

## Technical data sheet

### Safety relay

Part no.: 50133020

MSI-SR-LC21DT30-01

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For illustration purposes only



## Technical data

### Basic data

Series	MSI-SR-LC21DT
Application	Moving guards, electro-sensitive protective equipment for controlled stopping (stop category 0 and 1 in accordance with IEC 60204)

### Functions

Functions	Cross circuit monitoring One- or two-channel operation Start/restart interlock (RES) Time-delayed shutdown (STOPP1)
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 13849-1

### Electrical data

Continuous current per current path, max.	6 A
<b>Performance data</b>	
Supply voltage U <sub>B</sub>	24 V, AC/DC, -15 ... 10 %
Power consumption, max.	2.6 W
<b>Supply circuit</b>	
Nominal voltage U <sub>N</sub>	24 V
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
<b>Output circuit</b>	
Number of outputs, safety-oriented, non-delayed, contact-based	2 Piece(s)
Number of outputs, safety-oriented, delayed, contact-based	1 Piece(s)
Number of outputs, signaling function, non-delayed, contact-based	0 Piece(s)
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)	1.5 s ... 30 s ± 16 %
Synchronous time monitoring t <sub>S</sub>	500 ms
Recovery time t <sub>W</sub>	500 ms

### Time behavior

Regression delay	25 ms
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### 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

### Environmental data

Ambient temperature, operation	-25 ... 55 °C
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### Certifications

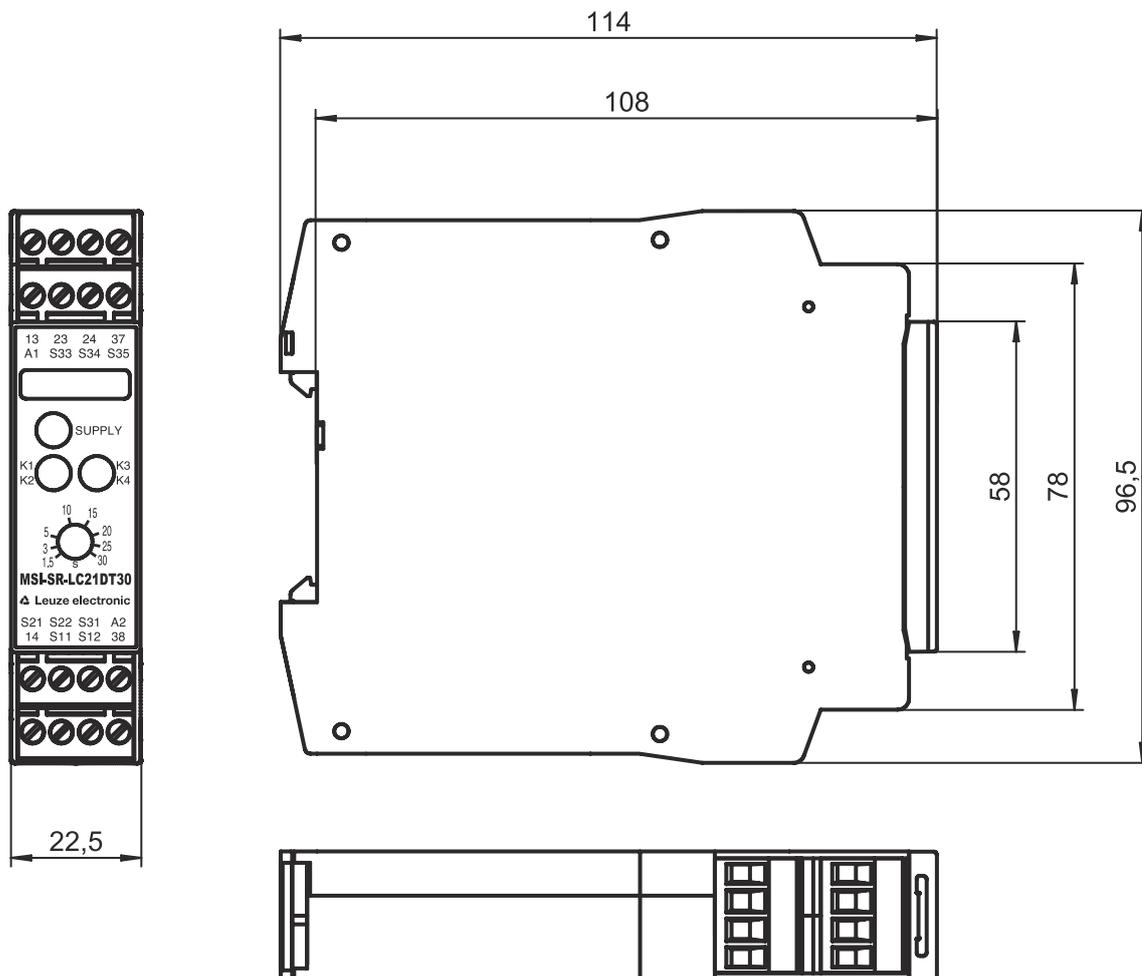
Approvals	c UL US TÜV Rheinland
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## Technical data

Customs tariff number	85364900
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
ECLASS 14.0	27371819
ECLASS 15.0	27371819
ECLASS 16.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449
ETIM 8.0	EC001449
ETIM 9.0	EC001449
ETIM 10.0	EC001449

# Dimensioned drawings

All dimensions in millimeters



## Electrical connection

### Connection 1

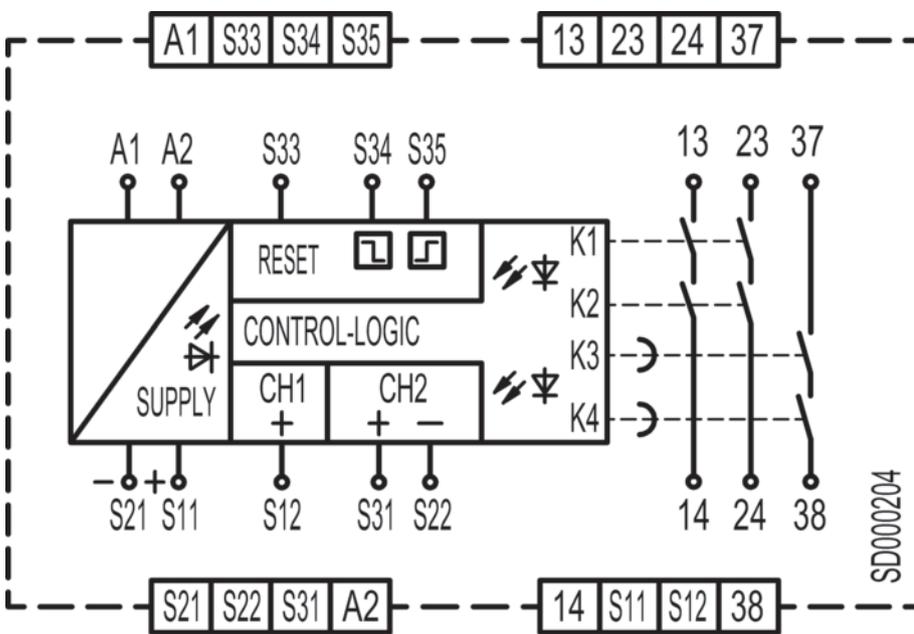
Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Terminal
Type of terminal	Screw terminal
No. of pins	16 -pin

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)
37	Release current path 3 (NO contact)
38	Release current path 3 (NO contact)
A1	+24 V

## Electrical connection

Terminal	Assignment
A2	GND
S11	Control circuit 1
S12	Control circuit 1
S21	Control circuit 2
S22	Control circuit 2
S31	Control circuit 2
S33	Control circuit of reset button
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.