Datasheet - SRB-E-301ST

Multi-function safety modules / SRB-E-301ST



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

- STOP 0 Function
- 1 oder 2-channel control
- Start button / Auto-start
- 3 safety contacts
- 1 Auxiliary contact

Ordering details

Product type description	SRB-E-301ST
Article number	103007672
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	
PL	
Control category	
PFH value	
PFD value	
SIL	
Mission time	

Global Properties

Product name	SRB-E-301ST
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	175 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
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	19.2 V
- Max. rated AC voltage for controls, 50 Hz	28.8 V
Rated AC voltage for controls, 60 Hz	
- Min. rated AC voltage for controls, 60 Hz	19.2 V
- Max. rated AC voltage for controls, 60 Hz	28.8 V
Contact resistance	max. 100 mΩ
Power consumption	2.4 W; 7 VA
Type of actuation	DC
Switch frequency	max. 0,3 Hz
Rated insulation voltage U_i	250 V
Rated operating voltage U_e	24 VDC −20% / +20%, residual ripple max. 10%
Operating current I_e	0,1 A
Frequency range	50 / 60 Hz
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	1 piece
Number of openers	2 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 outputs	0
Number of safety contacts	3 x STOP 0
Number of auxiliary contacts	1 x STOP 0
Number of signalling outputs	0 piece
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	
Voltage drop U_d	
Residual current I_r	
Test impulse width	
Fuse rating for the safety outputs	
Utilisation category	
Switching capacity of the signaling/diagnostic outputs	
Fuse rating for the signaling/diagnostic outputs	

LED switching conditions display

LED switching conditions display (Y/N)	Yes
Number of LED´s	5 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 (de) 1 MB, 31.05.2016

Code: mrl_srb-e-201st-201lc-301st_de

Operating instructions and Declaration of conformity (en) 1 MB, 31.05.2016
Code: mrl_srb-e-201st-201lc-301st_en

BG-test certificate (de) 704 kB, 24.07.2017
Code: z_srbep01

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

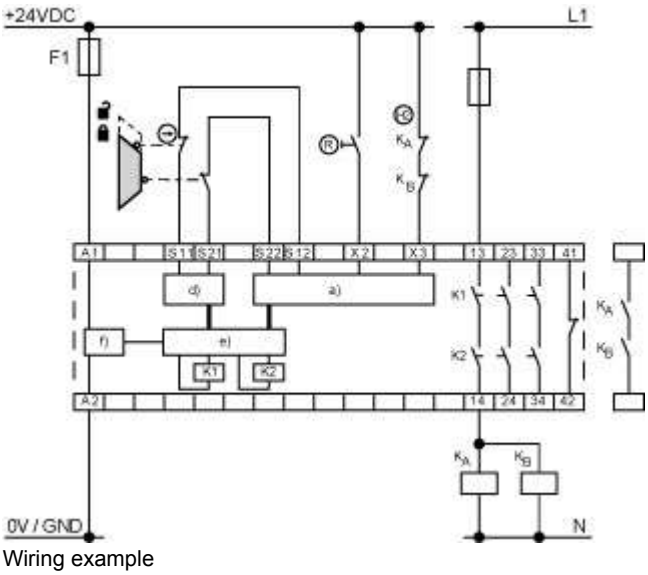
Brochure (br) 1 MB, 04.07.2017
Code: b_srb-e_br

Brochure (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

The data and values have been checked throroughly. Technical modifications and errors excepted.
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