

Technical data sheet

Safety relay

Part no.: 50133010

MSI-SR-LC21M-01

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Circuit diagrams
- Notes



Figure can vary



Technical data

Basic data

Series	MSI-SR-LC21M
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 _D	3E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

Electrical data

Supply circuit

Nominal voltage U_N 24 V AC/DC

Nominal frequency 50 ... 60 Hz

Rated control supply voltage U_S at AC 60 Hz 20.4 V

Rated control supply voltage U_S at AC 50 Hz 26.4 V

Max. rated control supply voltage at AC 50 Hz 26.4 V

Min. rated control supply voltage U_S at AC 50 Hz 20.4 V

Min. rated control supply voltage U_S 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 2.1 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, signaling function, undelayed, contact-based 1 Piece(s)

Release current paths NO

Signaling current paths NC

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 2,5A

Short circuit protection (NO contact) gG class safety fuse 6A, melting integral

Max. thermal continuous current I_{th}, release current paths 6 A

Max. thermal continuous current I_{th}, signaling current paths 3 A

Max. total current I² of all current paths 9 A²

Mechanical life time 100,000,000 switching cycles

Control circuit

Evaluation of the inputs	Two-channel
Input current at the control inputs (safety circuit/reset circuit)	40 mA
Max. peak current at the control inputs (safety circuit/reset circuit)	100 mA
Max. cable resistance, per channel	$\leq (5 + (1.176 \times U_B / U_N - 1) \times 100) \Omega$
Minimum switch-on time	50 ms
Response time (automatic start t _{A2})	80 ms
Response time (manual start t _{A1})	40 ms
Test pulse time permitted t _{TP}	1 ms
Release time t _R	15 ms
Synchronous time monitoring t _S	200 ms
Recovery time t _W	150 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 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 1.0 mm ² , wire 2 x 0.25 to 1.0 mm ² , 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	210 g
Housing color	Gray
Type of fastening	Snap-on mounting

Certifications

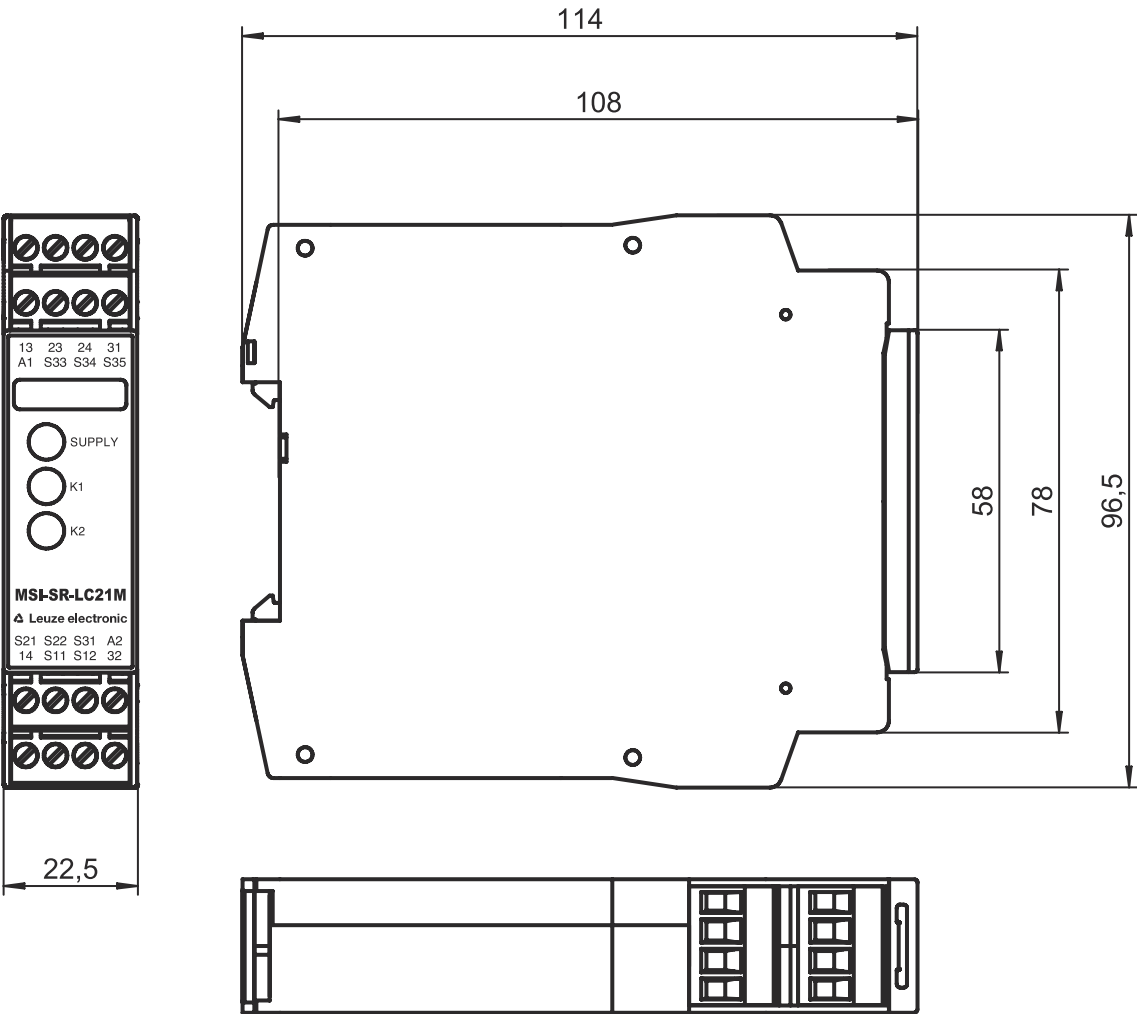
Certifications	c UL US TÜV Rheinland
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Classification

Customs tariff number	85364900
ECLASS 8.0	27371819
ECLASS 9.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	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

Terminal

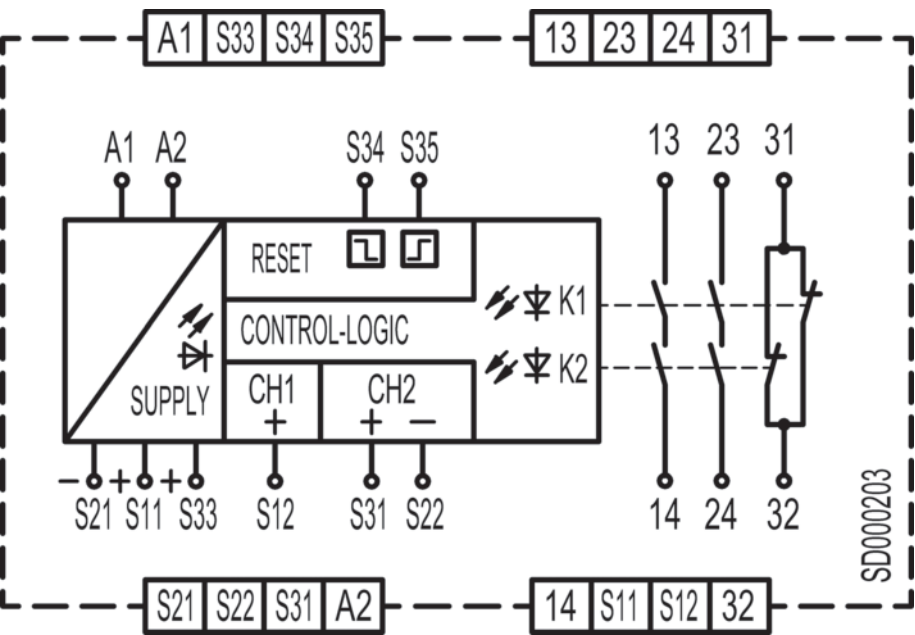
Assignment

13	Release current path 1 (NO contact)
14	Release current path 1 (NO contact)
23	Release current path 2 (NO contact)
24	Release current path 2 (NO contact)
31	Signaling current path (NC contact)
32	Signaling current path (NC contact)

Electrical connection

Terminal	Assignment
A1	+24 V
A2	GND
S11	Control circuit 1
S12	Control circuit 1
S21	Control circuit 2
S22	Control circuit 2
S31	Feedback path (NC contact)
S33	Feedback path (NC contact)
S34	Control circuit of reset button
S35	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.