YTR 408
YTW 408
YTW_ 408
YTY 408
YVDOO_RO 411,617
YVLO 412,616
YVLOO 412,617
YVO 615
YVOO 411,615
YVOOI 412,616

→ Type Index

