

ODSL 96B

Optical laser distance sensors

Art. Nr. 501 08383

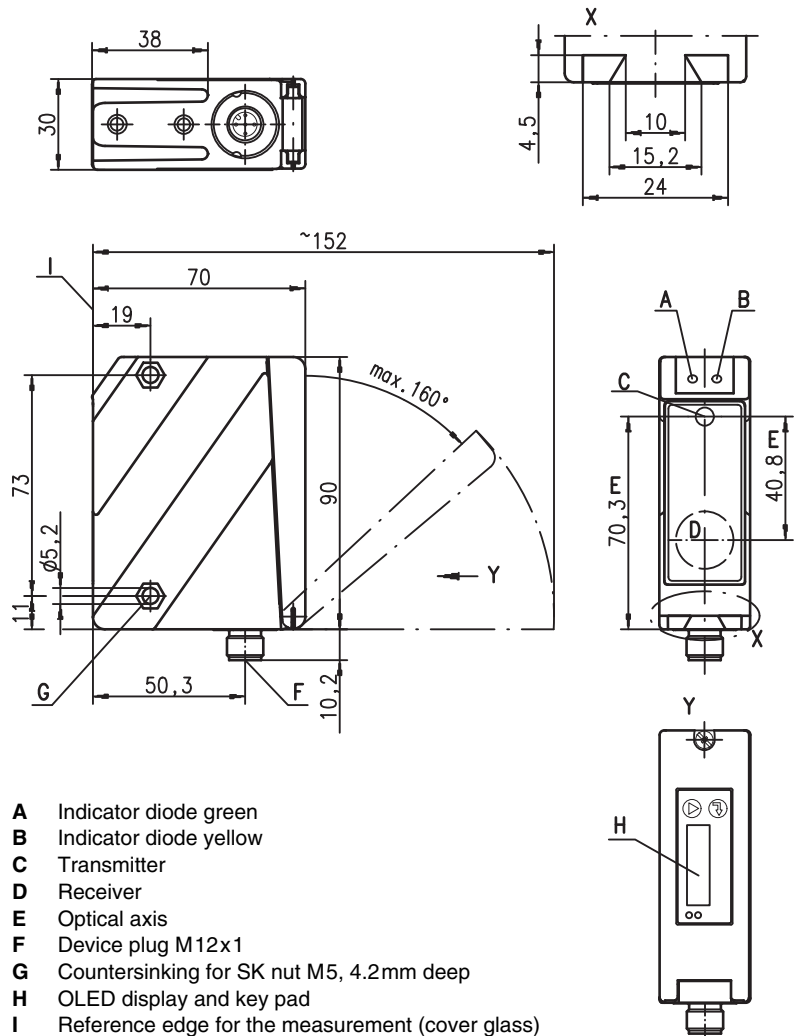


150 ... 2000mm



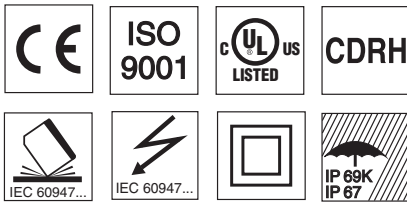
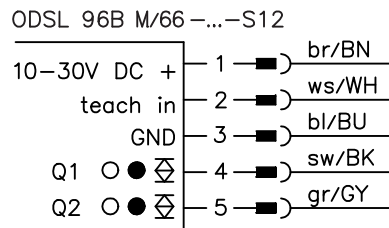
- Reflection-independent distance information
- Highly insensitive to extraneous light
- 2 teachable switching outputs
- PC/OLED display and key pad for configuration
- Measurement value is indicated in mm on OLED display
- Measurement mode configurable

Dimensioned drawing



- A Indicator diode green
- B Indicator diode yellow
- C Transmitter
- D Receiver
- E Optical axis
- F Device plug M12x1
- G Countersinking for SK nut M5, 4.2mm deep
- H OLED display and key pad
- I Reference edge for the measurement (cover glass)

Electrical connection



Accessories:

(available separately)

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

We reserve the right to make changes • ods_48gb.fm

Specifications

Optical data

| | |
|---------------------------------|-------------------------------------|
| Measurement range ¹⁾ | 150 ... 2000mm |
| Resolution ²⁾ | 1 ... 3mm |
| Hysteresis | configurable, factory setting: 10mm |
| Light source | laser |
| Wavelength | 655nm (visible red light) |
| Light spot | divergent, 2x6mm ² at 2m |
| Laser warning notice | see remarks |

Error limits (relative to measurement distance)

| | |
|---|-------------------|
| Absolute measurement accuracy ¹⁾ | ± 1.5% |
| Repeatability ³⁾ | ± 0.5% |
| b/w detect. thresholds (6 ... 90% rem.) | ≤ 1% |
| Temperature compensation | yes ⁴⁾ |

Timing

| | |
|-----------------------------|--------------------------|
| Measurement time | 1 ... 5 ¹⁾ ms |
| Response time ¹⁾ | ≤ 15ms |
| Delay before start-up | ≤ 300ms |

Electrical data

| | |
|--|--|
| Operating voltage U _B ⁵⁾ | 10 ... 30VDC (incl. residual ripple) |
| Residual ripple | ≤ 15% of U _B |
| Open-circuit current | ≤ 150mA |
| Switching output | 2 push-pull switching outputs ⁶⁾ , PNP light switching, NPN dark switching, respectively |
| Signal voltage high/low | ≥ (U _B -2 V)/≤ 2V |

Indicators

| | | | |
|------------|------------------|--|-----------------------------------|
| Green LED | continuous light | teach-in on GND | teach-in on +U_B |
| | flashing | ready | |
| | off | fault | teaching procedure |
| Yellow LED | continuous light | no voltage | |
| | flashing | object inside teach-in measurement distance | teaching procedure |
| | off | object outside teach-in measurement distance | |

Mechanical data

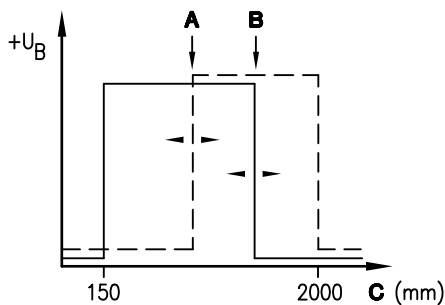
| | |
|-----------------|---------------|
| Housing | diecast zinc |
| Optics cover | glass |
| Weight | 380g |
| Connection type | M12 connector |

Environmental data

| | |
|-----------------------------------|-----------------------------------|
| Ambient temp. (operation/storage) | -20°C ... +50°C / -30°C ... +70°C |
| Protective circuit ⁷⁾ | 1, 2, 3 |
| VDE safety class ⁸⁾ | II, all-insulated |
| Protection class | IP 67, IP 69K ⁹⁾ |
| Laser class | 2 (acc. to EN 60825-1) |
| Standards applied | IEC 60947-5-2, UL 508 |

- 1) Luminosity coefficient 6% ... 90%, complete measurement range, at 20°C, medium range of U_B, measurement object ≥ 50x50mm²
- 2) Minimum and maximum value depend on measurement distance
- 3) Same object, identical environmental conditions, measurement object ≥ 50x50mm²
- 4) Typ. ± 0.02 %/K
- 5) For UL applications: for use in class 2 circuits according to NEC only
- 6) The push-pull switching outputs must not be connected in parallel
- 7) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 8) Rating voltage 250VAC, with cover closed
- 9) 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.

Switching output (example)



- A 2nd switching output
- B 1st switching output
- C Measurement distance

Order guide

With M12 connector

| | | |
|---------------------|------------------------|-----------|
| 2 switching outputs | ODSL 96B M/66-2000-S12 | 501 06599 |
|---------------------|------------------------|-----------|

ODSL 96B M/66-2000-S12 - 01

Tables

Diagrams

Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.

| | |
|--|-------|
| LASER LIGHT DO NOT STARE INTO BEAM | |
| Maximum Output: | 1.2mW |
| Pulse duration: | 22ms |
| Wavelength: | 655nm |
| CLASS 2 LASER PRODUCT EN60825-1:2003-10 | |

| | |
|---|-------|
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| Wavelength: | 655nm |
| CLASS 2 LASER PRODUCT IEC 60825-1:1993+A2:2001 Complies with 21 CFR 1040.10 | |

- **Approved purpose:**
The ODSL 96B distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.