

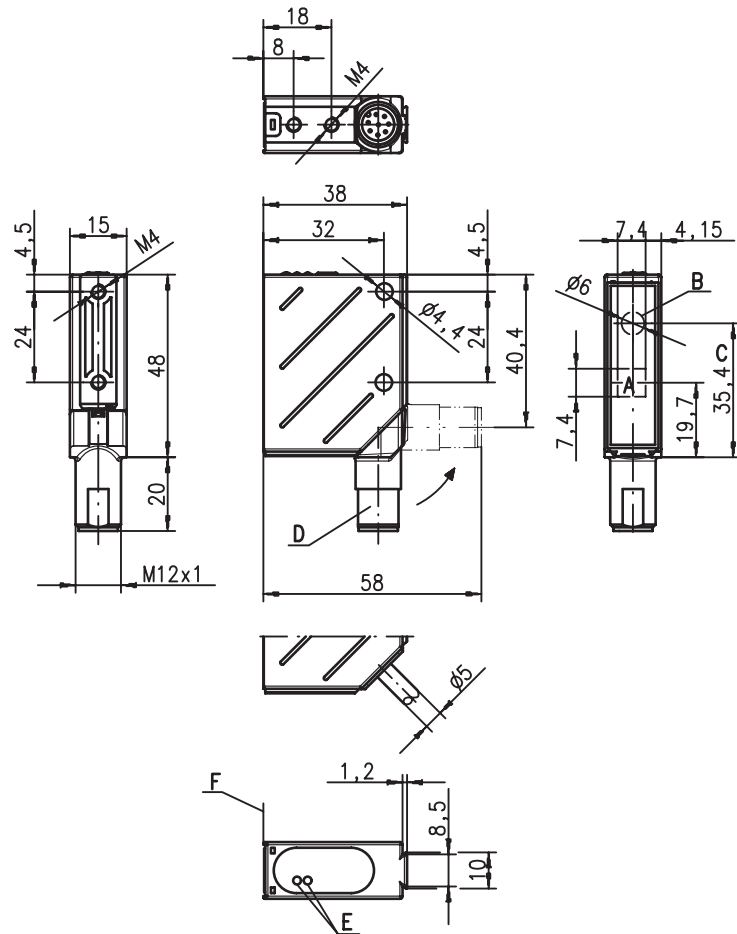
ODSL 8

Optical laser distance sensors

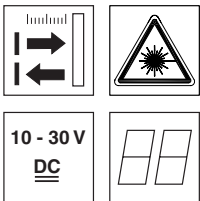
Art. No. 501 09346



Dimensioned drawing



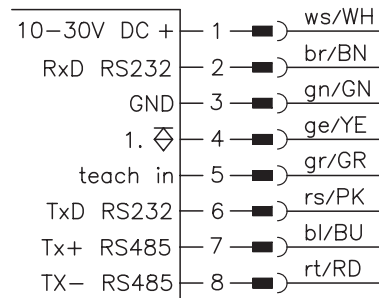
- A Receiver
- B Transmitter
- C Optical axis
- D 90° turning connector
- E LED yellow, green
- F Reference edge for the measurement (cover glass)



25 ... 45 mm

- Reflection-independent distance information
- Highly insensitive to extraneous light
- Digital RS 232 and RS 485 interface
- Measurement range and mode adjustable
- Teachable switching output
- M 12 turning connector

Electrical connection



Accessories:

(available separately)

- Mounting systems
- Cable with M12 connector (K-D ...)
- Configuration software
- Control guard

We reserve the right to make changes • ods_22gb.fm

Specifications

Optical data

| | |
|---------------------------------|---------------------------------------|
| Measurement range ¹⁾ | 25 ... 45mm |
| Resolution | 0.01 mm |
| Light source | laser |
| Wavelength | 650nm (visible red light) |
| Light spot | divergent, 1x6mm ² at 45mm |
| Laser warning notice | see remarks |

Error limits (relative to measurement distance)

| | |
|---|--------|
| Absolute measurement accuracy ¹⁾ | 0.5% |
| Repeatability ²⁾ | 0.1% |
| b/w detection thresh. (6 ... 90% rem.) | ≤ 0.5% |

Timing

| | |
|-----------------------|-----------|
| Measurement time | 2 ... 5ms |
| Response time | ≤ 15ms |
| Delay before start-up | ≤ 300ms |

Electrical data

| | |
|-------------------------------------|---|
| Operating voltage U _B | 10 ... 30VDC (incl. residual ripple) |
| Residual ripple | ≤ 15% of U _B |
| Open-circuit current | ≤ 50mA |
| Switching output | PNP transistor, high-active |
| Signal voltage high/low | ≥ (U _B -2 V)/≤ 2V |
| Digital output RS 232 | 9600 Baud |
| RS 485 | 9600 Baud, no termination |
| Transmission protocol ³⁾ | 2 byte transmission, continuous data flow |

Indicators

| | | | |
|------------|------------------|--|--------------------|
| LED green | continuous light | ready | |
| | flashing | fault | teaching procedure |
| | off | no voltage | |
| Yellow LED | continuous light | object inside teach-in measurement distance | |
| | flashing | | teaching procedure |
| | off | object outside teach-in measurement distance | |

Mechanical data

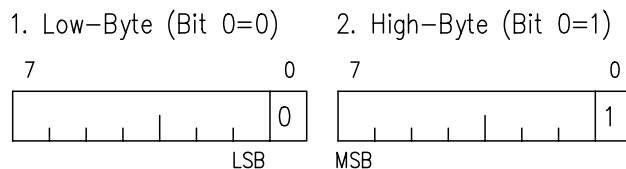
| | |
|-----------------|-------------------------------|
| Housing | metal |
| Optics cover | glass |
| Weight | 70g |
| Connection type | M12 connector, 8-pin, turning |

Environmental data

| | |
|-----------------------------------|---------------------------------|
| Ambient temp. (operation/storage) | -20°C ... +50°C/-40°C ... +70°C |
| Protective circuit ⁴⁾ | 1, 2, 3 |
| VDE safety class ⁵⁾ | II, all-insulated |
| Protection class ⁶⁾ | IP 67, IP 69K ⁷⁾ |
| Laser class | 2 (acc. to EN 60825-1) |
| Standards applied | IEC 60947-5-2 |

- 1) Luminosity coefficient 6% ... 90%, over the entire temperature range, measurement object ≥ 50x50mm²
- 2) Same object, identical environmental conditions, measurement object ≥ 50x50mm²
- 3) 2byte transmission protocol
- 4) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 5) Rating voltage 250VAC
- 6) In stop position of the turning connector (turning connector locked)
- 7) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

Measurement value = 14 Bit



Order guide

With M12 connector

Designation

ODSL 8/D4-45-S12 501 01884

Tables

Diagrams

Remarks

- Configuration via PC
 - Connect the device to voltage and simultaneously apply +24VDC to teach-in (PIN 5)
 - Connect RS 232 directly to the PC
 - Start ODS 96 configuration software, password "ODS_96"
- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- Teaching procedure: Position measured object at desired measurement distance. Connect teach input to +U_B for ≥ 2s. Reconnect teach input to GND, switching output is programmed.
- Approved purpose: The ODSL 8 laser distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.

