Datasheet - SRB-E-402ST

Multi-function safety modules / SRB-E-402ST



(Minor differences between the printed image and the original product may exist!)

- Two-functions safety monitoring module (double evaluation), 2 x STOP 0
- 2 x 1 oder 2-channel control
- 2 x Start button / Auto-start
- 1 x Monitoring two-hand control panels to ISO 13851
- 2 safety contacts
- 2 Safety outputs

Ordering details

Product type description	SRB-E-402ST
Article number	103007221
EAN code	
eCl@ss	27-37-19-01

Approval

Approval	TÜV USA/CAN

Classification

Relay outputs

Standards	EN ISO 13849-1, IEC 61508, IEC/EN 62061
PL	up e
Control category	up 4
DC	High
CCF	> 65 points
PFH value	≤ 1.25 x 10^{-8}/h
PFD value	≤ 5.3 x 10^{-5}
SIL	up 3
Mission time	20 Years

Semi-conductor outputs	
Standards	EN ISO 13849-1, IEC 61508, IEC/EN 62061
PL	up e
Control category	up 4
PFH value	≤ 2.66 x 10^{-9}/h
PFD value	≤ 2.42 x 10^{-5}
SIL	up 3
Mission time	20 Years

Global Properties

Product name	SRB-E-402ST
Standards	IEC/EN 60204-1, EN 60947-5-1, EN ISO 13849-1, IEC 61508, IEC/EN 62061
Compliance with the Directives (Y/N) CE	Yes
Mounting	snaps onto standard DIN rail to EN 60715
Terminal designations	IEC/EN 60947-1
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, ventilated
- Material of the contacts	Ag-Ni, self-cleaning, positive action
Weight	190 g
Start conditions	Automatic or Start button (Optional monitored)
Start input (Y/N)	Yes
Feedback circuit (Y/N)	Yes
Start-up test (Y/N)	No
Automatic reset function (Y/N)	Yes
Reset with edge detection (Y/N)	Yes
Pull-in delay	
- ON delay with automatic start	< 150 ms
- ON delay with reset button	< 150 ms
Drop-out delay	
- Drop-out delay in case of power failure	< 10 ms
- Drop-out delay in case of emergency stop	< 10 ms

Mechanical data

Connection type	Screw connection, plug-in
Cable section	
- Min. Cable section	0,25 mm²
- Max. Cable section	2.5 mm²
Pre-wired cable	rigid or flexible
Tightening torque for the terminals	0,5 Nm
Detachable terminals (Y/N)	Yes
Mechanical life	10.000.000 operations
Electrical lifetime	Derating curve available on request
restistance to shock	30 g / 11 ms
Resistance to vibration To EN 60068-2-6	10…55 Hz, Amplitude 0,35 mm

Ambient conditions

Ambient temperature	
- Min. environmental temperature	−25 °C
- Max. environmental temperature	+60 °C
Storage and transport temperature	

- Min. Storage and transport temperature	−40 °C
- Max. Storage and transport temperature	+85 °C
Protection class	
- Protection class-Enclosure	IP40
- Protection class-Terminals	IP20
- Protection class-Clearance	IP54
Air clearances and creepage distances To IEC/EN 60664-1	
- Rated impulse withstand voltage U_{imp}	6 kV / 4 kV / 0,8 kV
Overvoltage category	III
- Degree of pollution	2 To IEC/EN 60664-1

Electromagnetic compatibility (EMC)

EMC rating	conforming to EMC Directive

Electrical data

Rated DC voltage for controls	
- Min. rated DC voltage for controls	19.2 V
- Max. rated DC voltage for controls	28.8 V
Rated AC voltage for controls, 50 Hz	
- Min. rated AC voltage for controls, 50 Hz	
- Max. rated AC voltage for controls, 50 Hz	
Rated AC voltage for controls, 60 Hz	
- Min. rated AC voltage for controls, 60 Hz	
- Max. rated AC voltage for controls, 60 Hz	
Contact resistance	max. 100 mΩ
Power consumption	3.6 W
Type of actuation	DC
Switch frequency	max. 0,3 Hz
Rated insulation voltage U_i	250 V / 50 V
Rated operating voltage U_e	24 VDC −20% / +20%, residual ripple max. 10%
Operating current I_e	0,15 A
Frequency range	
Electronic protection (Y/N)	No
Fuse rating for the operating voltage	We recommend a Z type circuit breaker (max. 16 A) either a fine-wire fuse (max. 15A, slow-blow)
Bridging in case of voltage drops	5 ms
Cyclic outputs	> 20 VDC, 10 mA for each output
Control inputs	24 VDC / 8 mA

Inputs

Monitored inputs	
- Short-circuit recognition (Y/N)	Yes
- Wire breakage detection (Y/N)	Yes
- Earth connection detection (Y/N)	Yes
Number of shutters	2 piece
Number of openers	4 piece
Cable length	1500 m with 1.5 mm²; 2500 m with 2.5 mm²
Conduction resistance	max. 40 Ω

Outputs

Stop category	0
Number of safety contacts	2 x STOP 0
Number of safety outputs	2 x STOP 0
Number of auxiliary contacts	1 x STOP 0
Number of signalling outputs	1 x STOP 0
Relay outputs	
Switching capacity of the safety contacts	max. 250 V, 6 A ohmic min. 10 VDC / 10 mA (inductive in case of appropriate protective wiring)
Protection of the safety contacts	Safety fuse 10 A quick-blow, 6 A slow blow
Utilisation category	AC-15: 230 V / 4 A DC-13: 24 V / 4 A
Switching capacity of the auxiliary contacts	24 VDC, 1 A
Fuse rating for the auxiliary contacts	2.5 A quick-blow, 2 A slow blow
Semi-conductor outputs	
Switching capacity of the safety outputs	max. 2 A (inductive in case of appropriate protective wiring)
Voltage drop U_d	< 0,5 V
Residual current I_r	< 1 mA
Test impulse width	< 1 ms < 100 µs
Fuse rating for the safety outputs	
Utilisation category	DC-13: 24 V / 2 A
Switching capacity of the signaling/diagnostic outputs	24 VDC / 100 mA
Fuse rating for the signaling/diagnostic outputs	Internal electronic trip

LED switching conditions display

LED switching conditions display (Y/N)	Yes
Number of LED´s	6 piece
	Yes

Miscellaneous data

Applications	 Emergency-Stop button  Pull-wire emergency stop switches  Safety light barriers  Safety light curtain  Safety sensor  hinged safety guard

Dimensions

Dimensions	
- Width	22.5 mm
- Height	98 mm
- Depth	115 mm

Documents

Operating instructions and Declaration of conformity (en) 927 kB, 11.08.2017
Code: mrl_srb-e-402st_en

Operating instructions and Declaration of conformity (it) 899 kB, 02.10.2017
Code: mrl_srb-e-402st_it

Operating instructions and Declaration of conformity (de) 934 kB, 11.08.2017
Code: mrl_srb-e-402st_de

Operating instructions and Declaration of conformity (pt) 877 kB, 17.03.2017
Code: mrl_srb-e-402st_pt

Operating instructions and Declaration of conformity (fr) 875 kB, 20.01.2017
Code: mrl_srb-e-402st_fr

Operating instructions and Declaration of conformity (jp) 997 kB, 12.05.2017
Code: mrl_srb-e-402st_jp

Operating instructions and Declaration of conformity (pl) 888 kB, 23.01.2017
Code: mrl_srb-e-402st_pl

Brochure (pt) 1 MB, 14.12.2015
Code: b_srb-e_pt

Brochure (it) 1 MB, 05.02.2016
Code: b_srb-e_it

Brochure (es) 1 MB, 17.12.2015
Code: b_srb-e_es

Brochure (en) 1 MB, 10.11.2015
Code: b_srb-e_en

Brochure (de) 1 MB, 10.11.2015
Code: b_srb-e_de

Brochure (br) 1 MB, 04.07.2017
Code: b_srb-e_br

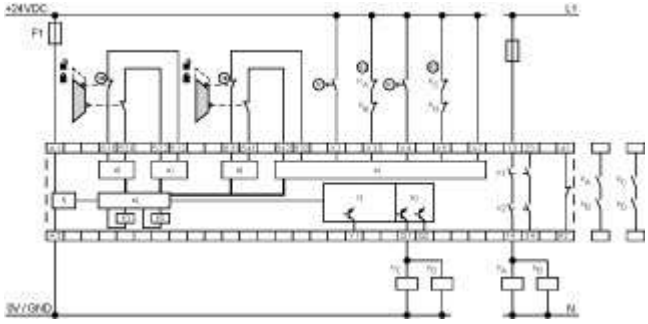
Brochure (fr) 1 MB, 24.03.2016
Code: b_srb-e_fr

Brochure (pl) 1 MB, 25.01.2016
Code: b_srb-e_pl

CCC certification (cn) 460 kB, 24.07.2017
Code: q_srbp11

CCC certification (en) 460 kB, 24.07.2017
Code: q_srbp12

Images



Wiring example