



Part no.: 50134422
DDLS 548i 40.4 H
Optical data transmission



Figure can vary

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Technical data

| Basic data | |
|----------------------------------|---|
| Series | DDLS 500 |
| Special design | |
| Special design | Heating Not influenced by reflective surfaces Operation of parallel light axes Remote maintenance via web server |
| Optical data | |
| Working range | 100 ... 40,000 mm |
| Light source | Laser |
| Usable opening angle transmitter | 1 ° |
| Electrical data | |
| Performance data | |
| Supply voltage U _B | 18 ... 30 V , DC |
| Interface | |
| Type | PROFINET |
| Profinet | |
| Transmission speed | 100 Mbit/s |
| Connection | |
| Number of connections | 2 Piece(s) |
| Connection 1 | |
| Type of connection | Connector |
| Designation on device | POWER |
| Thread size | M12 |
| Type | Male |
| No. of pins | 5 -pin |
| Encoding | A-coded |
| Connection 2 | |
| Type of connection | Connector |
| Designation on device | BUS |
| Thread size | M12 |
| Type | Female |
| No. of pins | 4 -pin |
| Encoding | D-coded |
| Mechanical data | |
| Dimension (W x H x L) | 100 mm x 156 mm x 99.5 mm |
| Housing material | Metal |
| Net weight | 1,185 g |
| Operation and display | |
| Type of display | Bar graph LED |

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| | |
|-----------------------|---|
| Type of configuration | GSDML file Software Via web browser |
|-----------------------|---|

Environmental data

| | |
|--------------------------------|---------------|
| Ambient temperature, operation | -35 ... 50 °C |
| Ambient temperature, storage | -35 ... 70 °C |

Certifications

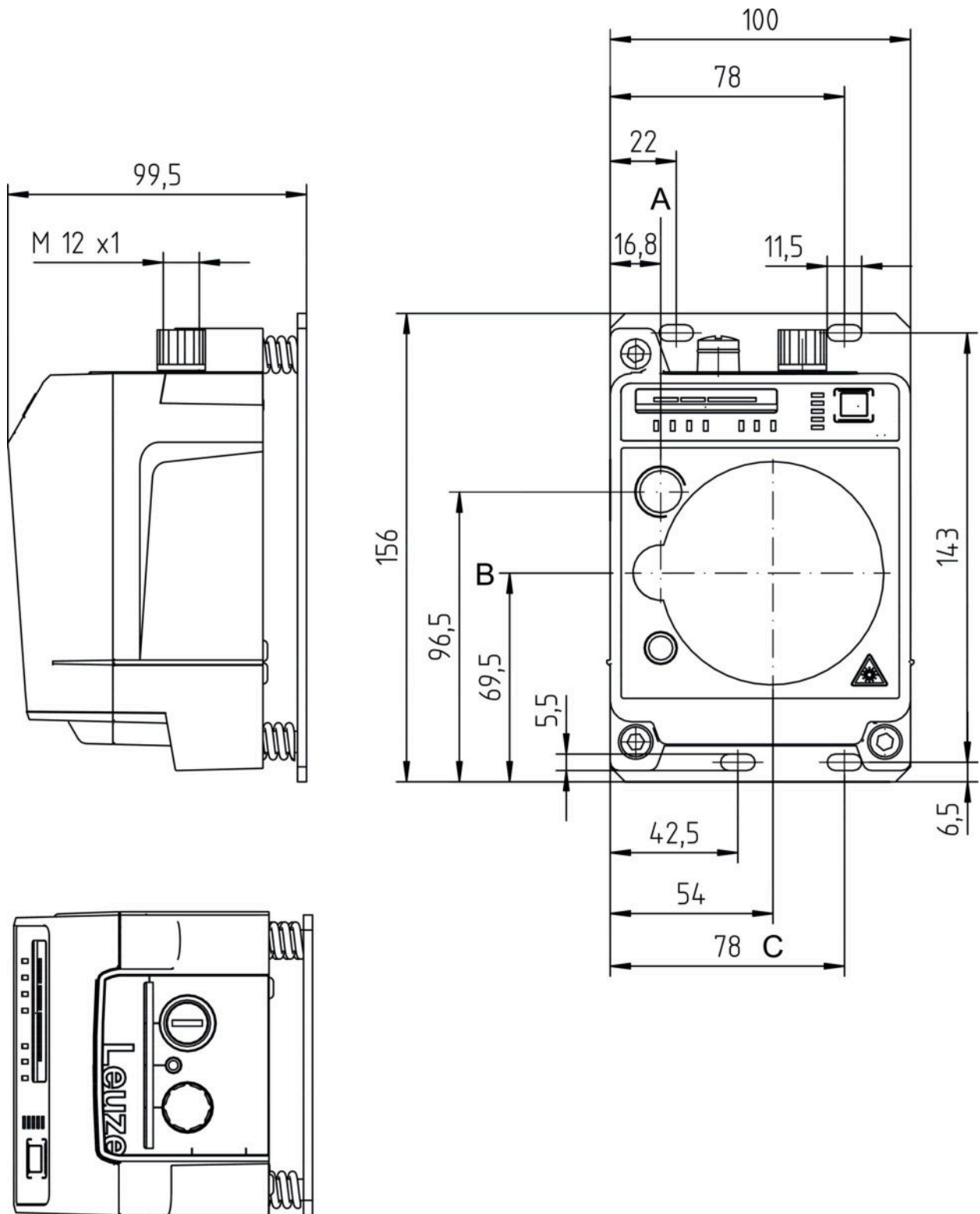
| | |
|--|-----------------------------|
| Degree of protection | IP 65 |
| Certifications | c UL US |
| Test procedure for EMC in accordance with standard | EN 1000-6-4 EN 61000-6-2 |
| Test procedure for noise in accordance with standard | EN 60068-2-64 |
| Test procedure for oscillation in accordance with standard | EN 60068-2-6 |
| Test procedure for shock in accordance with standard | EN 60068-2-27 |

Classification

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0 | 19179090 |
| eCl@ss 9.0 | 19179090 |
| ETIM 5.0 | EC000515 |
| ETIM 6.0 | EC000515 |

Dimensioned drawings

All dimensions in millimeters

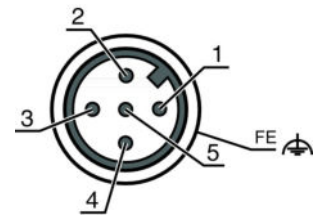


- A Middleaxis Transmitter
- B Center axis of transmitter and receiver
- C Center axis of receiver

Electrical connection

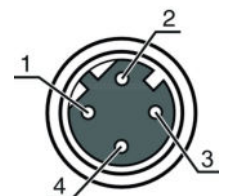
| Connection 1 | POWER |
|--------------------|---|
| Function | Signal IN Signal OUT Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | A-coded |

| Pin | Pin assignment |
|-----|----------------|
| 1 | VIN |
| 2 | IO1 |
| 3 | GND |
| 4 | IO2 |
| 5 | FE/SHIELD |



| Connection 2 | BUS |
|--------------------|-----------|
| Function | BUS IN |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Female |
| Material | Metal |
| No. of pins | 4 -pin |
| Encoding | D-coded |

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



Operation and display


LEDs

| LED | Display | Meaning | |
|-----|---------|-------------------------|---|
| 1 | AUT | Off | Operating mode not active |
| | | Green, continuous light | Operating mode 'Automatic' |
| 2 | MAN | Off | Operating mode not active |
| | | Green, continuous light | Operating mode 'Manual' |
| 3 | ADJ | Off | Operating mode not active |
| | | Green, continuous light | Operating mode 'Adjust' |
| 4 | LAS | Off | Operating mode not active |
| | | Green, continuous light | Operating mode 'Alignment-laser mounting support' |

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| LED | Display | Meaning | |
|-----|----------------|-----------------------------|--|
| 5 | LLC | Off | Operating mode not active |
| | | Green, continuous light | LLC without interruption |
| | | Red, continuous light | LLC interrupted at least once |
| 6 | PWR | Off | No supply voltage |
| | | Green, flashing | Device ok, initialization phase |
| | | Green, continuous light | Data transmission active |
| | | Red, flashing | Data transmission interrupted |
| | | Red, continuous light | Device error |
| 7 | TMP | Off | Operating temperature OK |
| | | Orange, continuous light | Operating temperature critical |
| | | Red, continuous light | Operating temperature exceeded or not met |
| 8 | LSR | Off | With function reserve |
| | | Orange, continuous light | Device OK, warning set |
| 9 | BUS | Off | No supply voltage |
| | | Green, flashing | Device waiting for communication to be re-established, no data exchange |
| | | Green, continuous light | Communication with IO-Controller established, data exchange active |
| | | Orange, flashing | PROFINET wave function activated, the PWR and BUS LEDs flash in sync in orange |
| | | Red, flashing | Parameterization or configuration failed, no data exchange |
| | | Red, continuous light | Bus error, no communication established to the IO controller |
| 10 | OLK | Off | Fault |
| | | Green, continuous light | No data transmission |
| | | Orange, continuous light | Data transmission active |
| 11 | ERL | Off | Link OK |
| | | Orange, continuous light | Missing link (Ethernet cable connection) on the second device |
| | | Red, continuous light | No cable-connected link to the connected device |
| 12 | LINK | Off | No cable-connected link to the connected device |
| | | Green, continuous light | Link OK |
| | | Orange, continuous light | Data transmission active |
| 13 | SIGNAL QUALITY | 2 red, 2 orange and 4 green | Received signal level |

Suitable transmitters

| | Part no. | Designation | Article | Description |
|---|----------|------------------|---------------------------|--|
|  | 50134421 | DDLS 548i 40.3 H | Optical data transmission | Working range: 100 ... 40,000 mm Interface: PROFINET Connection: Connector, M12 Special design: Operation of parallel light axes, Not influenced by reflective surfaces, Heating, Remote maintenance via web server |

Part number code

Part designation: **DDLS 5XXX YYY.Z A B CC**

| | |
|------|--|
| DDLS | Optical transceiver for digital data transmission |
| 5XXX | Series: 508i: without integrated web server for remote diagnostics 508i: with integrated web server for remote diagnostics 538: without integrated web server for remote diagnostics (EtherCAT) 548i: with integrated web server for remote diagnostics |
| YYY | Range for data transmission in m |

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| | |
|----|---|
| Z | Frequency of the transmitter: 0: Frequency F0 1: Frequency F1 2: Frequency F2 3: Frequency F3 4: Frequency F4 |
| A | Option: L: integrated laser alignment aid (for transmitter/receiver) n/a: standard |
| B | Special equipment: H: with heating n/a: no special equipment |
| CC | Special equipment: W: transmission optics with larger opening angle (on request) n/a: no special equipment |

Note

A list with all available device types can be found on the Leuze electronic website at www.leuze.com.

Notes

Observe intended use!







- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

For UL applications:

- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).

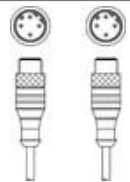
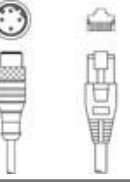
Accessories

Connection technology - Connection cables



| | Part no. | Designation | Article | Description |
|---|----------|---------------------|------------------|--|
|    | 50132079 | KD U-M12-5A-V1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |
|    | 50135074 | KS ET-M12-4A-P7-050 | Connection cable | Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |

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Connection technology - Interconnection cables

| | Part no. | Designation | Article | Description |
|---|----------|-----------------------------|-----------------------|--|
|  | 50137078 | KSS ET-M12-4A-M12-4A-P7-050 | Interconnection cable | Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Connector, M12, Axial, Male, D-coded, 4 -pin Shielded: Yes Cable length: 1,000 mm Sheathing material: PUR |
|  | 50135081 | KSS ET-M12-4A-RJ45-A-P7-050 | Interconnection cable | Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR |

Connection technology - Connectors

| | Part no. | Designation | Article | Description |
|---|----------|-------------|-----------|--|
|  | 50020501 | KD 095-5A | Connector | Connection: Connector with screw terminals, M12, Axial, Female, A-coded, 5 -pin |
|  | 50112155 | S-M12A-ET | Connector | Suitable for interface: Ethernet Connection: Connector, M12, Axial, Male, D-coded, 4 -pin |

Services

| | Part no. | Designation | Article | Description |
|---|----------|-------------|------------------|---|
|  | S981001 | CS10-S-110 | Start-up support | Details: Performed at location of customer's choosing, duration: max. 10 hours. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment. |
|  | S981005 | CS10-T-110 | Product training | Details: Location and content to be agreed upon, duration: max. 10 hours. Conditions: Price not including travel costs and, if applicable, accommodation expenses. Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure. |

Note

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