



Part no.: 50133001  
**MSI-SR-LC21DT03-03**  
Safety relay



Figure can vary

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## Technical data

| <b>Basic data</b>   |   |
|---|---|
| Series  | MSI-SR-LC21DT   |
| Application   | Base device for E-Stop and safety door applications   |
| <b>Functions</b>  |   |
| Functions   | Monitoring of E-Stop circuits<br>Monitoring of optoelectronic protective devices<br>Monitoring of position switches<br>Monitoring of proximity switches |
| Restart   | Automatic<br>Manual   |
| <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 DC   |
| 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  | 2.6 W   |
| Galvanic isolation between supply and control circuit                   | No  |
| <b>Output circuit</b>   |   |
| Number of outputs, safety-oriented, undelayed, contact-based            | 2 Piece(s)  |
| Number of outputs, safety-oriented, delayed, contact-based              | 1 Piece(s)  |
| Release current paths   | NO  |
| 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 <sub>th</sub> , release current paths | 6 A   |
| Max. total current I <sup>2</sup> of all current paths                  | 5 A <sup>2</sup>  |
| 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                                     | $\leq (5 + (1.176 \times U_B / U_N - 1) \times 100) \Omega$ |
| 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 $\pm$ 16 %                                   |
| Synchronous time monitoring $t_S$                                      | 500 ms  |
| Recovery time $t_W$  | 500 ms  |

#### Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

#### Connection 1

|                    |   |
|--------------------|---|
| Type of connection | Terminal                                  |
| Function           | Signal IN<br>Signal OUT<br>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<br>2 x 0.2 to 1.5 mm <sup>2</sup> , wire<br>2 x 0.25 to 1.5 mm <sup>2</sup> , wire with wire-end sleeve |
|---------------------------|---|

#### Mechanical data

|                       |                             |
|-----------------------|-----------------------------|
| Dimension (W x H x L) | 22.5 mm x 106.5 mm x 114 mm |
| Net weight            | 200 g                       |
| Housing color         | Gray                        |
| Type of fastening     | Snap-on mounting            |

#### Certifications

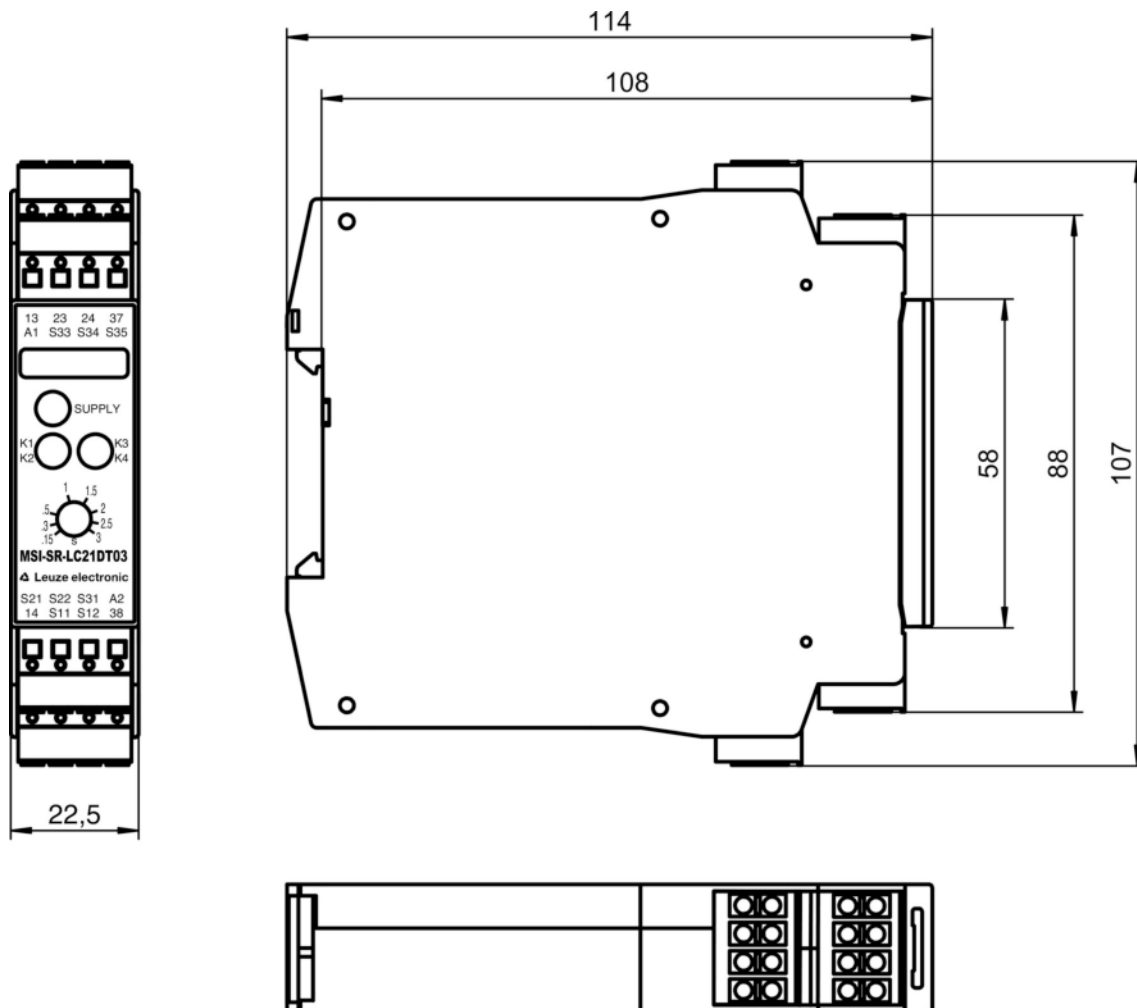
|                |                          |
|----------------|--------------------------|
| Certifications | c UL US<br>TÜV Rheinland |
|----------------|--------------------------|

#### 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



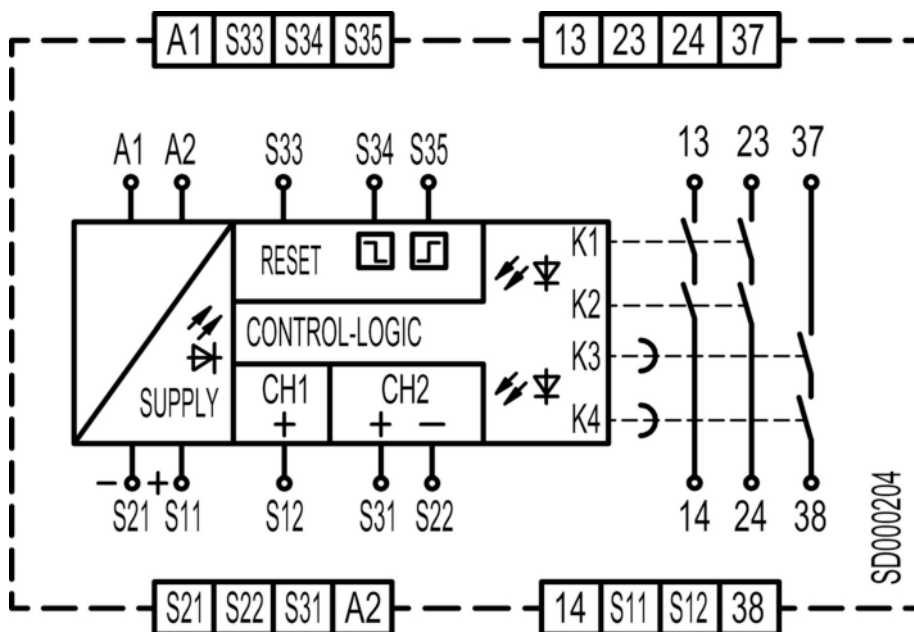
## Electrical connection

| Connection 1       |   |
|--------------------|---|
| Type of connection | Terminal                                  |
| Function           | Signal IN<br>Signal OUT<br>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) |
| 37       | Release current path 3 (NO contact) |
| 38       | Release current path 3 (NO contact) |
| A1       | +24V                                |
| A2       | GND                                 |
| S11      | Control circuit 1                   |
| S12      | Control circuit 1                   |

| Terminal | Assignment                      |
|----------|---------------------------------|
| 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.