

## Technical data sheet

### Safety relay

Part no.: 547932

MSI-TRMB-02

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For illustration purposes only



# Technical data

## Basic data

Series	MSI-TRM
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## Functions

Functions	Start/restart interlock (RES)
Restart	Automatic
	Manual

## Characteristic parameters

Type	4, IEC/EN 61496
SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	Up to and including e, EN ISO 13849-1
MTTF <sub>d</sub>	100 years, EN ISO 13849-1
PFH <sub>D</sub>	2.15E-09 per hour
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

## Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected

### Performance data

Supply voltage U <sub>B</sub>	24 V, DC, -20 ... 20 %
Current consumption, max.	200 mA
Power consumption, max.	3 W
Residual ripple	0 ... 15 %
Fuse	External with max. 3 A

### Inputs

Number of safety-related switching inputs	2 Piece(s)
Number of digital switching inputs	2 Piece(s)

### Switching inputs

Type	Digital switching input
Switching voltage high, min.	18.2 V
Switching voltage low, max.	2.5 V
Switching voltage, typ.	23 V
Voltage type	DC

### Digital switching input 1

Function	Control input for start/restart interlock (RES)
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### Digital switching input 2

Function	Control input for start/restart interlock (RES)
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### Safety-related switching inputs

Type	Safety switching input
Voltage type	DC
Switching voltage high, min.	18.2 V
Switching voltage low, max.	2.5 V
Switching voltage, typ.	23 V

## Outputs

Number of safety-related switching outputs (OSSDs)	2 Piece(s)
Number of digital switching outputs	3 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
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### Safety-related switching output 2

Switching element	Relay, NO
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### Switching outputs

Type	Digital switching output
Switching voltage high, min.	18.2 V
Switching voltage low, max.	2.5 V
Switching voltage, typ.	23 V
Voltage type	DC

### Switching output 1

Switching element	Transistor, PNP
Function	Switching output

### Switching output 2

Switching element	Transistor, PNP
Function	Switching output

### Switching output 3

Switching element	Transistor, PNP
Function	"Error" signal output

## Time behavior

Response time	130 ms
Sensor response time on test request	0.5 ... 8.5 ms

## Connection

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

Function	Connection to receiver
	Connection to transmitter
	Voltage supply
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 <sup>2</sup>
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## Technical data

### Mechanical data

Dimension (W x H x L)	22.5 mm x 111 mm x 114.1 mm
Housing material	Plastic
Plastic housing	Unreinforced polyamide PA
Net weight	155 g
Housing color	Gray
Type of fastening	Snap-on mounting

### Operation and display

Type of display	LED
Number of LEDs	6 Piece(s)

### Environmental data

Ambient temperature, operation	-25 ... 55 °C
Ambient temperature, storage	-25 ... 75 °C
Relative humidity (non-condensing)	0 ... 75 %

### Certifications

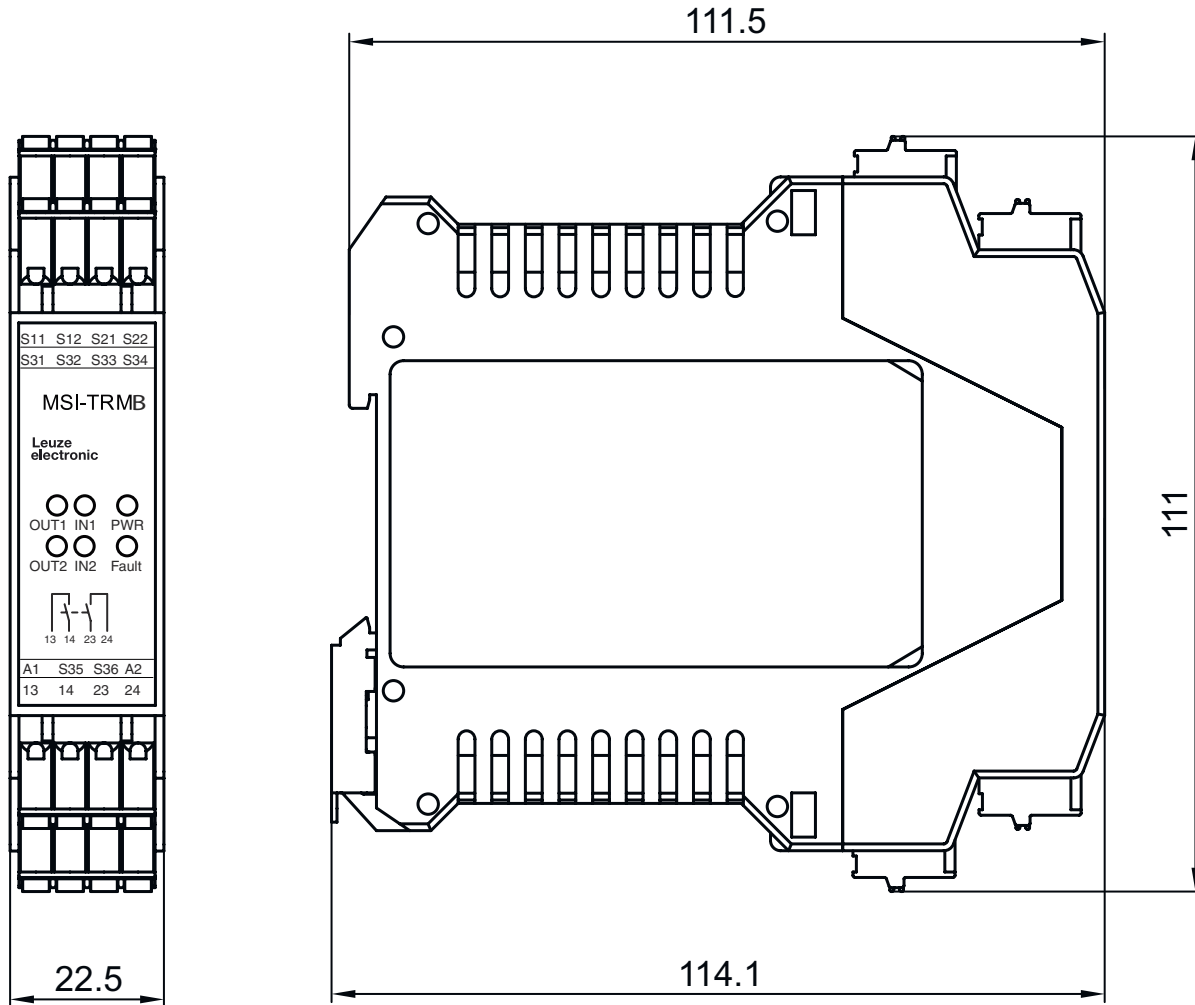
Degree of protection	IP 20 (housing) IP 20 (terminals)
Protection class	III
Certifications	c UL US

### Classification

Customs tariff number	85371098
ECLASS 5.1.4	27371800
ECLASS 8.0	27371819
ECLASS 9.0	27371819
ECLASS 10.0	27371819
ECLASS 11.0	27371819
ECLASS 12.0	27371819
ECLASS 13.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449
ETIM 8.0	EC001449

# Dimensioned drawings

All dimensions in millimeters



## Electrical connection

### Connection 1

Function	Connection to receiver Connection to transmitter Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	16 -pin

### Terminal

### Assignment

S11	OUT 1
S12	IN1
S21	OUT 2
S22	IN1
S31	ERROR

## Electrical connection

Terminal	Assignment
S32	n.c.
S33	RES/Start
S34	RES/Start
A1	+24 V
S35	WA
S36	WA
A2	GND
13	OSSD1
14	OSSD1
23	OSSD2
24	OSSD2