



Part no.: 547951  
**MSI-SR4B-02**  
Safety relay



Figure can vary



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- Electrical connection
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## Technical data

<b>Basic data</b>	
Series	MSI-SR4B
<b>Functions</b>	
Functions	Automatic start/restart Contactor monitoring (EDM) Cross circuit monitoring Start/restart interlock (RES), selectable
Restart	Automatic Manual
<b>Characteristic parameters</b>	
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
MTTF <sub>d</sub>	73 years , EN ISO 13849-1
PFH <sub>D</sub>	0.000000021 per hour
PFH <sub>D</sub>	2,1E-08 per hour
PFH <sub>D</sub> , nop = 4800	0.000000014 per hour
PFH <sub>D</sub> , nop = 28800	0.000000045 per hour
PFH <sub>D</sub> , nop = 86400	0.000000015 per hour
Mission time T <sub>M</sub>	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849
STOP category	0 , IEC/EN 60204-1
B10 <sub>d</sub> at DC13 (inductive load)	1,000,000 number of cycles
B10 <sub>d</sub> at AC15 (inductive load)	1,400,000 number of cycles
<b>Electrical data</b>	
Protective circuit	Fuse on switching output, upstream
Continuous current per current path, max.	3 A
Input current, max.	100 mA
External safeguarding for supply circuit	200 mA delay-action
Permissible input line resistance, max.	30 Ω
<b>Performance data</b>	
Supply voltage U <sub>B</sub>	24 V , AC/DC , -20 ... 20 %
Current consumption, max.	Without external load
Power consumption, max.	3 W
<b>Outputs</b>	
Number of safety-related switching outputs (OSSDs)	3 Piece(s)
<b>Safety-related switching outputs</b>	
Type	Safety-related switching output OSSD
Voltage type	AC/DC
<b>Safety-related switching output 1</b>	
Switching element	Relay , NO
<b>Safety-related switching output 2</b>	
Switching element	Relay , NO
<b>Safety-related switching output 3</b>	
Switching element	Relay , NO

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**Timing**

Response time	10 ms
Pickup delay, automatic start	300 ms
Pickup delay, manual start	30 ms
Regression delay	10 ms
Test pulse acceptance, max.	1 ms
Time window for signal sequence monitoring	20 ms

**Connection**

Number of connections	1 Piece(s)
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**Connection 1**

Type of connection	Terminal
Function	Connection to device
Type of terminal	Spring-cage terminal
No. of pins	16 -pin

**Cable properties**

Connection cross sections	0.2 to 1.5 mm <sup>2</sup>
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**Mechanical data**

Dimension (W x H x L)	22.5 mm x 111 mm x 114.1 mm
Housing material	Plastic , PA 66
Electrical contact material	Silver alloy
Net weight	170 g
Housing color	Gray
Type of fastening	Snap-on mounting
Mechanical life time	10,000,000 actuation cycles

**Operation and display**

Type of display	LED
Number of LEDs	4 Piece(s)

**Environmental data**

Ambient temperature, operation	0 ... 55 °C
Ambient temperature, storage	-25 ... 70 °C

**Certifications**

Degree of protection	IP 20 (terminals) IP 40 (housing)
Protection class	II
Certifications	c TÜV NRTL US c UL US TÜV Süd

**Classification**

Customs tariff number	85371098
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449

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## Electrical connection

Connection 1	
Type of connection	Terminal
Function	Connection to device
Type of terminal	Spring-cage terminal
No. of pins	16 -pin

Terminal	Assignment
13	Relay contact 1 IN
23	Relay contact 2 IN
33	Relay contact 3 IN
41	Signal contact IN
A1	+24V
S35	Restart input
S33	Sensor supply, contacts 24V OUT
S22	Sensor input
S12	Sensor input
A2	0 V
S34	Restart automatic output
S31	Sensor input
14	Relay contact 1 OUT
24	Relay contact 2 OUT
34	Relay contact 3 OUT
42	Signal contact IN

## Operation and display

### LEDs

LED	Display	Meaning
1	Green, continuous light	Supply voltage on
2	Green, continuous light	Relay K1 picked up
3	Green, continuous light	Relay K2 picked up
4	Yellow, continuous light	Restart interlock locked