

## Technical data sheet Safety locking device

Part no.: 50132050

L300-M41M12R8-SLM24-KYPB-UCA

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For illustration purposes only



## Technical data

### Basic data

|        |      |
|--------|------|
| Series | L300 |
|--------|------|

### Functions

|                     |                                                                               |
|---------------------|-------------------------------------------------------------------------------|
| Functions           | Auxiliary release with lock                                                   |
|                     | Escape release button                                                         |
|                     | Locking device with guard interlocking in acc. with EN ISO 14119 (type 4)     |
|                     | Programming input                                                             |
| Operating principle | Quiescent current principle – Actuator locked if electromagnet is deactivated |

### Characteristic parameters

|                             |                                       |
|-----------------------------|---------------------------------------|
| 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>           | 1,883 years, EN ISO 13849-1           |
| PFH <sub>D</sub>            | 8.07E-10 per hour                     |
| Mission time T <sub>M</sub> | 20 years, EN ISO 13849-1              |
| Category                    | 4, EN ISO 13849                       |
| DC                          | High                                  |
| Encoding level              | High, EN ISO 14119                    |

### Electrical data

|                    |                                                           |
|--------------------|-----------------------------------------------------------|
| Protective circuit | Overvoltage protection                                    |
|                    | Short circuit protected                                   |
| Type of wiring     | Single connection                                         |
| Contact allocation | OSSDs                                                     |
| Operating mode     | Safety outputs active if safety door is closed and locked |

### Inputs

|                                    |            |
|------------------------------------|------------|
| Number of digital switching inputs | 2 Piece(s) |
|------------------------------------|------------|

### Switching inputs

|                          |                         |
|--------------------------|-------------------------|
| Type                     | Digital switching input |
| Switching voltage, typ.  | 24 V                    |
| Voltage type             | DC                      |
| Teach input for actuator | Yes                     |

### Digital switching input 1

|          |                   |
|----------|-------------------|
| Function | Programming input |
|----------|-------------------|

### Digital switching input 2

|          |                                 |
|----------|---------------------------------|
| Function | Activation input: electromagnet |
|----------|---------------------------------|

### Outputs

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

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 2 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 |
| Switching voltage, typ. | 24 V                     |
| Voltage type            | DC                       |

### Switching output 1

|                   |                                         |
|-------------------|-----------------------------------------|
| Switching element | Transistor, PNP                         |
| Function          | Signal output: protective-device closed |

### Switching output 2

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

### Connection

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

### Connection 1

|                    |                     |
|--------------------|---------------------|
| Function           | Connection with PLC |
|                    | Contact connection  |
|                    | 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

|                                     |                                                            |
|-------------------------------------|------------------------------------------------------------|
| Design                              | Cubic                                                      |
| Dimension (W x H x L)               | 40.4 mm x 233.5 mm x 79.3 mm                               |
| Housing material                    | Metal                                                      |
| Housing color                       | Gray                                                       |
| Type of fastening                   | Through-hole mounting                                      |
| Side of cable entry                 | On right side                                              |
| Release device                      | Auxiliary release with lock                                |
|                                     | Escape release button                                      |
| Switch type                         | Interlock device with guard interlocking, EN ISO 13849     |
| Approach speed                      | 0.001 ... 0.5 m/s                                          |
| Locking type                        | Spring force                                               |
| Locking actuation                   | Spring                                                     |
| Locking force, max.                 | 7,500 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                                |
| External actuator                   | AC-L300-UCA, unique code                                   |
| Extraction force, unlocked actuator | 30 N                                                       |

## Technical data

### RFID sensor data

|                                     |                                                       |
|-------------------------------------|-------------------------------------------------------|
| Assured operating distance $S_{ao}$ | 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                       | $\leq 10 \% S_n$                                      |
| Differential travel                 | $\leq 20 \% S_n$                                      |
| Max. switching frequency            | 1 Hz                                                  |

### Operation and display

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

### 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 |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85369095 |
| ECLASS 8.0            | 27272603 |
| ECLASS 9.0            | 27272603 |
| ETIM 5.0              | EC002593 |
| ETIM 6.0              | EC002593 |

## Electrical connection

### 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                                                     |

### Pin Pin assignment

|   |          |
|---|----------|
| 1 | A1 +24 V |
| 2 | O3       |
| 3 | A2 +0 V  |
| 4 | OS1      |
| 5 | O4       |
| 6 | I3       |
| 7 | OS2      |
| 8 | I4       |

## 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>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5.000 mm<br>Sheathing material: PUR |

Accessories

|                                                                                   | Part no. | Designation        | Article          | Description                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|----------|--------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50135129 | KD S-M12-8A-P1-100 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 10.000 mm<br>Sheathing material: PUR |
|  | 50135130 | KD S-M12-8A-P1-150 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 15.000 mm<br>Sheathing material: PUR |
|  | 50135131 | KD S-M12-8A-P1-250 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 25.000 mm<br>Sheathing material: PUR |

Note



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