

## Technical data sheet

### Safety relay

Part no.: 50133000

MSI-SR-LC21DT03-01

#### Contents

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- Electrical connection
- Circuit diagrams
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Figure can vary



## Technical data

### Basic data

Series	MSI-SR-LC21DT
Application	Base device for E-Stop and safety door applications

### Functions

Functions	Monitoring of E-Stop circuits Monitoring of optoelectronic protective devices Monitoring of position switches Monitoring of proximity switches
Restart	Automatic Manual

### Characteristic parameters

SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
PFH <sub>D</sub>	3E-08 per hour
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

### Electrical data

#### Supply circuit

Nominal voltage U <sub>N</sub>	24 V DC
Min. rated control supply voltage U <sub>S</sub> at DC	20.4 V
Max. rated control supply voltage at DC	26.4 V
Min. rated control supply voltage at DC	20.4 V
Rated power DC	2.6 W
Galvanic isolation between supply and control circuit	No

#### Output circuit

Number of outputs, safety-oriented, undelayed, contact-based	2 Piece(s)
Number of outputs, safety-oriented, delayed, contact-based	1 Piece(s)
Release current paths	NO
Release current paths, time-delayed	NO contact, off-delay
Contact material	Ag alloy, gold-plated
Usage category AC-15 (NO contact)	Ue 230V, Ie 3A
Usage category DC-13 (NO contact)	Ue 24V, Ie 2A
Short circuit protection (NO contact)	gG class safety fuse 6A, melting integral
Nominal switching voltage, release current paths AC	230 V
Max. thermal continuous current I <sub>th</sub> , release current paths	6 A
Max. total current I <sup>2</sup> of all current paths	5 A <sup>2</sup>
Mechanical life time	100,000,000 switching cycles

### Control circuit

Evaluation of the inputs	Two-channel
Nominal output voltage DC	22 V
Input current at the control inputs (safety circuit/reset circuit)	25 mA
Max. peak current at the control inputs (safety circuit/reset circuit)	2,500 mA
Max. cable resistance, per channel	≤ (5 + (1.176 × U <sub>B</sub> / U <sub>N</sub> - 1) × 100) Ω
Minimum switch-on time	200 ms
Response time (automatic start t <sub>A2</sub> )	700 ms
Response time (manual start t <sub>A1</sub> )	30 ms
Test pulse time permitted t <sub>TP</sub>	1 ms
Release time t <sub>R</sub>	25 ms
Release time t <sub>R</sub> , time-delayed contacts (tolerance)	0.15 s ... 3 s ± 16 %
Synchronous time monitoring t <sub>S</sub>	500 ms
Recovery time t <sub>W</sub>	500 ms

### Connection

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

Function	Signal IN Signal OUT Voltage supply
Type of connection	Terminal
Type of terminal	Screw terminal
No. of pins	16 -pin

#### Cable properties

Connection cross sections	1 × 0.2 to 2.5 mm <sup>2</sup> , wire 1 × 0.2 to 2.5 mm <sup>2</sup> , wire 1 × 0.25 to 2.5 mm <sup>2</sup> , wire with wire-end sleeve 2 × 0.2 to 1.0 mm <sup>2</sup> , wire 2 × 0.2 to 1.0 mm <sup>2</sup> , wire 2 × 0.25 to 1.0 mm <sup>2</sup> , wire with wire-end sleeve
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### Mechanical data

Dimension (W x H x L)	22.5 mm x 96.5 mm x 114 mm
Net weight	200 g
Housing color	Gray
Type of fastening	Snap-on mounting

### Certifications

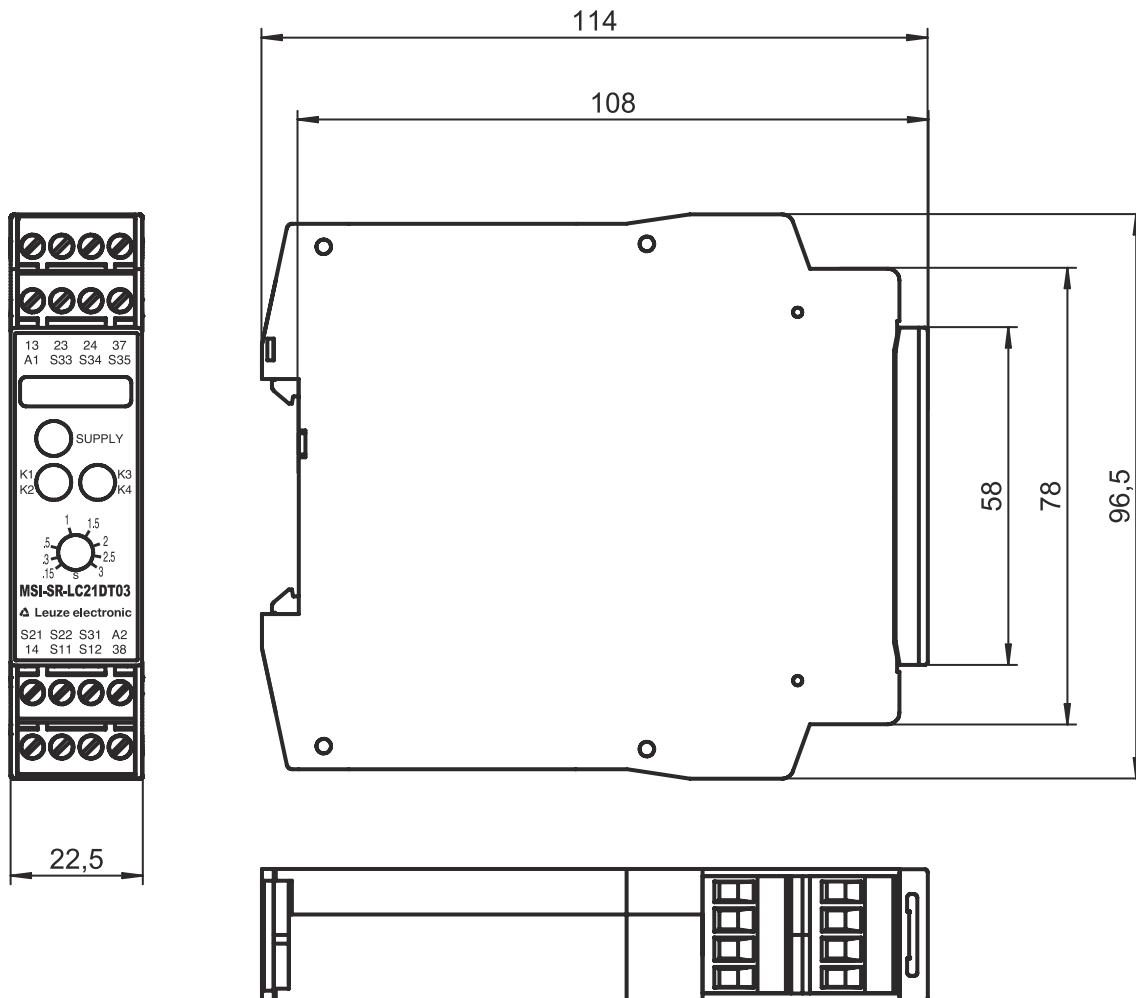
Certifications	c UL US TÜV Rheinland
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### Classification

Customs tariff number	85364900
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

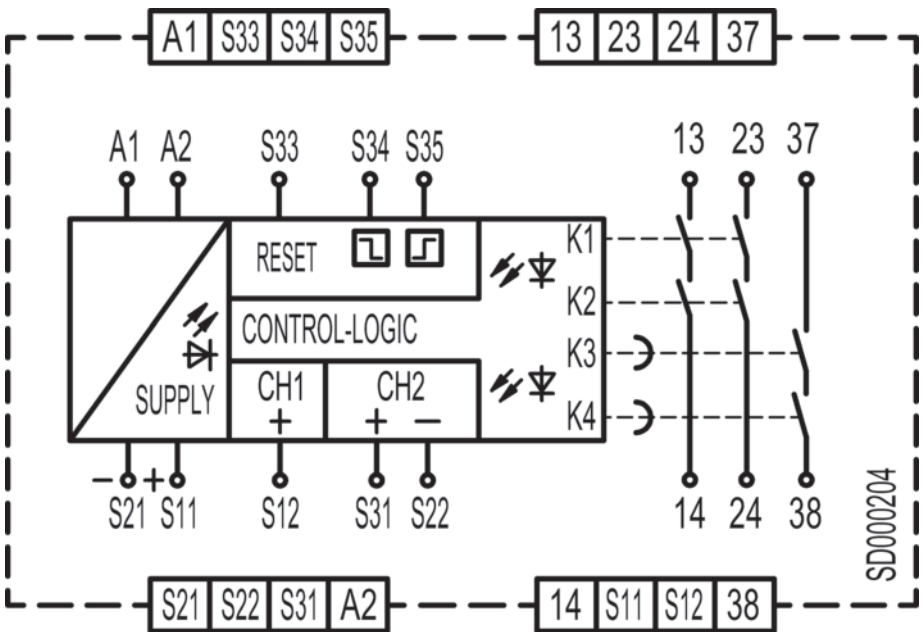
Function	Signal IN Signal OUT Voltage supply
Type of connection	Terminal
Type of terminal	Screw terminal
No. of pins	16 -pin

Pin	Pin assignment
	13
1	Release current path 1 (NO contact)
	14
2	Release current path 1 (NO contact)
	23
3	Release current path 2 (NO contact)
	24

# Electrical connection

Pin	Pin assignment
4	Release current path 2 (NO contact) 37
5	Release current path 3 (NO contact) 38
6	Release current path 3 (NO contact) A1
7	+24V A2
8	GND S11
9	Control circuit 1 S12
10	Control circuit 1 S21
11	Control circuit 2 S22
12	Control circuit 2 S31
13	Control circuit 2 S33
14	Control circuit of reset button S34
15	Control circuit of reset button S35
16	Control circuit of reset button

## Circuit diagrams



## Notes



### Observe intended use!



- ↪ The product may only be put into operation by competent persons.
- ↪ Only use the product in accordance with its intended use.