

<meta name='Description' content='Fit for signal evaluation of outputs of safety magnetic switches (to this end, integrated current and voltage limiters), Possibility to connect a non-contact end switch or speed reduction switch, 2 safety contacts, switch-off level 1;

13.02.2019

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13:03:57h

Datasheet - SRB402NE 230V



Guard door monitors and Safety control modules for Emergency Stop applications / General Purpose safety controllers (Series PROTECT SRB) / SRB402NE



- Fit for signal evaluation of outputs of safety magnetic switches (to this end, integrated current and voltage limiters)
- Possibility to connect a non-contact end switch or speed reduction switch
- 2 safety contacts, switch-off level 1;
2 safety contacts, switch-off level 2
- 2 Signalling outputs

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

Ordering details

Product type description	SRB402NE 230V
Article number	101178397
EAN Code	4250116202423
Replaced article number	101178532
eCl@ss	27-37-19-01

Approval

Approval




Classification

Standards	EN ISO 13849-1, IEC 61508, IEC/EN 60947-1
PL	up e (STOP 0)
Control category	up 4 (STOP 0)
DC	99% (STOP 0)
CCF	> 65 points
PFH value	$\leq 2,0 \times 10^{-8}$ /h
SIL	up 3 (STOP 0)

Mission time	20 Years																		
- notice	The PFH value is applicable for the combinations listed in the table for contact load (K) (current through enabling paths) and switching cycle number (n-op/y). In case of 365 operating days per year and a 24-hour operation, this results in the specified switching cycle times (t-cycle) for the relay contacts. Diverging applications on request.																		
	<table border="1"> <thead> <tr> <th>K</th> <th>n-op/y</th> <th>t-cycle</th> </tr> </thead> <tbody> <tr> <td>20 %</td> <td>525.800</td> <td>1,0 min</td> </tr> <tr> <td>40 %</td> <td>210.240</td> <td>2,5 min</td> </tr> <tr> <td>60 %</td> <td>75.067</td> <td>7,0 min</td> </tr> <tr> <td>80 %</td> <td>30.918</td> <td>17,0 min</td> </tr> <tr> <td>100 %</td> <td>12.223</td> <td>43,0 min</td> </tr> </tbody> </table>	K	n-op/y	t-cycle	20 %	525.800	1,0 min	40 %	210.240	2,5 min	60 %	75.067	7,0 min	80 %	30.918	17,0 min	100 %	12.223	43,0 min
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Global Properties

Permanent light	SRB402NE
Standards	EN 60204-1, EN 60947-5-1, EN ISO 13849-1, IEC 61508
Compliance with the Directives (Y/N) 	Yes
Climatic stress	EN 60068-2-78
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	565
Start conditions	Automatic
Start input (Y/N)	No
Feedback circuit (Y/N)	Yes
Start-up test (Y/N)	No
Reset after disconnection of supply voltage (Y/N)	No
Automatic reset function (Y/N)	Yes
Reset with edge detection (Y/N)	No
Pull-in delay	
- ON delay with automatic start	typ. 500 ms
Drop-out delay	
- Drop-out delay in case of emergency stop	≤ 50 ms

Mechanical data

Connection type	Screw connection
Cable section	
- Min. Cable section	0,25
- Max. Cable section	2.5
Pre-wired cable	rigid or flexible
Tightening torque for the terminals	0,6
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, ± 15 %

Ambient conditions

Ambient temperature	
- Min. environmental temperature	-25 °C
- Max. environmental temperature	+45 °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}	4 kV
- Overvoltage category	III To VDE 0110
- Degree of pollution	2 To VDE 0110

Electromagnetic compatibility (EMC)

EMC rating	conforming to EMC Directive
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Electrical data

Rated DC voltage for controls	
- Max. rated DC voltage for controls	-
- Max. rated DC voltage for controls	-
Rated AC voltage for controls, 50 Hz	
- Min. rated AC voltage for controls, 50 Hz	195.5
- Max. rated AC voltage for controls, 50 Hz	253
Rated AC voltage for controls, 60 Hz	
- Min. rated AC voltage for controls, 60 Hz	195.5
- Max. rated AC voltage for controls, 60 Hz	253
Contact resistance	max. 100 mΩ
Power consumption	6 W; 7.8 VA
Type of actuation	AC
Rated operating voltage U_e	230 VAC -15% / +10%
Frequency range	50 / 60 HZ
Electronic protection (Y/N)	No
Fuse rating for the operating voltage	1.0 A slow blow

Inputs

Monitored inputs	
- Short-circuit recognition (Y/N)	Yes
- Wire breakage detection (Y/N)	Yes
- Earth connection detection (Y/N)	Yes
Number of shutters	0 piece
Number of openers	4 piece
Cable length	1500 m with 1.5 mm ² ; 2500 m with 2.5 mm ²
Conduction resistance	max. 40 Ω

Outputs

Stop category	0
Number of safety contacts	4 piece
Number of auxiliary contacts	0 piece
Number of signalling outputs	2 piece
Switching capacity	

- Switching capacity of the safety contacts	max. 230 VAC, 6 A ohmic (inductive in case of appropriate protective wiring)
- Switching capacity of the auxiliary contacts	230 VAC, 2 A
Fuse rating	
- Protection of the safety contacts	6 A slow blow
- Fuse rating for the auxiliary contacts	2 A slow blow
Utilisation category To EN 60947-5-1	AC-15: 230 V / 4 A DC-13: 24 V / 4 A
Note on the utilisation category	
- Stop category 0	Residual current at ambient temperature up to: - 45°C = 18 A; - 55°C = 15 A; - 60°C = 12 A
- Stop category 1	Residual current at ambient temperature up to: - 45°C = 12 A; - 55°C = 10 A; - 60°C = 8 A
Number of undelayed semi-conductor outputs with signaling function	0 piece
Number of undelayed outputs with signaling function (with contact)	2 piece
Number of delayed semi-conductor outputs with signaling function.	0 piece
Number of delayed outputs with signalling function (with contact).	0 piece
Number of secure undelayed semi-conductor outputs with signaling function	0 piece
Number of secure, undelayed outputs with signaling function, with contact.	4 piece
Number of secure, delayed semi-conductor outputs with signaling function	0 piece
Number of secure, delayed outputs with signaling function (with contact).	0 piece

LED switching conditions display

LED switching conditions display (Y/N)	Yes
Number of LED's	7
LED switching conditions display	
- The integrated LEDs indicate the following operating states.	
- Position relay K1	
- Position relay K5	
- Position relay K2	
- Position relay K4	
- Position relay K3	
- Supply voltage	
- Internal operating voltage Ui	

Miscellaneous data

Applications	 Guard system  Safety sensor
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Dimensions

Dimensions	
- Width	45 mm
- Height	100 mm
- Depth	121 mm

notice

Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.

notice - Wiring example

The example shows a 2-channel control of a circuit with limit switches

Relay outputs: Suitable for 1 channel control, for increase in capacity or number of contacts by means of contactors or relays with positive-guided contacts.

(H2) = Feedback circuit

The control system recognises wire-breakage and earth faults in the monitoring circuit.

The wiring diagram is shown with non-actuated limit switches and in de-energised condition.

Documents

Operating instructions and Declaration of conformity (jp) 1 MB, 29.03.2011

Code: mrl_srb400-402ne_jp

Operating instructions and Declaration of conformity (fr) 675 kB, 19.03.2018

Code: mrl_srb400-402ne_fr

Operating instructions and Declaration of conformity (en) 668 kB, 16.11.2017

Code: mrl_srb400-402ne_en

Operating instructions and Declaration of conformity (nl) 645 kB, 07.08.2018

Code: mrl_srb400-402ne_nl

Operating instructions and Declaration of conformity (pt) 664 kB, 15.01.2018

Code: mrl_srb400-402ne_pt

Operating instructions and Declaration of conformity (pl) 687 kB, 09.05.2018

Code: mrl_srb400-402ne_pl

Operating instructions and Declaration of conformity (it) 672 kB, 15.01.2018

Code: mrl_srb400-402ne_it

Operating instructions and Declaration of conformity (es) 670 kB, 15.01.2018

Code: mrl_srb400-402ne_es

Operating instructions and Declaration of conformity (de) 656 kB, 16.11.2017

Code: mrl_srb400-402ne_de

Operating instructions and Declaration of conformity (da) 642 kB, 07.08.2018

Code: mrl_srb400-402ne_da

Wiring example (99) 21 kB, 04.08.2008

Code: ksr404

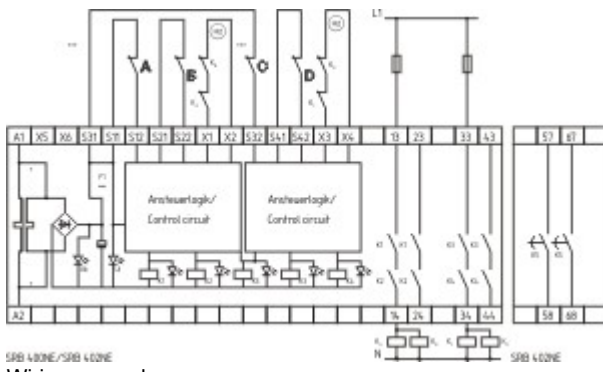
BG-test certificate (de) 48 kB, 05.10.2006

Code: z_400p01

EAC certification (ru) 1 MB, 15.03.2018

Code: q_aesp01

Images



SRB 4.03NE/SRB 4.02NE
Wiring example

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