



Part no.: 50133024
MSI-SR-ES20-01
Safety relay



Figure can vary

Contents

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- Electrical connection
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Technical data

Basic data	
Series	MSI-SR-ES20
Application	Base device for E-Stop applications
Functions	
Functions	Monitoring of E-Stop circuits Monitoring of position switches Monitoring of proximity switches
Restart	Automatic Manual
Characteristic parameters	
SIL	2 , IEC 61508
SILCL	2 , IEC/EN 62061
Performance Level (PL)	d , EN ISO 13849-1
PFH _D	0.0000002 per hour
PFH _D	2E-07 per hour
Mission time T _M	20 years , EN ISO 13849-1
Category	3 , 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 AC	2 V·A
Rated power DC	1 W
Galvanic isolation between supply and control circuit	No
Output circuit	
Number of outputs, safety-oriented, undelayed, contact-based	2 Piece(s)
Release current paths	NO
Contact material	Ag alloy
Usage category AC-15 (NO contact)	Ue 230V, Ie 3A
Usage category DC-13 (NO contact)	Ue 24V, Ie 3A
Short circuit protection (NO contact)	gG class safety fuse 6A, melting integral
Nominal switching voltage, release current paths AC	240 V
Nominal switching voltage, release current paths DC	50 V
Max. thermal continuous current I _{th} , release current paths	6 A
Max. total current I ² of all current paths	72 A ²
Mechanical life time	100,000,000 switching cycles

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Control circuit

Evaluation of the inputs	One-channel
Nominal output voltage DC	24 V
Input current at the control inputs (safety circuit/reset circuit)	50 mA
Max. peak current at the control inputs (safety circuit/reset circuit)	70 mA
Max. cable resistance, per channel	$\leq (5 + (1.333 \times U_B / U_N - 1) \times 200) \Omega$
Minimum switch-on time	30 ms
Response time (automatic start t_{A2})	70 ms
Response time (manual start t_{A1})	20 ms
Release time t_R	70 ms
Recovery time t_w	200 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	8 -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 91.5 mm
Net weight	120 g
Housing color	Gray
Type of fastening	Snap-on mounting

Certifications

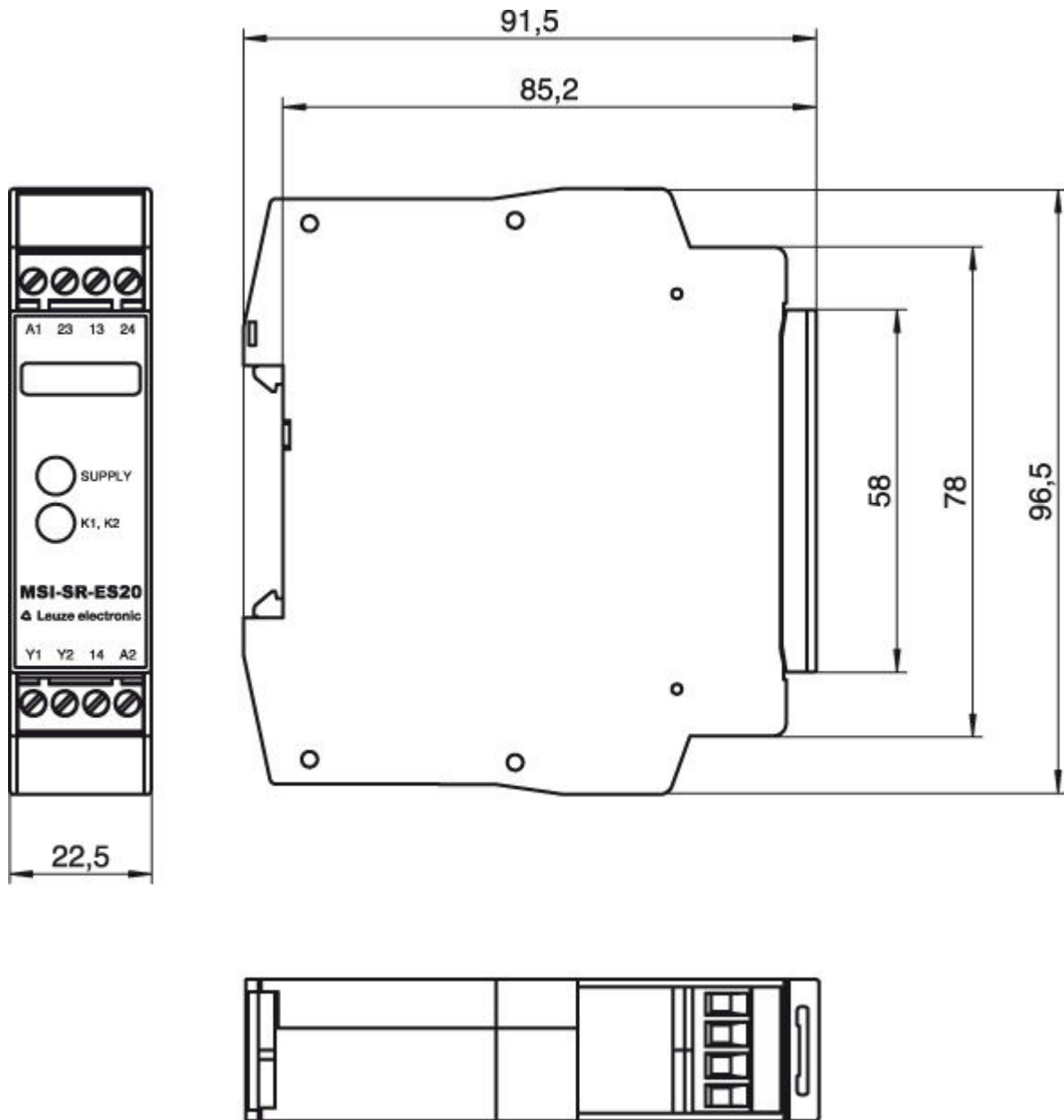
Certifications	c UL US TÜV Rheinland
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Classification

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



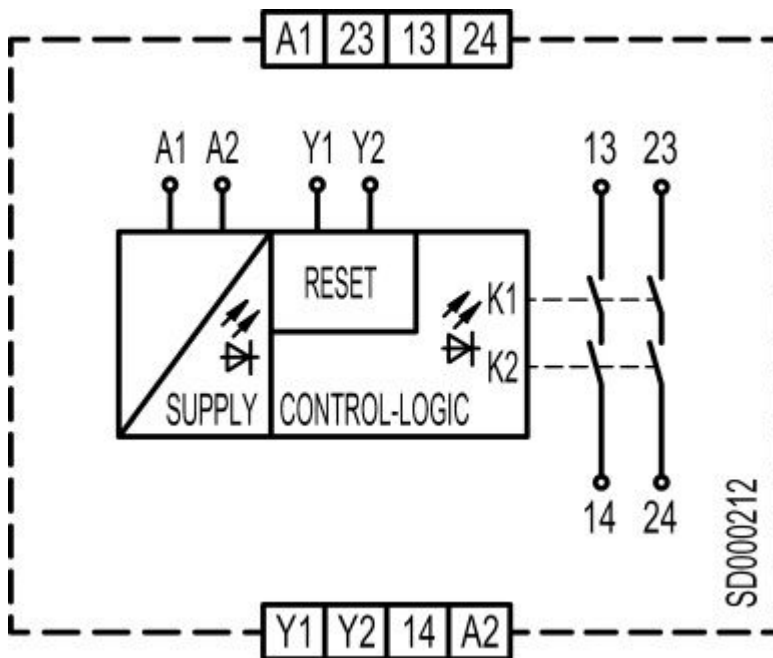
Electrical connection

Connection 1	
Type of connection	Terminal
Function	Signal IN Signal OUT Voltage supply
Type of terminal	Screw terminal
No. of pins	8 -pin

Terminal	Assignment
13	Release current path 1 (NO contact)
14	Release current path 1 (NO contact)
23	Release current path 2 (NO contact)

Terminal	Assignment
24	Release current path 2 (NO contact)
A1	+24V
A2	GND
Y1	Control circuit of reset button
Y2	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.