

FRVKDOO_C113

12.06.2024

Emergency-stop with 5-pole M12 connector, AIDA and status indication active/inactive



General Data

Type reference:	FRVKDOO_C113
Description:	Emergency-stop, active/inactive (without diagnostic unit), with integrated 5-pole M12 connector
Approvals:	CE, UKCA
Contact type:	2 NC
Degree of protection:	IP65 / IP67 (in the front); IP65 / IP67 (on the rear with plugged-in M12 connector)
Connection type:	5-pole M12, A coded
Contact material:	AgNi
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000 switching cycles
Electrical life (rated load):	50,000 switching cycles 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)

	direct current
Utilisation category	DC13
Rated insulation voltage U_i	26.4 V
Rated operating voltage U_e	24 V
Rated operating current I_e	2 A
Continuous thermal current	2 A

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Definition:	Pin5: LED+, Pin3: LED-

Additional data

Mounting aperture:	22.3 mm
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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
Tightening torque (M12-connector):	max. 0.4 Nm
Ld:	20% (NC)
B10d [cycles]:	250,000
Overvoltage category:	II
Pollution degree :	2
Material group:	I

Note

O = NC contact
 - with switching position indicator
 - the diagnostic unit is not scope of delivery

Conditional short circuit I_q: 1000 A
 Rated impulse withstand voltage U_{imp}: 2.5 KV at contact element
 Short circuit means (recommendation): safety fuse 2A gG

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

Mushroom head "grey": "inactive", no emergency-stop
 Mushroom head "red": "active" emergency-stop

LED data:
 Type: Opto Devices
 Typical data at I_F=20mA:
 Luminous intensity: min. 10000 mcd, typ. 13000 mcd
 Beam angle: typ. 15°
 Dominant wave length: 618...624 nm, typ. 621 nm

Rated voltage: 24 V DC ± 10%
 Rated current: 17.8 mA (15.6...19.95mA)
 Typical luminous intensity at I_F=18mA: min. 9000 mcd, typ. 11700 mcd
 Cut-off voltage LED: max. 70 V
 Average lifetime: abt. 80.000...100.000 h

Safety instructions / mounting instructions

- The emergency-stop must only be used when lighting conditions ensure a 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 safety review of the entire system is required.
 - Depending on the designer's risk assessment, the illumination of the emergency-stop has to be monitored by means of a "diagnostic unit", and in case of a failure one has to react in accordance with the risk evaluation.
 - The illumination of the emergency-stop has to be checked regularly as to its clear perceptibility. The emergency-stop has to be exchanged in case the clear perceptibility is no longer given.
 - the M12 connector must not be connected or disconnected under load
 - the single connector pin may be loaded with max. 2 A
 - not suitable for use under water
 - there may not be any mechanical load on the M12 connector, ensure that there is sufficient strain relief!
- observe the operating instructions

- depending on the usage the LED connected to the common pin must be considered in the overall system There is no electrical isolation from the normally closed contact!
- observe the operating instructions
- voltage of +24 V ± 10% must be applied at pin 5 to operate the "active/inactive" LED.

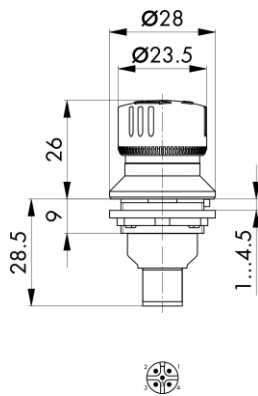
Standard compliant applications:

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

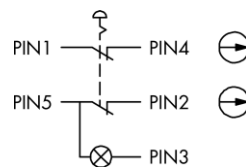
Pin assignment:

Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Type
NC1	NC2	LED -	NC1	COM (NC2, LED +)	2 NC (AIDA)

Dimensional drawing



Circuit diagram



Drilling pattern

