

## Technical data sheet

### Safety relay

Part no.: 50133026

MSI-SR-CM43-01

#### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
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Figure can vary



## Technical data

### Basic data

|             |                                  |
|-------------|----------------------------------|
| Series      | MSI-SR-CM43                      |
| Application | Extension unit for safety relays |

### Functions

|           |                                  |
|-----------|----------------------------------|
| Functions | Monitoring of proximity switches |
| Restart   | Automatic                        |

### Characteristic parameters

|                                           |                                                                 |
|-------------------------------------------|-----------------------------------------------------------------|
| SIL                                       | 2, IEC 61508                                                    |
| SILCL                                     | 2, IEC/EN 62061                                                 |
| Performance Level (PL)                    | d, EN ISO 13849-1                                               |
| MTTF <sub>d</sub>                         | 55 years, EN ISO 13849-1                                        |
| PFH <sub>d</sub>                          | 8,1E-10 per hour                                                |
| Mission time T <sub>M</sub>               | 20 years, EN ISO 13849-1                                        |
| Category                                  | 3, EN ISO 13849                                                 |
| B10 <sub>d</sub> at DC13 (inductive load) | 300,000 number of cycles, (5 A, 230 V),<br>700,000 (1 A, 230 V) |
| B10 <sub>d</sub> at AC15 (inductive load) | 200,000 number of cycles, (5 A, 230 V),<br>380,000 (1 A, 230 V) |

### Electrical data

|                                                                 |                                           |
|-----------------------------------------------------------------|-------------------------------------------|
| <b>Supply circuit</b>                                           |                                           |
| Nominal voltage U <sub>N</sub>                                  | 24 V DC                                   |
| Nominal frequency                                               | 50 ... 60 Hz                              |
| Operating voltage                                               | 0.85 ... 1.1 x U <sub>N</sub>             |
| Rated power AC                                                  | 3.3 V·A                                   |
| Rated power DC                                                  | 1.5 W                                     |
| <b>Output circuit</b>                                           |                                           |
| Number of outputs, safety-oriented, undelayed, contact-based    | 4 Piece(s)                                |
| Number of outputs, signaling function, undelayed, contact-based | 3 Piece(s)                                |
| Contact material                                                | Ag alloy, gold-plated                     |
| Usage category AC-15 (NO contact)                               | Ue 230V, Ie 5A                            |
| Usage category DC-13 (NO contact)                               | Ue 24V, Ie 5A                             |
| Short circuit protection (NO contact)                           | gG class safety fuse 6A, melting integral |
| Max. total current I <sup>2</sup> of all current paths          | 25 A <sup>2</sup>                         |
| Mechanical life time                                            | 100,000,000 switching cycles              |

### Control circuit

|                                    |                                                             |
|------------------------------------|-------------------------------------------------------------|
| Max. cable resistance, per channel | $\leq (5 + (1.176 \times U_B / U_N - 1) \times 100) \Omega$ |
|------------------------------------|-------------------------------------------------------------|

### 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 mm <sup>2</sup> , wire                       |
|                           | 1 x 0.2 to 2.5 mm <sup>2</sup> , wire                       |
|                           | 1 x 0.25 to 2.5 mm <sup>2</sup> , wire with wire-end sleeve |
|                           | 2 x 0.2 to 1.0 mm <sup>2</sup> , wire                       |
|                           | 2 x 0.2 to 1.0 mm <sup>2</sup> , wire                       |
|                           | 2 x 0.25 to 1.0 mm <sup>2</sup> , 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           |

### Certifications

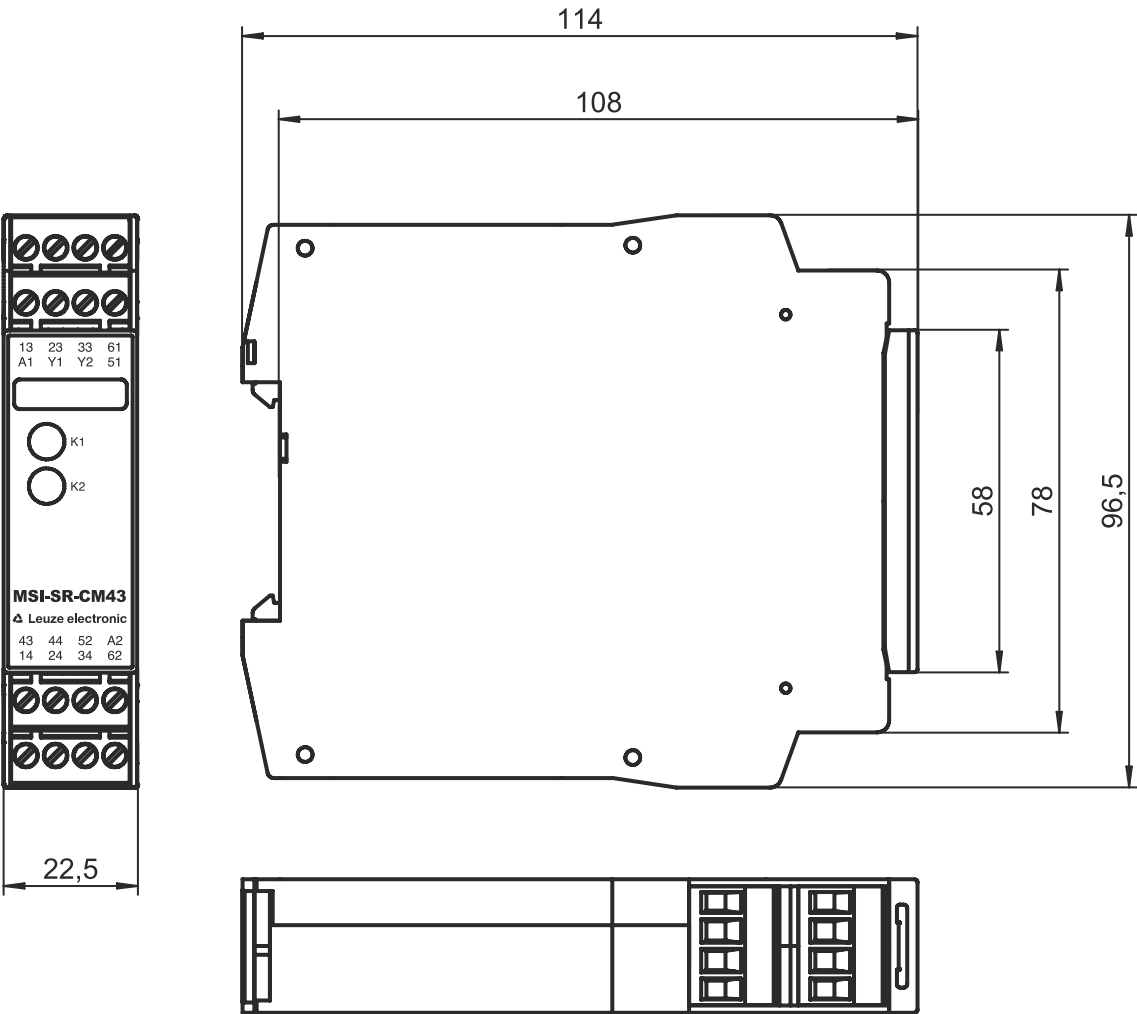
|                |               |
|----------------|---------------|
| Certifications | c UL US       |
|                | TÜV Rheinland |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85364190 |
| 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

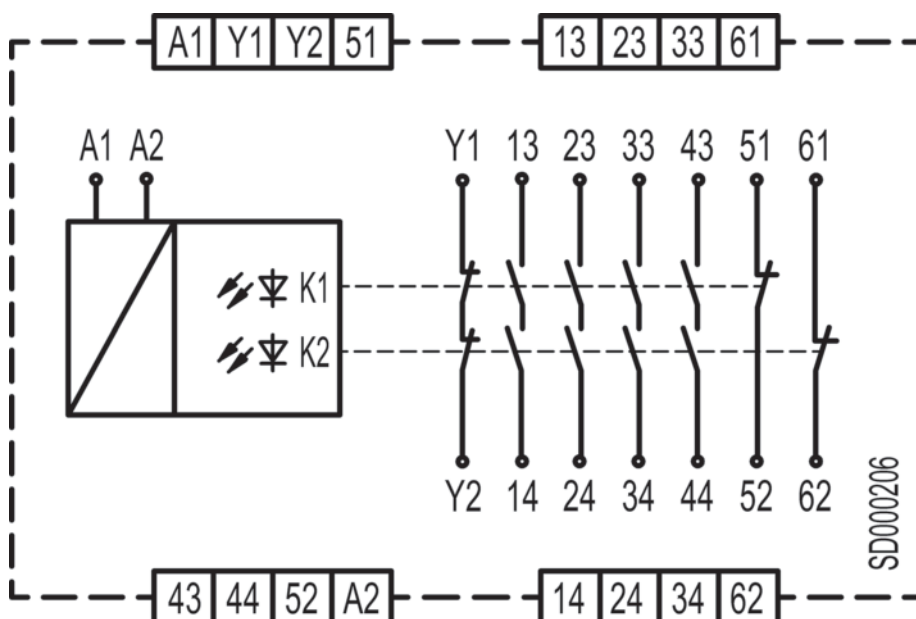
|                    |                |
|--------------------|----------------|
| Function           | Signal IN      |
|                    | Signal OUT     |
|                    | Voltage supply |
| Type of connection | Terminal       |
| Type of terminal   | Screw terminal |
| No. of pins       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

| Pin | Pin assignment                      |
|-----|-------------------------------------|
|     | 13                                  |
| 1   | Release current path 1 (NO contact) |
|     | 14                                  |
| 2   | Release current path 1 (NO contact) |
|     | 23                                  |
| 3   | Release current path 2 (NO contact) |

## Electrical connection

| Pin | Pin assignment                                                 |
|-----|----------------------------------------------------------------|
|     | 24                                                             |
| 4   | Release current path 2 (NO contact)                            |
|     | 33                                                             |
| 5   | Release current path 3 (NO contact)                            |
|     | 34                                                             |
| 6   | Release current path 3 (NO contact)                            |
|     | 43                                                             |
| 7   | Release current path 4 (NO contact)                            |
|     | 44                                                             |
| 8   | Release current path 4 (NO contact)                            |
|     | 51                                                             |
| 9   | Signaling current path 1 (NC contact)                          |
|     | 52                                                             |
| 10  | Signaling current path 1 (NC contact)                          |
|     | 61                                                             |
| 11  | Signaling current path 2 (NC contact)                          |
|     | 62                                                             |
| 12  | Signaling current path 2 (NC contact)                          |
|     | A1                                                             |
| 13  | +24V                                                           |
|     | A2                                                             |
| 14  | GND                                                            |
|     | Y1                                                             |
| 15  | Feedback path (NC contact) for the coupling to the base device |
|     | Y2                                                             |
| 16  | Feedback path (NC contact) for the coupling to the base device |

## Circuit diagrams



Notes

|                                                                                                                |                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Observe intended use!</b> |                                                                                                                                                                                        |
|                                | <ul style="list-style-type: none"><li>⌚ The product may only be put into operation by competent persons.</li><li>⌚ Only use the product in accordance with its intended use.</li></ul> |