



Figure can vary

**Part no.: 66001100**  
**MLD300-T2**  
**Multiple light beam safety device**  
**transmitter**



## Contents

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## Technical data

| <b>Basic data</b>                          |   |
|--|---|
| Series                                     | MLD 300   |
| Device type                                | Transmitter                                       |
| <b>Functions</b>                           |   |
| Functions                                  | Range reduction                                   |
| <b>Characteristic parameters</b>           |   |
| Type                                       | 2 , IEC/EN 61496                                  |
| SIL  | 1 , IEC 61508                                     |
| SILCL                                      | 1 , IEC/EN 62061                                  |
| MTTF <sub>d</sub>                          | 204 years , EN ISO 13849-1                        |
| Mission time T <sub>M</sub>                | 20 years , EN ISO 13849-1                         |
| <b>Protective field data</b>               |   |
| Operating range                            | 0.5 ... 50 m                                      |
| <b>Optical data</b>                        |   |
| Number of beams                            | 2 Piece(s)  |
| Beam spacing                               | 500 mm  |
| Light source                               | LED , Infrared                                    |
| LED light wavelength                       | 850 nm  |
| Mean power of transmitter diode            | 1.369 µW  |
| Transmitted-signal shape                   | Pulsed  |
| LED group                                  | 1   |
| <b>Electrical data</b>                     |   |
| Protective circuit                         | Overvoltage protection<br>Short circuit protected |
| <b>Performance data</b>                    |   |
| Supply voltage U <sub>B</sub>              | 24 V , DC , -20 ... 20 %                          |
| Current consumption, max.                  | 50 mA , Without external load                     |
| Fuse                                       | External with max. 3 A                            |
| <b>Connection</b>                          |   |
| Number of connections                      | 1 Piece(s)  |
| <b>Connection 1</b>                        |   |
| Type of connection                         | Connector   |
| Function                                   | Machine interface                                 |
| Thread size                                | M12   |
| Material                                   | Metal   |
| No. of pins                                | 5 -pin  |
| <b>Cable properties</b>                    |   |
| Permissible conductor cross section, typ.  | 0.25 mm <sup>2</sup>                              |
| Length of connection cable, max.           | 100 m   |
| Permissible cable resistance to load, max. | 200 Ω   |

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### Mechanical data

|                       |                                 |
|-----------------------|---------------------------------|
| Dimension (W x H x L) | 52 mm x 600 mm x 64.7 mm        |
| Housing material      | Metal , Aluminum                |
| Lens cover material   | Plastic / PMMA                  |
| Material of end caps  | Diecast zinc                    |
| Net weight            | 1,400 g                         |
| Housing color         | Yellow, RAL 1021                |
| Type of fastening     | Groove mounting<br>Swivel mount |

### Operation and display

|                 |            |
|-----------------|------------|
| Type of display | LED        |
| Number of LEDs  | 2 Piece(s) |

### Environmental data

|                                    |               |
|------------------------------------|---------------|
| Ambient temperature, operation     | -30 ... 55 °C |
| Ambient temperature, storage       | -40 ... 75 °C |
| Relative humidity (non-condensing) | 0 ... 95 %    |

### Certifications

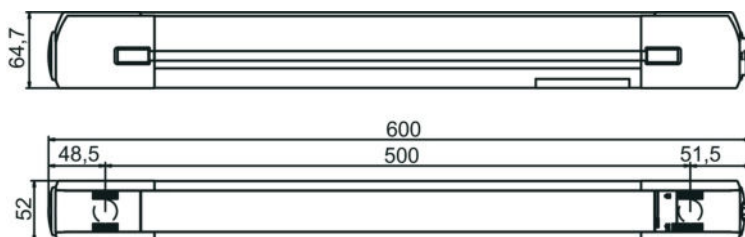
|                      |                                      |
|----------------------|--------------------------------------|
| Degree of protection | IP 67                                |
| Protection class     | III                                  |
| Certifications       | c CSA US<br>c TÜV NRTL US<br>TÜV Süd |
| US patents           | US 6,418,546 B<br>US 7,741,595 B     |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0            | 27272703 |
| eCl@ss 9.0            | 27272703 |
| ETIM 5.0              | EC001832 |
| ETIM 6.0              | EC001832 |

## Dimensioned drawings

All dimensions in millimeters

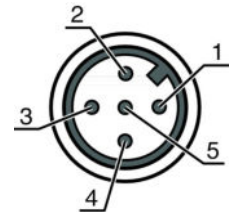


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## Electrical connection

| Connection 1       |                   |
|--------------------|-------------------|
| Type of connection | Connector         |
| Function           | Machine interface |
| Thread size        | M12               |
| Type               | Male              |
| Material           | Metal             |
| No. of pins        | 5 -pin            |
| Encoding           | A-coded           |

| Pin | Pin assignment | Conductor color |
|-----|----------------|-----------------|
| 1   | +24V           | Brown           |
| 2   | n.c.           | White           |
| 3   | 0 V            | Blue            |
| 4   | n.c.           | Black           |
| 5   | n.c.           | Gray            |






## Operation and display


### LEDs

| LEDs per light axis     | Meaning                     |
|-------------------------|-----------------------------|
| Green, continuous light | Transmitted beam active     |
| Off                     | Transmitted beam not active |

## Suitable receivers

|   | Part no. | Designation | Article                                    | Description  |
|---|----------|-------------|--|--|
|  | 66033100 | MLD310-R2   | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 25 ms<br>Connection: Connector, M12, Metal, 5 -pin |
|  | 66043100 | MLD312-R2   | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 25 ms<br>Connection: Connector, M12, Metal, 5 -pin |
|  | 66053100 | MLD320-R2   | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 25 ms<br>Connection: Connector, M12, Metal, 8 -pin |

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|  | Part no. | Designation | Article                                    | Description  |
|--|----------|-------------|--|--|
|   | 66063100 | MLD330-R2   | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 50 ms<br>Connection: Connector, M12, Metal, 8 -pin   |
|   | 66064100 | MLD330-R2M  | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 50 ms<br>Connection: Connector, M12, Metal, 8 -pin<br>Special design: Integrated muting indicator, Integrated status indicator |
|   | 66073100 | MLD335-R2   | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 50 ms<br>Connection: Connector, M12, Metal, 8 -pin   |
|   | 66074100 | MLD335-R2M  | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 50 ms<br>Connection: Connector, M12, Metal, 8 -pin<br>Special design: Integrated muting indicator, Integrated status indicator |
|  | 66054100 | MLD320-R2M  | Multiple light beam safety device receiver | Number of beams: 2 Piece(s)<br>Beam spacing: 500 mm<br>Response time: 25 ms<br>Connection: Connector, M12, Metal, 8 -pin<br>Special design: Integrated status indicator                              |

## Part number code

 Part designation: **MLDxyy-zab/t**

| MLD | Multiple light beam safety device  |
|-----|--|
| x   | <b>Series:</b><br>3: MLD 300<br>5: MLD 500   |
| yy  | <b>Function classes:</b><br>00: transmitter<br>10: automatic restart<br>12: external testing<br>20: EDM/RES<br>30: muting<br>35: timing controlled 4-sensor muting   |
| z   | <b>Device type:</b><br>T: transmitter<br>R: receiver<br>RT: transceiver<br>xT: transmitter with high range<br>xR: receiver for high range  |
| a   | Number of beams  |
| b   | <b>Option:</b><br>L: integrated laser alignment aid (for transmitter/receiver)<br>M: integrated status indicator (MLD 320, MLD 520) or integrated status and muting indicator (MLD 330, MLD 335, MLD 510/A, MLD 530, MLD 535)<br>E: connection socket for external muting indicator (AS-i models only) |
| /t  | <b>Safety-related switching outputs (OSSDs), connection technology:</b><br>-: transistor output, M12 plug<br>A: integrated AS-i interface, M12 plug, (safety bus system)   |




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### Note



A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://www.leuze.com).

## Accessories

### Connection technology - Connection cables

|  | Part no. | Designation        | Article          | Description   |
|--|----------|--------------------|------------------|---|
|   | 50133859 | KD S-M12-5A-P1-020 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 2,000 mm<br>Sheathing material: PUR  |
|   | 50133860 | KD S-M12-5A-P1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR  |
|  | 50136146 | KD S-M12-5A-P1-250 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 10,000 mm<br>Sheathing material: PVC |

## Services

|   | Part no. | Designation | Article                                   | Description  |
|---|----------|-------------|---|--|
|  | S981050  | CS40-I-140  | Safety inspection "Safety light barriers" | Details: Checking of a safety light barrier application in accordance with current standards and guidelines. Inclusion of the device and machine data in a database, production of a test log per application.<br>Conditions: It must be possible to stop the machine, support provided by customer's employees and access to the machine for Leuze employees must be ensured.<br>Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure. |
|  | S981046  | CS40-S-140  | Start-up support                          | Details: For safety devices including stopping time measurement and initial inspection.<br>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.<br>Restrictions: Max. 2 h., no mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.   |

### Note

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