Technical data sheet
Safety relay
Part no.: 50133020
MSI-SR-LC21DT30-01

For Illustration purposes only

Contents

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_D	3E-08 per hour
Mission time T_M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849-1

Electrical data

Continuous current per current path, max.	6 A

Performance data

Supply voltage U_B	24 V, AC/DC, -15 ... 10 %
Power consumption, max.	2.6 W

Supply circuit

Nominal voltage U_N	24 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	2.6 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)
Number of outputs, signaling function, undelayed, 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_{th}, release current paths	6 A
Max. total current I^2 of all current paths	5 A^2
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 x U_B / U_N - 1) x 100) Ω
Minimum switch-on time	200 ms
Response time (automatic start t_{A2})	700 ms
Response time (manual start t_{A1})	30 ms
Test pulse time permitted t_{TP}	1 ms
Release time t_R	25 ms
Release time t_R, time-delayed contacts (tolerance)	1.5 s ... 30 s ± 16 %
Sychronous time monitoring t_S	500 ms
Recovery time t_W	500 ms

Time behavior

Regression delay	25 ms

Connection

Number of connections	1 Piece(s)

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 mm², wire
	1 x 0.2 to 2.5 mm², wire
	1 x 0.25 to 2.5 mm², wire with wire-end sleeve
	2 x 0.2 to 1.0 mm², wire
	2 x 0.2 to 1.0 mm², wire
	2 x 0.25 to 1.0 mm², wire with wire-end sleeve

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

Certifications

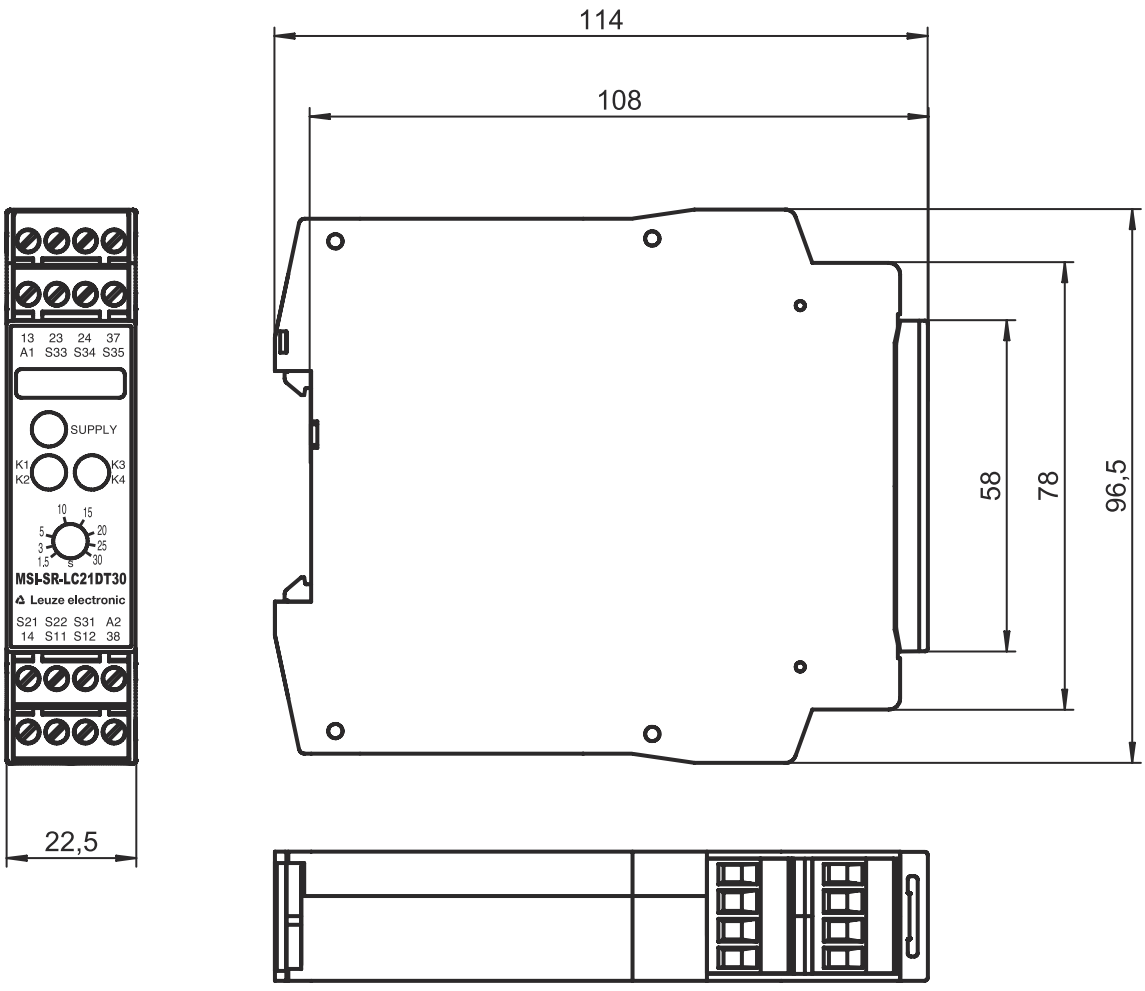
Certifications	c UL US
	TÜV Rheinland

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
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449
ETIM 8.0	EC001449
ETIM 9.0	EC001449

Dimensioned drawings

All dimensions in millimeters



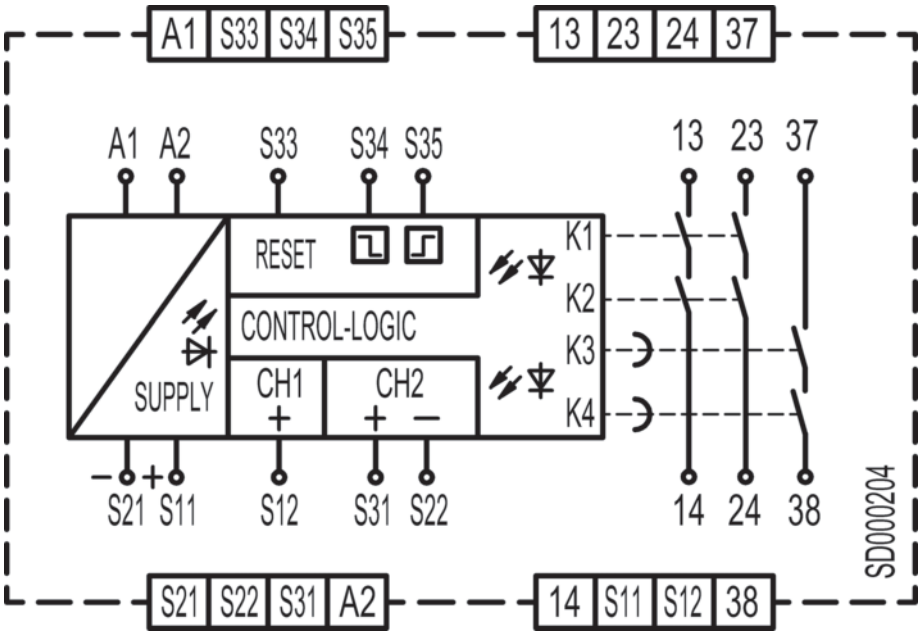
Electrical connection

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
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.