



Part no.: 50133017  
**MSI-SR-2H21-03**  
Safety relay



Figure can vary

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## Technical data

<b>Basic data</b>	
Series	MSI-SR-2H21
Application	Evaluation unit for two-hand control devices
<b>Characteristic parameters</b>	
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
PFH <sub>D</sub>	0.00000003 per hour
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
<b>Electrical data</b>	
<b>Supply circuit</b>	
Nominal voltage U <sub>N</sub>	24 V AC/DC
Nominal frequency	50 ... 60 Hz
Rated control supply voltage U <sub>S</sub> at AC 60 Hz	20.4 V
Rated control supply voltage U <sub>S</sub> 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 <sub>S</sub> at AC 50 Hz	20.4 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	2.4 W
Galvanic isolation between supply and control circuit	Yes (when U <sub>N</sub> ≥ AC 115-230 V, AC 230 V)
<b>Output circuit</b>	
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
Nominal switching voltage, release current paths AC	230 V
Max. thermal continuous current I <sub>th</sub> , release current paths	6 A
Max. thermal continuous current I <sub>th</sub> , signaling current paths	2 A
Max. total current I <sup>2</sup> of all current paths	9 A <sup>2</sup>
Mechanical life time	100,000,000 switching cycles

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### Control circuit

Executing the switching function of the inputs	Changeover
Nominal output voltage DC	24 V
Input current at the control inputs (safety circuit/reset circuit)	60 mA
Max. peak current at the control inputs (safety circuit/reset circuit)	1,000 mA
Max. cable resistance, per channel	$\leq (5 + (1.333 \times U_B / U_N - 1) \times 200) \Omega$
Response time (automatic start $t_{A2}$ )	40 ms
Response time (manual start $t_{A1}$ )	40 ms
Release time $t_R$	50 ms
Synchronous time monitoring $t_S$	500 ms
Recovery time $t_W$	250 ms

### Connection

Number of connections 1 Piece(s)

#### Connection 1

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

#### Cable properties

Connection cross sections	2 x 0.2 to 1.5 mm <sup>2</sup> , wire 2 x 0.2 to 1.5 mm <sup>2</sup> , wire 2 x 0.25 to 1.5 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 107 mm x 114 mm
Net weight	200 g
Housing color	Gray
Type of fastening	Snap-on mounting

### Certifications

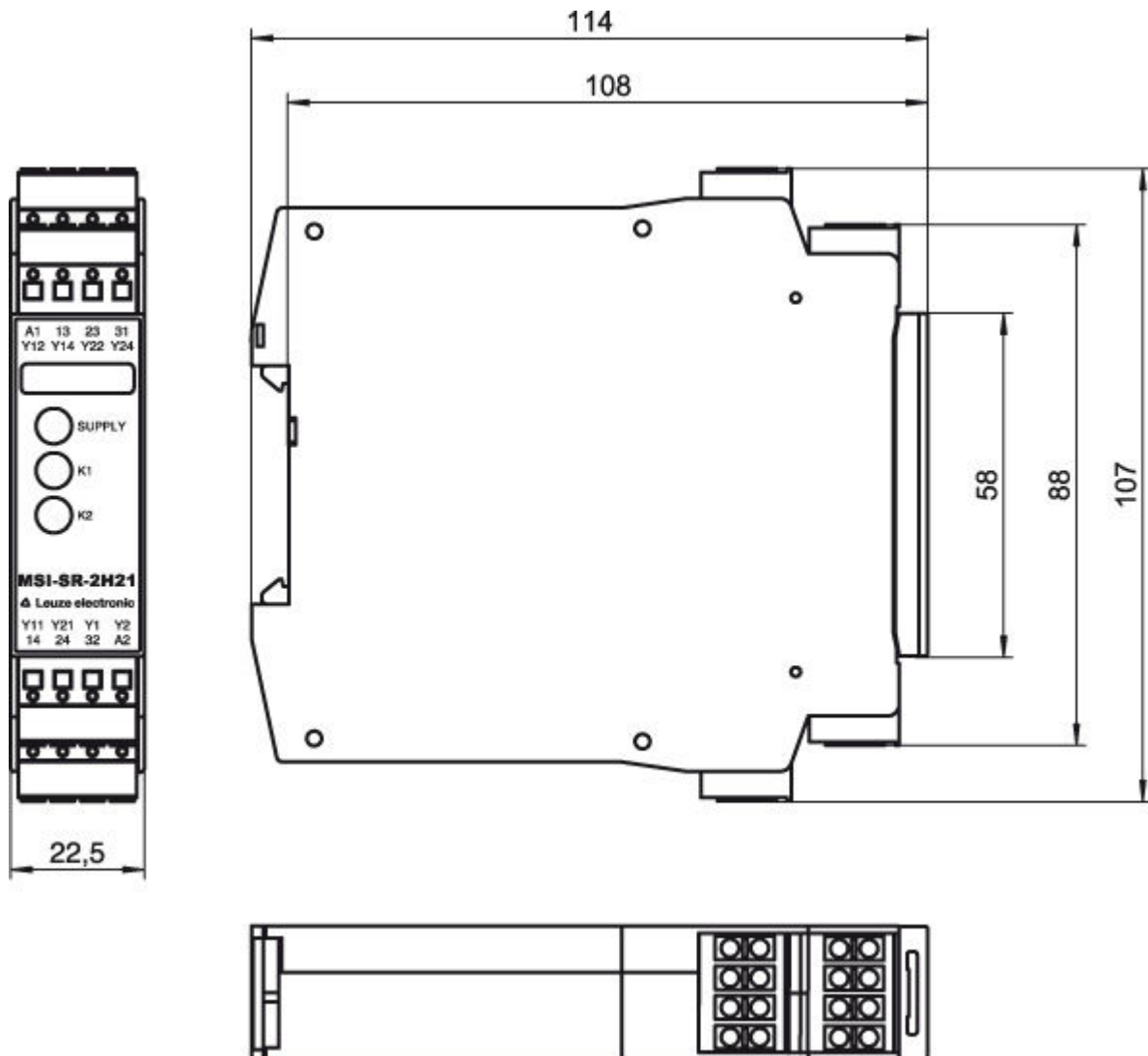
Certifications	c UL US TÜV Rheinland
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### Classification

Customs tariff number	85364900
eCl@ss 8.0	27371821
eCl@ss 9.0	27371821
ETIM 5.0	EC001452
ETIM 6.0	EC001452

## Dimensioned drawings

All dimensions in millimeters



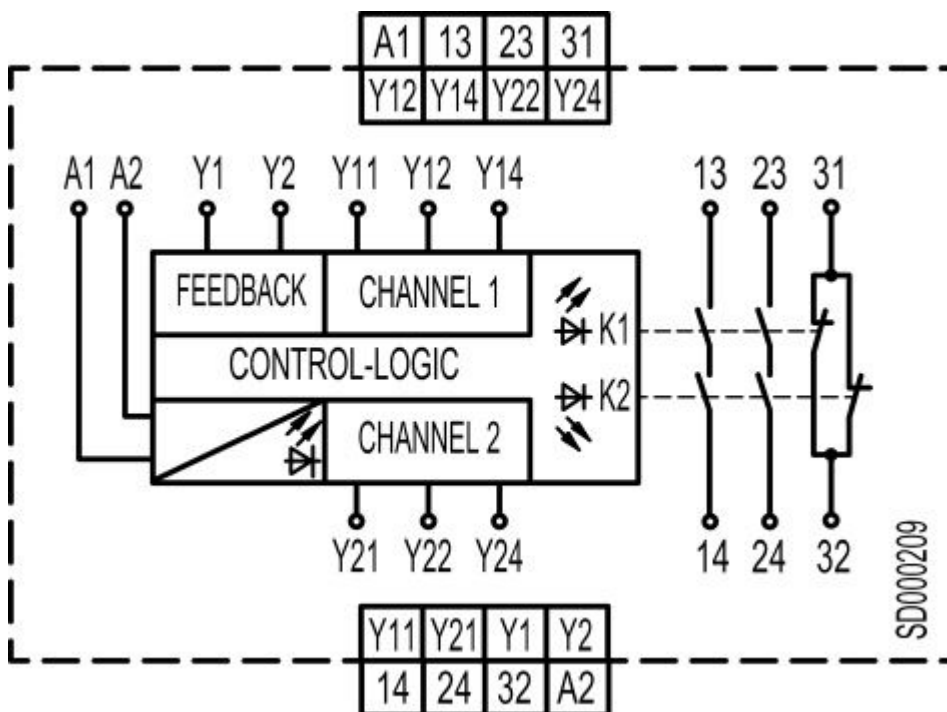
## Electrical connection

Connection 1	
Type of connection	Terminal
Function	Signal IN Signal OUT Voltage supply
Type of terminal	Spring-cage 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

Terminal	Assignment
Y1	Feedback path (NC contact)
Y2	Feedback path (NC contact)
Y11	Control circuit 1 of two-hand button
Y12	Control circuit 1 of two-hand button
Y14	Control circuit 1 of two-hand button
Y21	Control circuit 2 of two-hand button
Y22	Control circuit 2 of two-hand button
Y24	Control circuit 2 of two-hand 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.