



Part no.: 50133008
MSI-SR-LC21-01
Safety relay



Figure can vary

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Technical data

Basic data	
Series	MSI-SR-LC21
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 Monitoring of solenoid switches
Restart	Automatic Manual

Characteristic parameters	
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
MTTF _d	78 years , EN ISO 13849-1
PFH _D	1,7E-09 per hour
Mission time T _M	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849
DC _{AVG}	99 %
B10 _d at DC13 (inductive load)	435,000 number of cycles , (2.5 A, 230 V), 700,000 (1 A, 230 V)
B10 _d at AC15 (inductive load)	230,000 number of cycles , (3 A, 230 V), 380,000 (1 A, 230 V)

Electrical data	
Supply circuit	
Nominal voltage U _N	24 V AC/DC
Nominal frequency	50 ... 60 Hz
Operating voltage	0.85 ... 1.1 x U _N
Rated power DC	2 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 I ² of all current paths	9 A ²
Mechanical life time	100,000,000 switching cycles

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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})	500 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

Type of connection	Terminal
Function	Signal IN Signal OUT 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 1.0 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

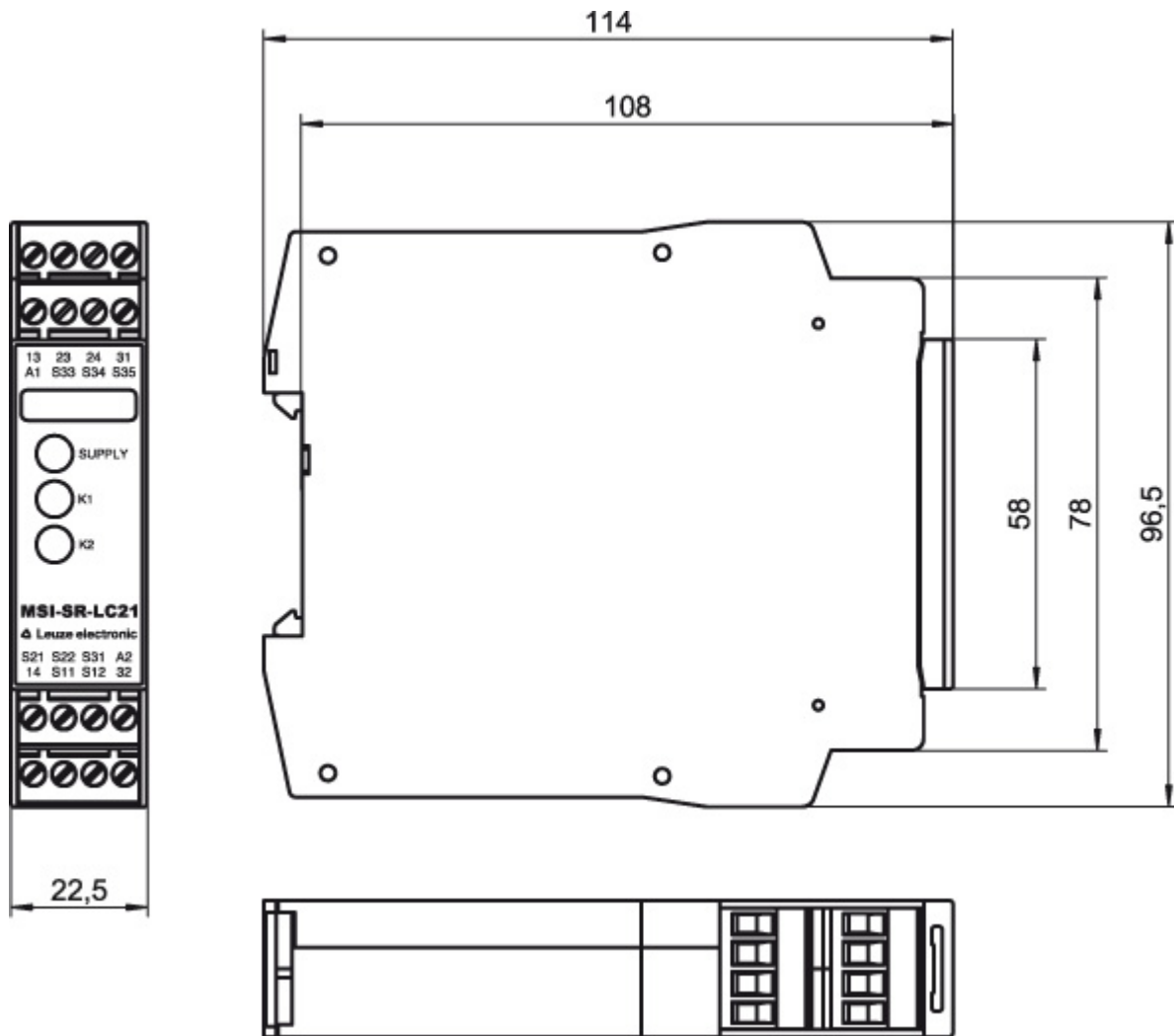
Certifications	c UL US TÜV Rheinland
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Classification

Customs tariff number	85364900
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449

Dimensioned drawings

All dimensions in millimeters



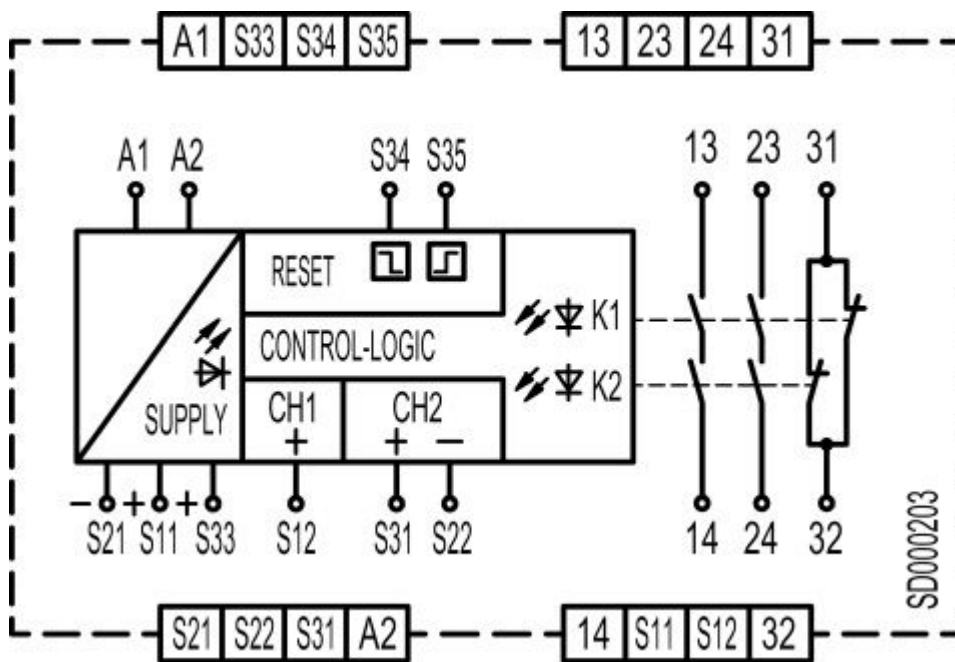
Electrical connection

Connection 1	
Type of connection	Terminal
Function	Signal IN Signal OUT Voltage supply
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)
A1	+24V
A2	GND
S11	Control circuit 1

Terminal	Assignment
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.