MADE IN GERMANY

FRVKD_R0_ALLE

19.10.2020

General Data	
Type reference:	FRVKD(O)(OO)(OI)(P)(_AU)_R0
Description:	Emergency-stop, active/inactive (without diagnostic device), LED without series resistor
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
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 NO:	< 10 ms
Bouncing time NC:	< 10 ms
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	5A	2 A
Breaking capacity	10Ie	1,1Ie
Continuous thermal current	5A	2.5A

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:	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

O = NC contact; I = NO contact
- LED: 0-ohm series resistor, with protective diode (series-connected)
- 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:
The LED must not be operated without a series resistor.
Do not connect terminals S1-X2 directly to voltage. Observe LED data!

LED type:	(Datenblatt_LED_FRVKD_170302.pdf)
Protective diode (in series):	Diodes Incorporated BAS70-05 Forward voltage: max. 1.0 V (IF=15mA), max. 410mV IF=1mA)
LED series resistor:	0-Ohm
Typical data at IF=20mA:	(recommended: 15mA...20mA)
Luminous intensity:	min. 10000 mcd, typical 13000 mcd
Beam angle:	typical 15°
Dominant wavelength:	618...624 nm, typical 621 nm
Typical luminous intensity at IF=1.8mA:	min. 9000 mcd, typical 11700 mcd
Average life:	approx. 80,000...100,000h
LED cut-off voltage:	max. 70V(incl.protective diode)
Max. forward current:	30 mA
Max. forward voltage of LED:	typical 2.0V (1.5V...2.1V)

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)

Data acc. to UL	
Rating:	Pilot duty B300; 24Vdc/3A; Au: 42Vdc/100mA
Category:	NISD2/8