

## Technical data sheet

### Safety relay

Part no.: 547932

MSI-TRMB-02

#### Contents

- Technical data
- Dimensioned drawings
- Electrical connection



Figure can vary



## 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>	0.00000000215 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

### Timing

Response time	30 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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### 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)

## Technical data

### Environmental data

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

### Certifications

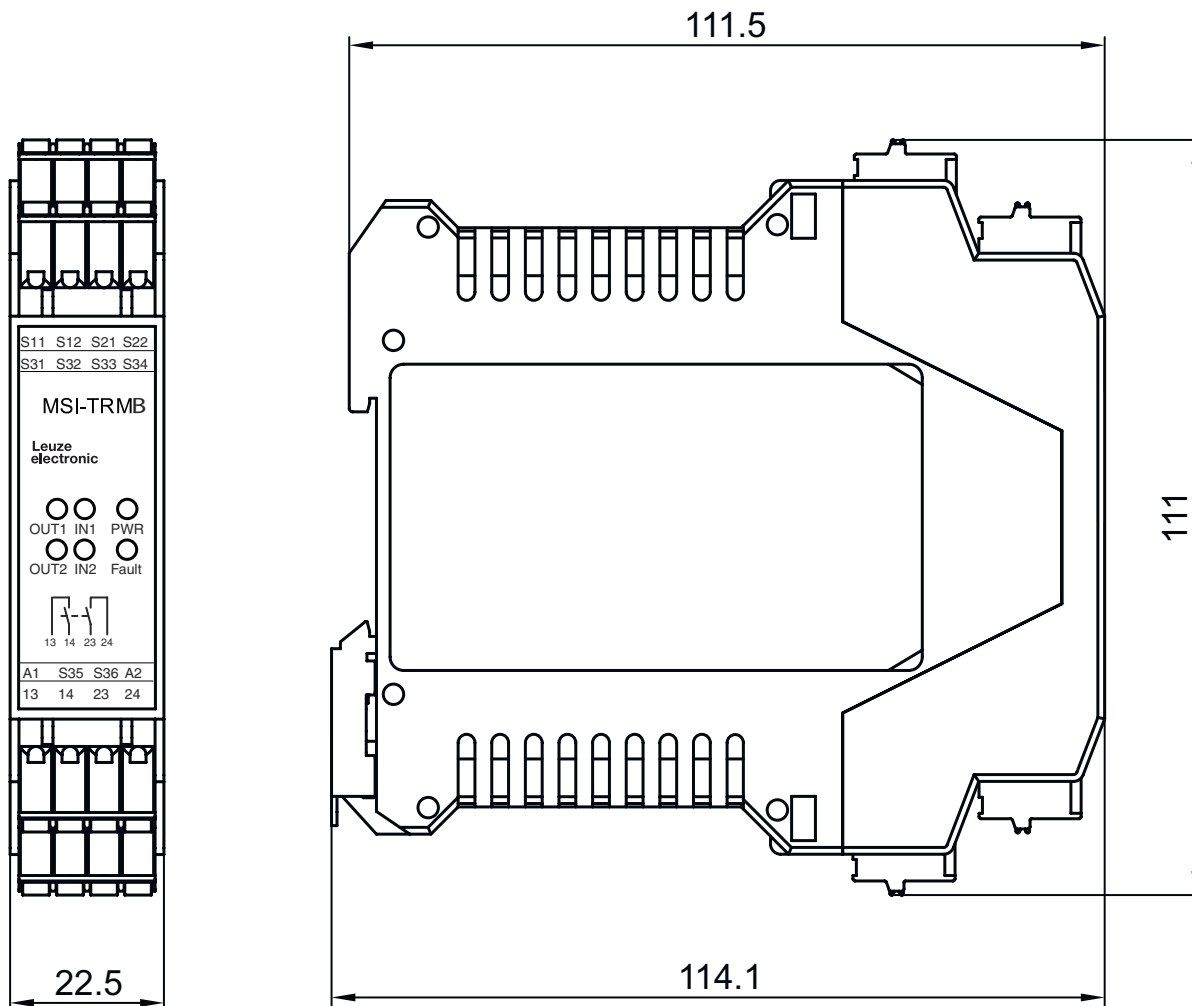
Degree of protection	IP 20 (housing) IP 20 (terminals)
Protection class	III
Certifications	c UL US

### Classification

Customs tariff number	85371098
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

## Dimensioned drawings

All dimensions in millimeters



## Electrical connection

### Connection 1

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

Pin	Pin assignment
	S11
1	OUT 1
	S12
2	IN1
	S21
3	OUT 2
	S22
4	IN1
	S31
5	ERROR
	S32
6	n.c.
	S33
7	RES/Start
	S34
8	RES/Start
	A1
9	+24V
	S35
10	WA
	S36
11	WA
	A2
12	GND
	13
13	OSSD1
	14
14	OSSD1
	23
15	OSSD2
	24
16	OSSD2