



Part no.: 549941
MSI-MC310
Safety relay



Figure can vary

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- Electrical connection
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Part no.: 549941 – MSI-MC310 – Safety relay

Technical data

Basic data	
Series	MSI-MC3x
Functions	
Functions	Automatic start/restart Start/restart interlock (RES) Static contactor monitoring (EDM) Stop function according to category Stop 0
Restart	Automatic Manual
Characteristic parameters	
Performance Level (PL)	Up to and including e , EN ISO 13849-1
PFH _D	0.000000025 per hour
PFH _D	2,5E-08 per hour
Mission time T _M	20 years , EN ISO 13849-1
Category	Up to and including 4: 1 sensor connected , EN ISO 13849
STOP category	0 , IEC/EN 60204-1
Electrical data	
Protective circuit	Fuse on switching output, upstream
Input current, max.	150 mA
External contact fuse protection per current path	4 A gG
Performance data	
Supply voltage U _B	24 V , AC/DC , -10 ... 10 %
Outputs	
Number of safety-related switching outputs (OSSDs)	2 Piece(s)
Number of digital switching outputs	1 Piece(s)
Safety-related switching outputs	
Type	Safety-related switching output OSSD
Voltage type	AC/DC
Safety-related switching output 1	
Switching element	Relay , NO
Safety-related switching output 2	
Switching element	Relay , NO
Switching outputs	
Type	Digital switching output
Voltage type	AC/DC
Switching output 1	
Switching element	Relay , NC
Function	EDM switching output
Timing	
Response time	20 ms
Pickup delay, automatic start	400 ms
Pickup delay, manual start	600 ms
Time window between 2 channels of a sensor, max.	500 ms
Connection	

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Number of connections 1 Piece(s)

Connection 1

Type of connection	Terminal
Function	Connection to device Voltage supply
Type of terminal	Screw terminal
No. of pins	16 -pin

Cable properties

Connection cross sections	1 x 0.2 to 2.5 mm ² , wire 1 x 0.2 to 2.5 mm ² , wire 1 x 0.25 to 2.5 mm ² , wire with wire-end sleeve 2 x 0.2 to 1.0 mm ² , wire 2 x 0.2 to 1.5 mm ² , wire 2 x 0.25 to 1.0 mm ² , wire with wire-end sleeve 2 x 0.5 to 1.5 mm ² , wire with twin wire-end sleeve
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Mechanical data

Dimension (W x H x L)	22.5 mm x 99 mm x 113.6 mm
Housing material	Plastic , PA
Net weight	220 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	3 Piece(s)

Environmental data

Ambient temperature, operation	0 ... 55 °C
Ambient temperature, storage	-25 ... 70 °C
Relative humidity (non-condensing)	4 ... 100 %

Certifications

Degree of protection	IP 20 (terminals) IP 40 (housing) , Installation in switch cabinet or housing with degree of protection of at least IP 54
Certifications	c UL US TÜV Süd
Test procedure for oscillation in accordance with standard	EN 60947-5-3

Classification

Customs tariff number	85423990
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 Voltage supply
Type of terminal	Screw terminal
No. of pins	16 -pin

Terminal	Assignment
A2	0 V
31	EDM 1
23	OSSD21
13	OSSD11
A1	+24V
OUT	Output for SR/A
SR	Start/Reset
A	Automatic
S11	Sensor SA
S22	Sensor SA2
S33	Sensor SB
S34	Sensor SB1
24	OSSD22
S12	Sensor SA1
32	EDM 2
14	OSSD12

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