



Part no.: 50143085
L250-P41ML-M12S12-UCA
Safety locking device



Figure can vary

Contents

- Technical data
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Technical data

| Basic data | |
|-------------------------------------------|--------------------------------------------------------------------------------|
| Series | L250 |
| Functions | |
| 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 | Open circuit current principle – Actuator locked if electromagnet is activated |
| Characteristic parameters | |
| SIL | 3 , IEC 61508 |
| SILCL | 3 , IEC/EN 62061 |
| Performance Level (PL) | Up to and including e , EN ISO 13849-1 |
| MTTF _d | 1,671 years , EN ISO 13849-1 |
| PFH _D | 1,24E-09 per hour |
| Mission time T _M | 20 years , EN ISO 13849-1 |
| Category | 4 , EN ISO 13849 , |
| DC | High |
| Encoding level | High , EN ISO 14119 |
| Electrical data | |
| Protective circuit | |
| Type of wiring | Series connection Single connection |
| External safeguarding for supply circuit | 2A type Gg (or equivalent) |
| Performance data | |
| Supply voltage U _B | 24 V , DC , -10 ... 10 % , |
| Current consumption, max. | 1,200 mA |
| Inputs | |
| Number of safety-related switching inputs | 2 Piece(s) |
| Number of digital switching inputs | 3 Piece(s) |
| Switching inputs | |
| Type | Digital switching input |
| Switching voltage, typ. | 24 V |
| Voltage type | DC |
| Current consumption, typ. | 5 mA |
| Digital switching input 1 | |
| Function | IE1 activation input: electromagnet |
| Digital switching input 2 | |
| Function | IE2 activation input: electromagnet |
| Digital switching input 3 | |
| Function | I3 programming input / control input for reset |
| Safety-related switching inputs | |
| 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 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 O3 signal output: protective-device closed

Switching output 2

Switching element Transistor , PNP

Function O4 signal output: protective-device locked

Connection

Number of connections 1 Piece(s)

Connection 1

Type of connection Connector

Function Connection with PLC
Contact connection
Voltage supply

Thread size M12

Type Male

Material Metal

No. of pins 12 -pin

Encoding A-coded

Mechanical data

Housing material Plastic ,

Housing color Gray

Type of fastening Through-hole mounting

Side of cable entry Lateral

Approach speed 0.001 ... 0.5 m/s

Locking force, max. 2,100 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 20 N

RFID sensor data

Assured operating distance S_{ao} 2 mm

Assured cut-out distance S_{ar} 10 mm (actuator locked)
6 mm (actuator not locked)

Nominal switching distance S_n 3 mm

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| | |
|--------------------------|-----------------------|
| Repeatability | ≤ 10 % S _n |
| Differential travel | ≤ 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 IP 69K |
| Certifications | c UL US ECOLAB TÜV Süd |

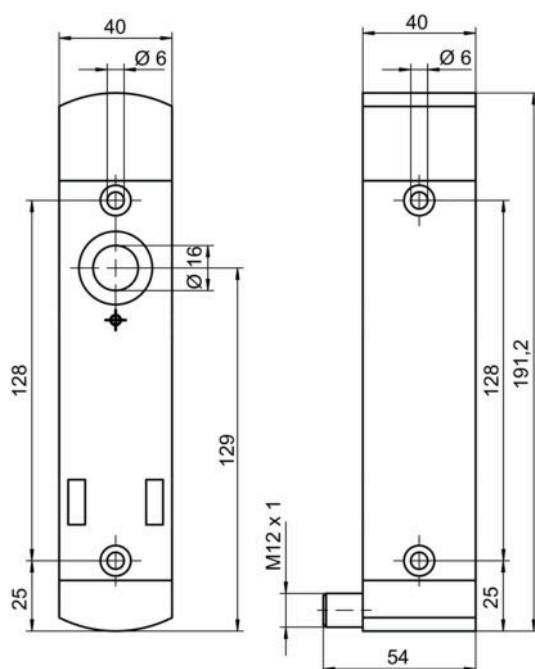
Classification

| | |
|------------|----------|
| eCl@ss 8.0 | 27272603 |
| eCl@ss 9.0 | 27272603 |
| ETIM 5.0 | EC002593 |
| ETIM 6.0 | EC002593 |

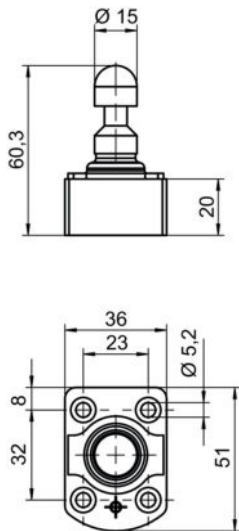
Dimensioned drawings

All dimensions in millimeters

Safety locking device



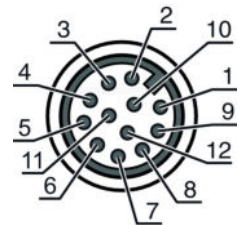
Actuator



Electrical connection





| Connection 1 | |
|--------------------|-------------------------------------------------------------|
| Type of connection | Connector |
| Function | Connection with PLC Contact connection Voltage supply |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 12 -pin |
| Encoding | A-coded |

| Pin | Pin assignment | Conductor color |
|-----|------------------------------------------------|-----------------|
| 1 | A1 +24 V | Brown |
| 2 | IS1 safe input | Blue |
| 3 | A2 +0 V | White |
| 4 | OS1 safe output | Green |
| 5 | O3 signal output: protective-device closed | Pink |
| 6 | IS2 safe input | Yellow |
| 7 | OS2 safe output | Black |
| 8 | I3 programming input / control input for reset | Gray |
| 9 | O4 signal output: protective-device locked | Red |
| 10 | IE1 activation input: electromagnet | Violet |
| 11 | n.c. | Gray Pink |
| 12 | IE2 activation input: electromagnet | Blue Red |




Accessories

Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|------------------------------------------------------------------------------------|----------|--------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130281 | KD S-M12-CA-P1-020 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin Connection 2: Open end Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR |
|  | 50130282 | KD S-M12-CA-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |
|  | 50139769 | KD U-M12-CA-P1-020 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR |
|  | 50139770 | KD U-M12-CA-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PUR |

Actuator

| | Part no. | Designation | Article | Description |
|-------------------------------------------------------------------------------------|-------------|-------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50142133 ** | AC-L250-UCA | Actuator | Code type: Unique code Encoding level: High, EN ISO 14119 Dimensions: 40 mm x 48.1 mm x 59.4 mm Housing material: Plastic Housing color: Black 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.