

## Technical data sheet

### Laser scanner

Part no.: 50153046

ROD 308



For illustration purposes only

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Ethernet



## Technical data

### Basic data

|             |                     |
|-------------|---------------------|
| Series      | ROD 300             |
| Application | Container checking  |
|             | Contour measurement |
|             | Navigation          |

### Functions

|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| Functions | Output of distance value and signal amplitude per angle segment |
|-----------|-----------------------------------------------------------------|

### Optical data

|                    |                        |
|--------------------|------------------------|
| Operating range    | 0.08 ... 25 m          |
| Light source       | Laser, Infrared        |
| Wavelength         | 905 nm                 |
| Laser class        | 1, IEC/EN 60825-1:2014 |
| Angular resolution | 0.1° at 40 Hz          |
|                    | 0.2° at 50 Hz          |
|                    | 0.2° at 80 Hz          |
| Scanning angle     | 275 °                  |

### Measurement data

|                                |                                                                                                                          |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Detection range                | 0.08 ... 25 m, Diffuse reflection > 90%<br>7 m at 1.8 % reflection<br>15 m at 10 % reflection<br>25 m at 90 % reflection |
| <b>Accuracy of measurement</b> |                                                                                                                          |
| Systematic error               | ±10 mm                                                                                                                   |
| Statistical error (1σ)         | ≤5 mm (0.08 – 7 m)                                                                                                       |
|                                | ≤10 mm (7 – 15 m)                                                                                                        |
|                                | ≤6 mm (0.08 – 25 m) for reflectors                                                                                       |

### Electrical data

|                               |                               |
|-------------------------------|-------------------------------|
| Protective circuit            | Cross circuit protection      |
|                               | Overvoltage protection        |
| <b>Performance data</b>       |                               |
| Supply voltage U <sub>B</sub> | 12 ... 24 V, DC, -10 ... 30 % |

### Time behavior

|               |                |
|---------------|----------------|
| Response time | 12.5 ... 25 ms |
|---------------|----------------|

### Service interface

|                 |                                    |
|-----------------|------------------------------------|
| Type            | Ethernet                           |
| <b>Ethernet</b> |                                    |
| Function        | Configuration/parametization       |
|                 | Diagnosis                          |
|                 | Display of the measurement contour |
| Connection      | M12 connector, 4-pin, D-coded      |

### Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 2 Piece(s) |
|-----------------------|------------|

### Connection 1

|                    |                   |
|--------------------|-------------------|
| Function           | Machine interface |
| Type of connection | Connector         |
| Thread size        | M12               |
| Type               | Male              |
| Material           | Metal             |
| No. of pins        | 12 -pin           |
| Encoding           | A-coded           |

### Connection 2

|                    |                                                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------------------|
| Function           | Data interface<br>Measurement value transmission via TCP/IP and UDP (signal strength, distance and process image) |
| Type of connection | Connector                                                                                                         |
| Thread size        | M12                                                                                                               |
| Type               | Female                                                                                                            |
| Material           | Metal                                                                                                             |
| No. of pins        | 4 -pin                                                                                                            |
| Encoding           | D-coded                                                                                                           |

### Mechanical data

|                       |                              |
|-----------------------|------------------------------|
| Dimension (W x H x L) | 80 mm x 80 mm x 85 mm        |
| Housing material      | Metal                        |
|                       | Plastic                      |
| Metal housing         | Diecast zinc                 |
| Lens cover material   | Plastic                      |
| Net weight            | 630 g                        |
| Housing color         | Red, RAL 3000                |
|                       | Silver                       |
| Type of fastening     | Mounting plate               |
|                       | Through-hole mounting        |
|                       | Via optional mounting device |

### Operation and display

|      |                                                                                                                                               |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Note | For further details on the LED circuit segment assignment, see the operating instructions at <a href="http://www.leuze.com">www.leuze.com</a> |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------|

### Environmental data

|                                    |               |
|------------------------------------|---------------|
| Ambient temperature, operation     | -30 ... 60 °C |
| Ambient temperature, storage       | -40 ... 70 °C |
| Relative humidity (non-condensing) | 0 ... 95 %    |

### Certifications

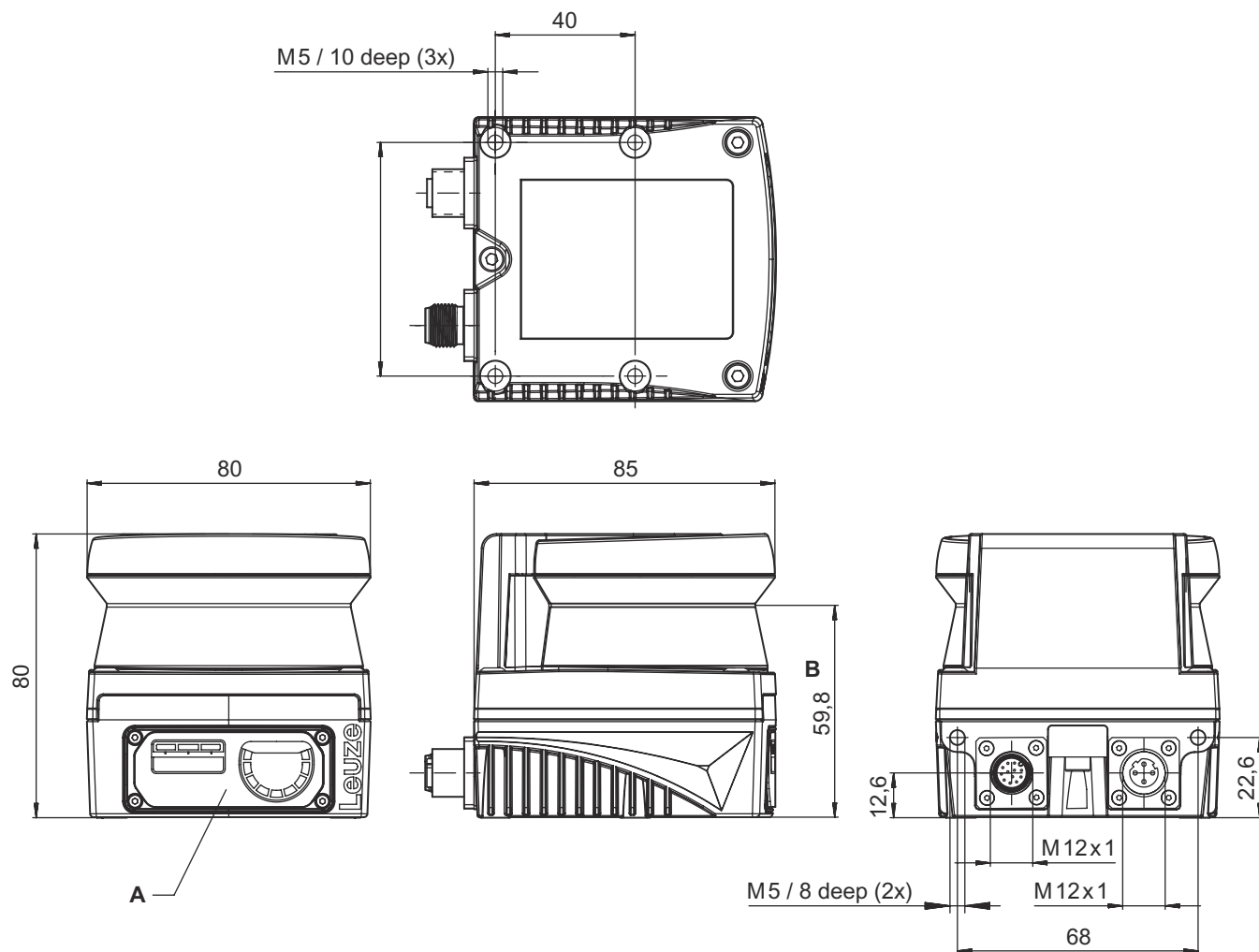
|                      |       |
|----------------------|-------|
| Degree of protection | IP 67 |
| Protection class     | III   |

## Technical data

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4          | 27270990 |
| ECLASS 8.0            | 27270913 |
| ECLASS 9.0            | 27270913 |
| ECLASS 10.0           | 27270913 |
| ECLASS 11.0           | 27270913 |
| ECLASS 12.0           | 27270913 |
| ECLASS 13.0           | 27270913 |
| ECLASS 14.0           | 27270913 |
| ECLASS 15.0           | 27270913 |
| ETIM 5.0              | EC002550 |
| ETIM 6.0              | EC002550 |
| ETIM 7.0              | EC002550 |
| ETIM 8.0              | EC002550 |
| ETIM 9.0              | EC002550 |
| ETIM 10.0             | EC002550 |

## Dimensioned drawings

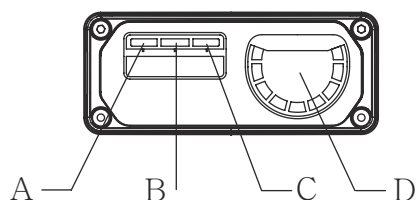
All dimensions in millimeters



A Status LEDs

B Scan level

### Status LEDs



A Voltage supply

B Ethernet

C Error

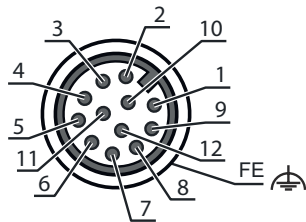
D Contamination indicator

Electrical connection

Connection 1

|                    |                   |
|--------------------|-------------------|
| Function           | Machine interface |
| Type of connection | Connector         |
| Thread size        | M12               |
| Type               | Male              |
| Material           | Metal             |
| No. of pins        | 12 -pin           |
| Encoding           | A-coded           |
| Connector housing  | FE/SHIELD         |

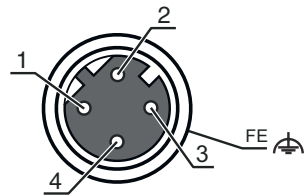
| Pin | Pin assignment |
|-----|----------------|
| 1   | OUT 1 WARNING  |
| 2   | +24 V DC       |
| 3   | n.c.           |
| 4   | n.c.           |
| 5   | OUT ERROR      |
| 6   | n.c.           |
| 7   | 0 V DC         |
| 8   | n.c.           |
| 9   | n.c.           |
| 10  | n.c.           |
| 11  | n.c.           |
| 12  | n.c.           |



Connection 2

|                    |                                                                                                                      |
|--------------------|----------------------------------------------------------------------------------------------------------------------|
| Function           | Data interface<br>Measurement value transmission via TCP/IP and UDP<br>(signal strength, distance and process image) |
| Type of connection | Connector                                                                                                            |
| Thread size        | M12                                                                                                                  |
| Type               | Female                                                                                                               |
| Material           | Metal                                                                                                                |
| No. of pins        | 4 -pin                                                                                                               |
| Encoding           | D-coded                                                                                                              |
| Connector housing  | FE/SHIELD                                                                                                            |

| Pin | Pin assignment |
|-----|----------------|
| 1   | TD+            |
| 2   | RD+            |
| 3   | TD-            |
| 4   | RD-            |



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.

## Notes



### ATTENTION! INVISIBLE LASER RADIATION – CLASS 1 LASER PRODUCT



The device satisfies the requirements of IEC/EN 60825-1:2014 safety regulations for a product of **laser class 1** and complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

- ☞ Observe the applicable statutory and local laser protection regulations.
- ☞ The device must not be tampered with and must not be changed in any way.  
There are no user-serviceable parts inside the device.  
Repairs must only be performed by Leuze electronic GmbH + Co. KG.

## Downloads



You can find the applicable documents on the Internet at [www.leuze.com](http://www.leuze.com).

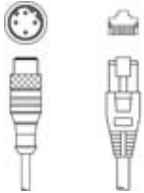
- ☞ Call up the Leuze home page: [www.leuze.com](http://www.leuze.com)
- ☞ Enter the type designation or part number of the device as the search term.
- ☞ The applicable documents can be found on the product page for the device under the **Downloads** tab.

## Accessories

### Connection technology - Connection cables

|                                                                                    | Part no. | Designation        | Article          | Description                                                                                                                                                                         |
|------------------------------------------------------------------------------------|----------|--------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130282 | KD S-M12-CA-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5.000 mm<br>Sheathing material: PUR |

### Connection technology - Interconnection cables

|                                                                                    | Part no. | Designation                 | Article               | Description                                                                                                                                                                                |
|------------------------------------------------------------------------------------|----------|-----------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50135081 | KSS ET-M12-4A-RJ45-A-P7-050 | Interconnection cable | Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: RJ45<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR |

### Connection technology - Adapters

|                                                                                    | Part no. | Designation        | Article | Description                                                                                                                     |
|------------------------------------------------------------------------------------|----------|--------------------|---------|---------------------------------------------------------------------------------------------------------------------------------|
|  | 50149892 | D U-M12-CA-K PWR27 | Adapter | Number of connections: 2 Piece(s)<br>Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin<br>Connection 2: Jack socket |

## Accessories

|                                                                                   | Part no. | Designation | Article           | Description                                                                                                     |
|-----------------------------------------------------------------------------------|----------|-------------|-------------------|-----------------------------------------------------------------------------------------------------------------|
|  | 50110748 | NT 24-24W   | Power supply unit | Type of power supply unit: Plug-in power supply unit<br>Output: 24 V DC, 1 A<br>Input: 110..240 V AC, 50..60 Hz |

## Mounting technology - Mounting brackets

|                                                                                  | Part no. | Designation  | Article         | Description                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------|----------|--------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50153212 | BTU 510M-Set | Mounting system | Suitable for: Laser scanner ROD 300, ROD 500<br>Dimensions: 90 mm x 66 mm x 29 mm<br>Version: Mounting system, adjustability in 2 axes<br>Type of fastening, at system: Through-hole mounting<br>Type of fastening, at device: Screw type<br>Swivel range: -5 ... 5 °<br>Material: Steel, galvanized |

### Note



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