



Figure can vary

Part no.: 50133312  
**L300-M31M12B8Y-SLM24-SCA**  
Safety locking device



## Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Accessories

## Technical data

| <b>Basic data</b>                         |   |
|---|---|
| Series                                    | L300  |
| Contains                                  | 1x actuator<br>1x safety locking device                                       |
| <b>Functions</b>                          |   |
| Functions                                 | Locking device with guard interlocking in acc. with EN ISO 14119 (type 4)     |
| Activation mode of safety outputs         | Safety outputs active if safety door is closed and locked                     |
| Operating principle                       | Quiescent current principle – Actuator locked if electromagnet is deactivated |
| <b>Characteristic parameters</b>          |   |
| SIL                                       | 3 , IEC 61508   |
| SILCL                                     | 3 , IEC/EN 62061  |
| Performance Level (PL)                    | Up to and including e , EN ISO 13849-1  |
| MTTF <sub>d</sub>                         | 2,725 years , EN ISO 13849-1  |
| PFH <sub>D</sub>                          | 1.17E-9 per hour  |
| Mission time T <sub>M</sub>               | 20 years , EN ISO 13849-1   |
| Category                                  | 4 , EN ISO 13849-1  |
| DC  | High  |
| Encoding level                            | Low , EN ISO 14119  |
| <b>Electrical data</b>                    |   |
| Type of wiring                            | Series connection<br>Single connection  |
| External safeguarding for supply circuit  | 2A type Gg (or equivalent)  |
| <b>Performance data</b>                   |   |
| Supply voltage U <sub>B</sub>             | 24 V , DC , -10 ... 10 % ,  |
| Current consumption, max.                 | 1,200 mA  |
| <b>Inputs</b>                             |   |
| Number of safety-related switching inputs | 2 Piece(s)  |
| Number of digital switching inputs        | 1 Piece(s)  |
| <b>Switching inputs</b>                   |   |
| Type                                      | Digital switching input   |
| Switching voltage, typ.                   | 24 V  |
| Voltage type                              | DC  |
| Current consumption, typ.                 | 5 mA  |
| <b>Digital switching input 1</b>          |   |
| Function                                  | I4 activation input: electromagnet  |
| <b>Safety-related switching inputs</b>    |   |
| Type                                      | Safety switching input  |
| Voltage type                              | DC  |
| Switching voltage, typ.                   | 24 V  |
| Current consumption, typ.                 | 5 mA  |

**Outputs**

|  |            |
|--|------------|
| Number of safety-related switching outputs (OSSDs) | 2 Piece(s) |
| Number of digital switching outputs                | 1 Piece(s) |

**Safety-related switching outputs**

|              |                                      |
|--------------|--------------------------------------|
| Type         | Safety-related switching output OSSD |
| Voltage type | DC                                   |

**Safety-related switching output 1**

|                   |                  |
|-------------------|------------------|
| Switching element | Transistor , PNP |
|-------------------|------------------|

**Safety-related switching output 2**

|                   |                  |
|-------------------|------------------|
| Switching element | Transistor , PNP |
|-------------------|------------------|

**Switching outputs**

|              |                          |
|--------------|--------------------------|
| Type         | Digital switching output |
| Voltage type | DC                       |

**Switching output 1**

|                   |  |
|-------------------|--|
| Switching element | Transistor , PNP                           |
| Function          | O4 signal output: protective-device locked |

**Connection**

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

**Connection 1**

|                    |   |
|--------------------|---|
| Function           | Connection with PLC<br>Contact connection<br>Voltage supply |
| Type of connection | Connector   |
| Thread size        | M12   |
| Type               | Male  |
| Material           | Metal   |
| No. of pins        | 8 -pin  |
| Encoding           | A-coded   |

**Cable properties**
**Mechanical data**

|                                     |   |
|-------------------------------------|---|
| Housing material                    | Metal   |
| Housing color                       | Gray<br>Red   |
| Type of fastening                   | Through-hole mounting                                       |
| Side of cable entry                 | From below  |
| Release device                      | Auxiliary release   |
| Approach speed                      | 0.001 ... 0.5 m/s   |
| Locking force, max.                 | 9,750 N   |
| Mechanical life time                | 1,000,000 actuation cycles , IEC 60947-5-1 switching cycles |
| Actuation frequency, max.           | 600 per hour , IEC 60947-5-1                                |
| Extraction force, unlocked actuator | 30 N  |

**RFID sensor data**

|                                     |   |
|-------------------------------------|---|
| Assured operating distance $S_{a0}$ | 2 mm  |
| Assured cut-out distance $S_{ar}$   | 10 mm (actuator locked)<br>4 mm (actuator not locked) |
| Nominal switching distance $S_n$    | 2.5 mm  |
| Repeatability                       | $\leq 10\% S_n$                                       |
| Max. switching frequency            | 1 Hz  |

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#### Operation and display

|                      |            |
|----------------------|------------|
| Type of display      | LED        |
| Number of LEDs       | 5 Piece(s) |
| Operational controls | Standard   |

#### Environmental data

|                                |               |
|--------------------------------|---------------|
| Ambient temperature, operation | -20 ... 50 °C |
| Ambient temperature, storage   | -40 ... 75 °C |

#### Certifications

|                      |                              |
|----------------------|------------------------------|
| Degree of protection | IP 67<br>IP 69K              |
| Certifications       | c UL US<br>ECOLAB<br>TÜV Süd |

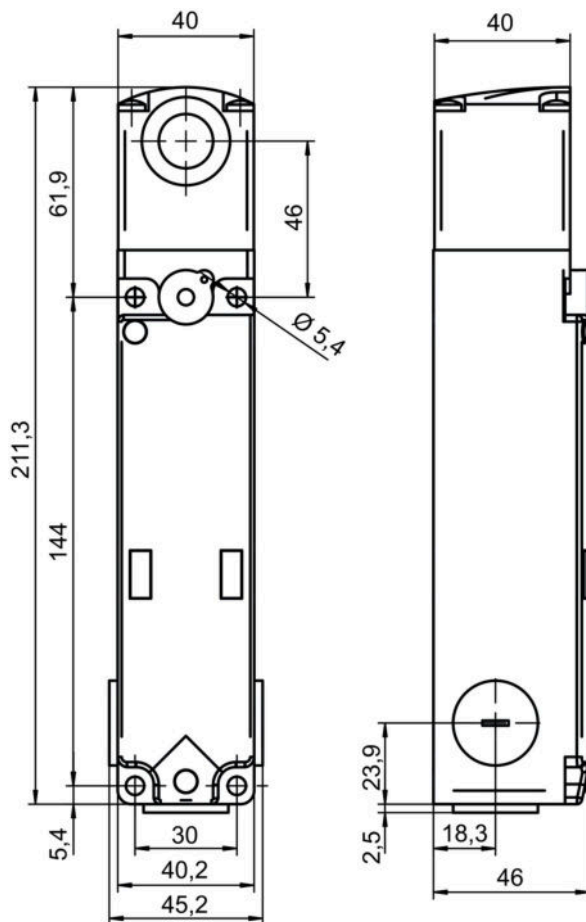
#### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85369095 |
| eCl@ss 8.0            | 27272603 |
| eCl@ss 9.0            | 27272603 |
| ETIM 5.0              | EC002593 |
| ETIM 6.0              | EC002593 |

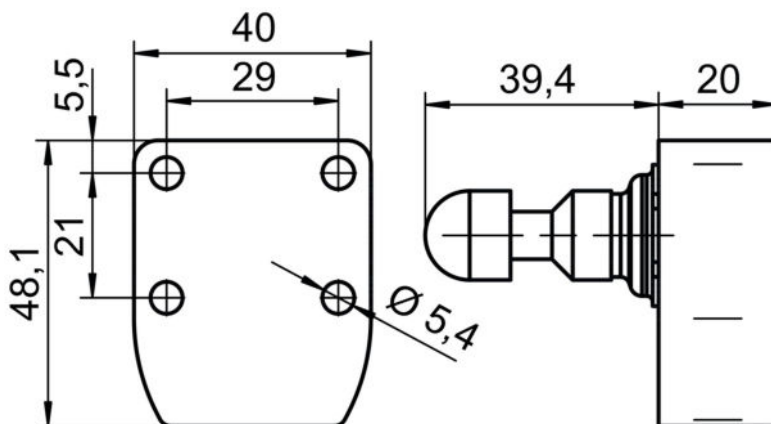
## Dimensioned drawings

All dimensions in millimeters

Safety locking device



Actuator

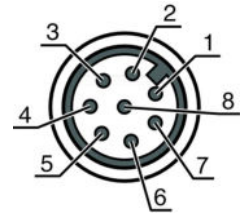


**Electrical connection**

| Connection 1       |   |
|--------------------|---|
| Function           | Connection with PLC<br>Contact connection<br>Voltage supply |
| Type of connection | Connector   |
| Thread size        | M12   |





| Connection 1 |         |
|--------------|---------|
| Type         | Male    |
| Material     | Metal   |
| No. of pins  | 8 -pin  |
| Encoding     | A-coded |

| Pin | Pin assignment                     | Conductor color |
|-----|------------------------------------|-----------------|
| 1   | A1 / B1 = +24 V                    | White           |
| 2   | IS1 safe input                     | Brown           |
| 3   | A2 / B2 = 0 V                      | Green           |
| 4   | OS1 safe output                    | Yellow          |
| 5   | O4 signal output                   | Gray            |
| 6   | IS2 safe input                     | Pink            |
| 7   | OS2 safe output                    | Blue            |
| 8   | I4 activation input: electromagnet | Red             |




## Accessories

### Connection technology - Connection cables

|   | Part no. | Designation        | Article          | Description   |
|---|----------|--------------------|------------------|---|
|  | 50135128 | KD S-M12-8A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR  |
|  | 50135129 | KD S-M12-8A-P1-100 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 10,000 mm<br>Sheathing material: PUR |
|  | 50135121 | KD U-M12-8A-P1-020 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 2,000 mm<br>Sheathing material: PUR   |
|  | 50135122 | KD U-M12-8A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PUR   |

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## Actuator

|   | Part no.    | Designation | Article  | Description  |
|---|-------------|-------------|----------|--|
|  | 50132061 ** | AC-L300-SCA | Actuator | Code type: Standard code<br>Encoding level: low, EN ISO 14119<br>Dimensions: 40 mm x 48.1 mm x 59.4 mm<br>Housing color: Red<br>Type of fastening: Through-hole mounting |

\*\* Included in delivery contents

### Note

A list with all available accessories can be found on the Leuze electronic website in the Download tab of the article detailed page.