

Technical data sheet

Safety relay

Part no.: 547951

MSI-SR4B-02

Contents

- Technical data
- Electrical connection
- Operation and display



Figure can vary



Technical data

Basic data

Series	MSI-SR4B
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Functions

Functions	Automatic start/restart
	Contacting monitoring (EDM)
	Cross circuit monitoring
	Start/restart interlock (RES), selectable
Restart	Automatic
	Manual

Characteristic parameters

SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
MTTF _d	73 years, EN ISO 13849-1
PFH _D	2,1E-08 per hour
PFH _D , nop = 4800	0.000000014 per hour
PFH _D , nop = 28800	0.000000045 per hour
PFH _D , nop = 86400	0.00000015 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849
STOP category	0, IEC/EN 60204-1
B10 _d at DC13 (inductive load)	1,000,000 number of cycles
B10 _d at AC15 (inductive load)	1,400,000 number of cycles

Electrical data

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

Performance data

Supply voltage U _B	24 V, AC/DC, -20 ... 20 %
Current consumption, additional note	Without external load
Power consumption, max.	3 W

Outputs

Number of safety-related switching outputs (OSSDs)	3 Piece(s)
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Safety-related switching outputs

Type	Safety-related switching output OSSD
Voltage type	AC/DC

Safety-related switching output 1

Switching element	Relay, NO
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Safety-related switching output 2

Switching element	Relay, NO
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Safety-related switching output 3

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

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

Cable properties

Connection cross sections	0.2 to 1.5 mm ²
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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
Plastic housing	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 5.1.4	27371800
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819
eCl@ss 10.0	27371819
eCl@ss 11.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

Electrical connection

Connection 1

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

Pin	Pin assignment
	13
1	Relay contact 1 IN
	23
2	Relay contact 2 IN
	33
3	Relay contact 3 IN
	41
4	Signal contact IN
	A1
5	+24V
	S35
6	Restart input
	S33
7	Sensor supply, contacts 24V OUT
	S22
8	Sensor input
	S12
9	Sensor input
	A2
10	0 V
	S34
11	Restart automatic output
	S31
12	Sensor input
	14
13	Relay contact 1 OUT
	24
14	Relay contact 2 OUT
	34
15	Relay contact 3 OUT
	42
16	Signal contact IN

Operation and display

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