Technical data sheet
Safety relay
Part no.: 50133017
MSI-SR-2H21-03

Figure can vary

Contents

Technical data

Basic data

Series	MSI-SR-2H21
Application	Evaluation unit for two-hand control devices

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

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 DC	2.4 W
Galvanic isolation between supply and control circuit	Yes (when U_N ≥ AC 115-230 V, AC 230 V)

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
Nominal switching voltage, release current paths AC	230 V
Max. thermal continuous current I_{th}, release current paths	6 A
Max. thermal continuous current I_{th}, signaling current paths	2 A
Max. total current I^2 of all current paths	9 A^2
Mechanical life time	100,000,000 switching cycles

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	≤ (5 + (1.333 x U_B / U_N - 1) x 200) Ω
Response time (automatic start t_{A2})	40 ms
Response time (manual start t_{A1})	40 ms
Release time t_R	50 ms
Sychronous time monitoring t_S	500 ms
Recovery time t_W	250 ms

Connection

Number of connections	1 Piece(s)

Connection 1

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

Cable properties

Connection cross sections	2 x 0.2 to 1.5 mm², wire
	2 x 0.2 to 1.5 mm², wire
	2 x 0.25 to 1.5 mm², wire with wire-end sleeve

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

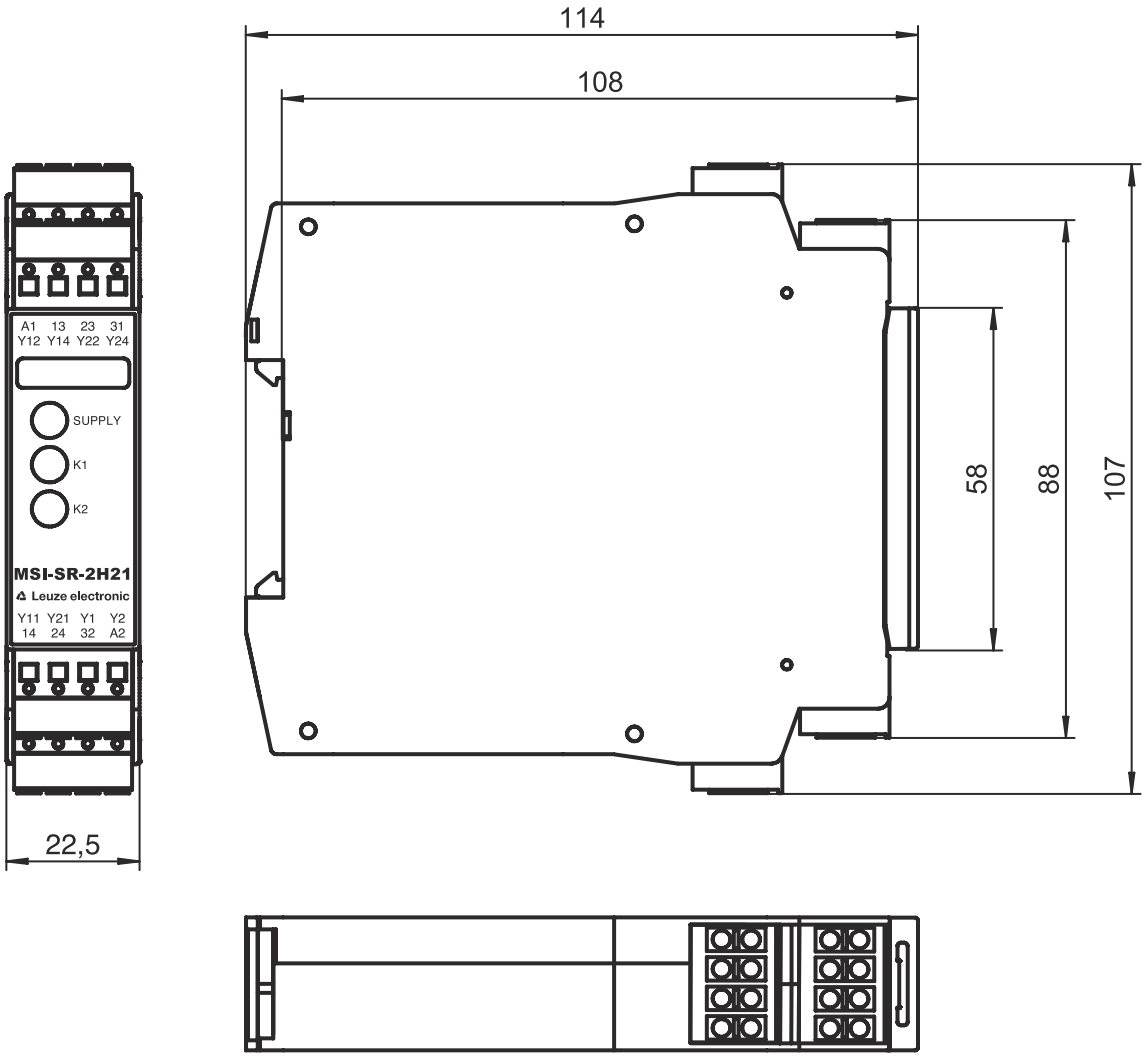
Certifications	c UL US
	TÜV Rheinland

Classification

Customs tariff number	85364900
eCl@ss 5.1.4	27371905
eCl@ss 8.0	27371821
eCl@ss 9.0	27371821
eCl@ss 10.0	27371821
eCl@ss 11.0	27371821
ETIM 5.0	EC001452
ETIM 6.0	EC001452
ETIM 7.0	EC001452

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

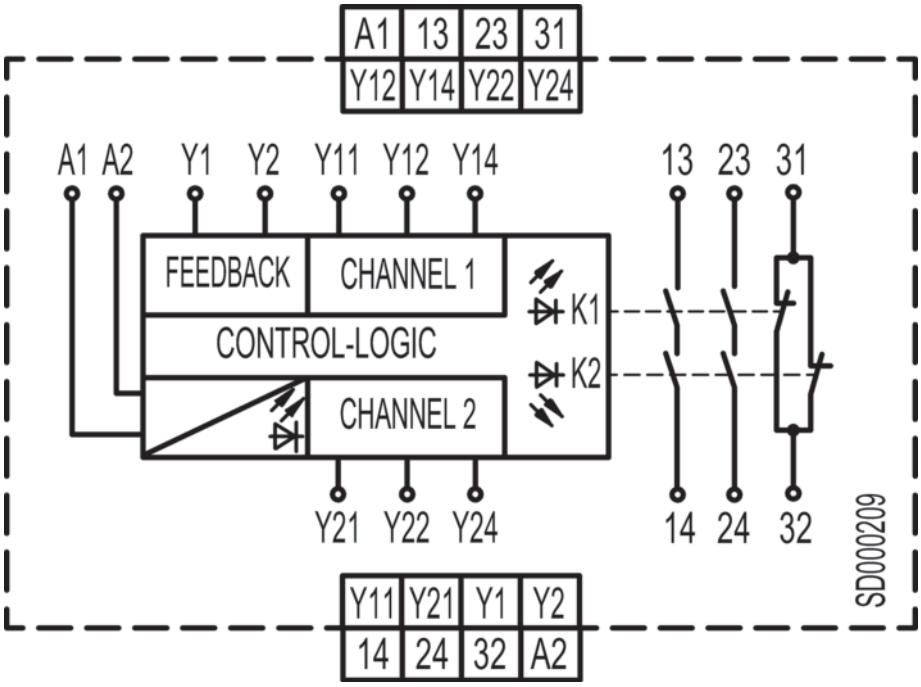
Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	16 -pin

Pin	Pin assignment
	13
1	Release current path 1 (NO contact)
	14
2	Release current path 1 (NO contact)
	23

Electrical connection

Pin	Pin assignment
3	Release current path 2 (NO contact)
	24
4	Release current path 2 (NO contact)
	31
5	Signaling current path (NC contact)
	32
6	Signaling current path (NC contact)
	A1
7	+24V
	A2
8	GND
	Y1
9	Feedback path (NC contact)
	Y2
10	Feedback path (NC contact)
	Y11
11	Control circuit 1 of two-hand button
	Y12
12	Control circuit 1 of two-hand button
	Y14
13	Control circuit 1 of two-hand button
	Y21
14	Control circuit 2 of two-hand button
	Y22
15	Control circuit 2 of two-hand button
	Y24
16	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.