



**Part no.: 50142096**  
**L250-P31SL-M12B8-SCA**  
**Safety locking device**



Figure can vary

## Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Accessories

## Technical data

<b>Basic data</b>	
Series	L250
<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>	1,671 years , EN ISO 13849-1
PFH <sub>D</sub>	1,24E-09 per hour
Mission time T <sub>M</sub>	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849 ,
DC	High
Encoding level	Low , EN ISO 14119
<b>Electrical data</b>	
Protective circuit	
Type of wiring	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 digital switching inputs	3 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	IE1 activation input: electromagnet
<b>Digital switching input 2</b>	
Function	IE2 activation input: electromagnet
<b>Digital switching input 3</b>	
Function	I3 control input for reset

**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

Switching voltage, typ. 24 V

Voltage type DC

**Switching output 1**

Switching element Transistor , PNP

Function O3 signal output: protective-device closed

**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 8 -pin

Encoding A-coded

**Mechanical data**

Housing material Plastic ,

Housing color Gray

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. 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

 Repeatability  $\leq 10\% S_n$ 

 Differential travel  $\leq 20\% S_n$

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Max. switching frequency	1 Hz
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### 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

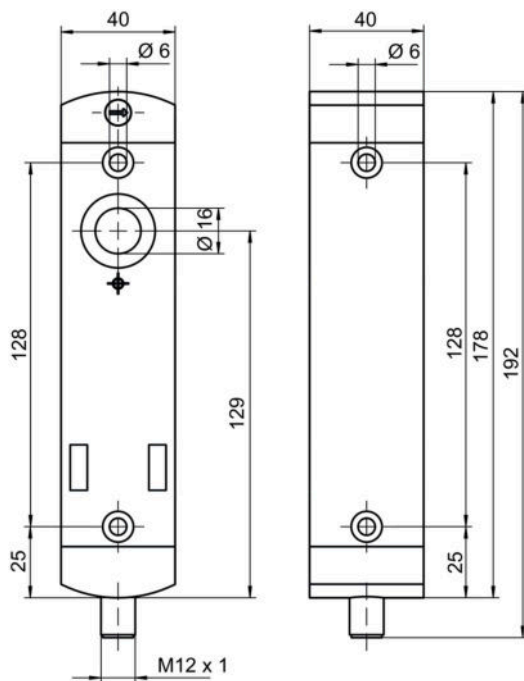
### Classification

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

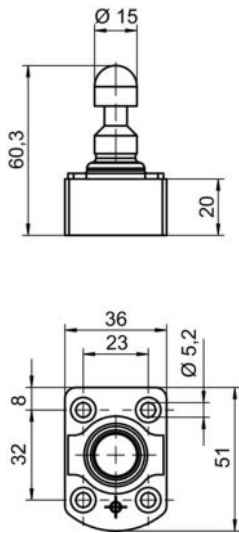
## Dimensioned drawings

All dimensions in millimeters

### Safety locking device



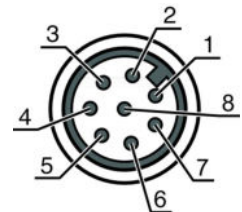
### Actuator



### 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	8 -pin
Encoding	A-coded

Pin	Pin assignment	Conductor color
1	A1 +24 V	White
2	O3 signal output: protective-device closed	Brown
3	A2 +0 V	Green
4	OS1 safe output	Yellow
5	O4 signal output	Gray
6	I3 control input for reset	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 Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR
	50135129	KD S-M12-8A-P1-100	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: Yes Cable length: 10,000 mm Sheathing material: PUR
	50135121	KD U-M12-8A-P1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: PUR
	50135122	KD U-M12-8A-P1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PUR

## Actuator

	Part no.	Designation	Article	Description
	50142097 **	AC-L250-SCA	Actuator	Code type: Standard code Encoding level: Low, 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.