

## Datasheet - SRB-E-322ST

Multi-function safety modules / SRB-E-322ST



- STOP 0 / 1 Function
- 1 oder 2-channel control
- 3 safety contacts STOP 0
- 2 Safety outputs STOP 1
- Drop-out delay 0 ... 30 s

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

### Ordering details

Product type description	SRB-E-322ST
Article number	103008184
EAN code	
eCl@ss	27-37-19-01

### Approval

Approval



### 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	$\leq 1.25 \times 10^{-8}/h$
PFD value	$\leq 5.3 \times 10^{-5}$
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	$\leq 2.66 \times 10^{-9}/h$
PFD value	$\leq 2.42 \times 10^{-5}$
SIL	up 3
Mission time	20 Years

## Global Properties

---

Product name	SRB-E-322ST
Standards	IEC/EN 60204-1, EN 60947-5-1, EN ISO 13849-1, IEC 61508, IEC/EN 62061
Compliance with the Directives (Y/N) 	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	180 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 mm <sup>2</sup>
- Max. Cable section	2.5 mm <sup>2</sup>
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 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 $I_e$	0,125 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

---

<b>Monitored inputs</b>	
- 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 mm <sup>2</sup> ; 2500 m with 2.5 mm <sup>2</sup>
Conduction resistance	max. 40 Ω

## Outputs

Stop category	0 and 1
Number of safety contacts	3 x STOP 0
Number of safety outputs	2 x STOP 1
Number of auxiliary contacts	1 x STOP 0
Number of signalling outputs	1 x STOP 1
<b>Relay outputs</b>	
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
<b>Semi-conductor outputs</b>	
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 $\mu$ s
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** (de) 1 MB, 24.02.2017

Code: mrl\_srb-e-212st-322st\_de

**Operating instructions and Declaration of conformity** (en) 1 MB, 24.02.2017

Code: mrl\_srb-e-212st-322st\_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

