

FRVKDOI_R0

17.03.2022

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



General Data

Type reference	FRVKDOI_R0
Description	Emergency-stop, active/inactive (without diagnostic device), LED without series resistor
Approvals	CE, cURus, TÜV_Süd, UKCA
Contact type	1 NC + 1 NO
Degree of protection	IP65 / IP67
Connection type	Faston terminals 2.8 x 0.8 mm
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 NO	< 50 mOhm (new state)
Contact resistance NC	< 50 mOhm (new state)
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	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, without series resistor, with protective diode in series
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Definition	X1 ...anode, X2...cathode
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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 [cycles]	250,000
Overvoltage category	II
Pollution degree	2
Material group	I

Note

- O = NC contact
- LED: 0 ohm serie resistor, with protective diode (series-connected)
- with switching position indicator
- the diagnostic unit is not scope of delivery

- use partially or fully insulated Faston clamps

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:

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_FRVKD_170302.pdf)

Protective diode (series-connected): Diodes Incorporated BAS70-05

Forward voltage: max. 1.0 V (IF=15mA), max. 410mV (IF=1mA)

LED series resistor: 0 ohm

Typicat data at IF=20mA: (recommended: 15mA...20mA)

Luminous intensity: min. 10000 mcd, typ. 13000 mcd

Beam angle: typ. 15°

Dominant wave length: 618...624 nm, typ. 621 nm

Typical luminous intensity at IF=18mA: min. 9000 mcd, typ. 11700 mcd

Average lifetime: abt. 80.000...100.000 h

LED cut-off voltage: max. 70 V (with protective diode)

Max. forward current: 30 mA

Forward voltage LED: typical 2.0V (1.9 V...2.1 V)

Safety instructions:

- The emergency-stop may only be used in lighting conditions in which a clear and unambiguous perceptibility of the red illuminated (active) mushroom head is guaranteed; e.g. indoors or in covered 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.

- Observe the operating instructions

Standard compliant applications:

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

Data acc. to UL

Rating Pilot duty B300; 24Vdc/3A

Category NISD2/8

Torque 1.3 ... 1.9 Nm (head nut)

Lamp rating Series resistor: 0 Ohm
LED input current to be limited to 15 ... 20 mA

