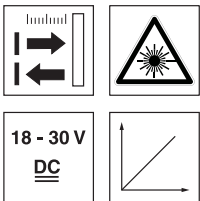


ODSL 96B

Optical laser distance sensors

en 02-2015/12 50122746

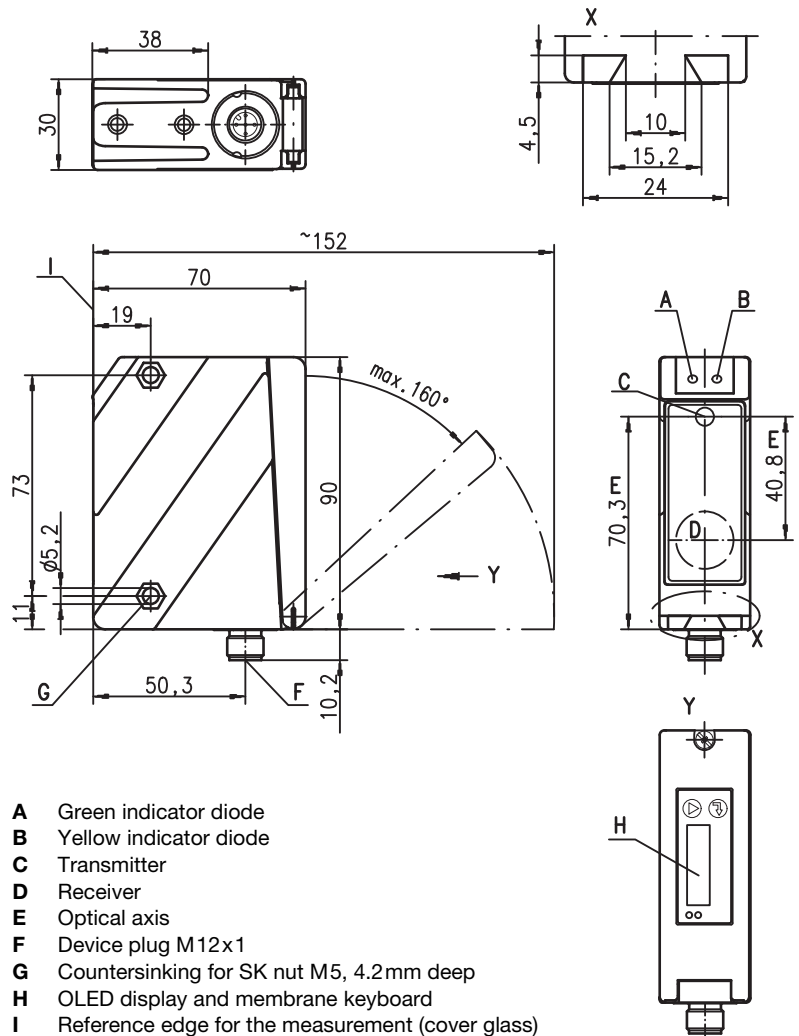


150 ... 1500mm



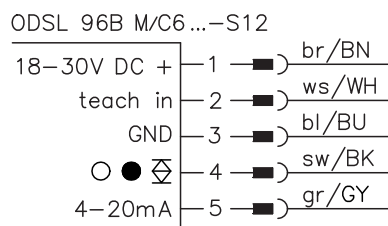
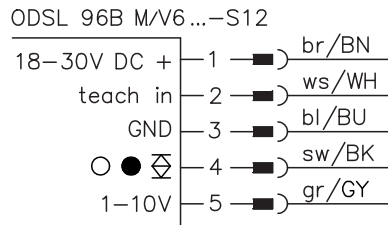
- Reflection-independent distance information
- Red light laser diode with laser class 1
- Analog current or voltage output
- PC/OLED display and membrane keyboard for configuration
- Measurement value display in mm on OLED display
- Configurable measurement range and measure mode
- Teachable switching output and analog output

Dimensioned drawing



- A Green indicator diode
- B Yellow indicator diode
- C Transmitter
- D Receiver
- E Optical axis
- F Device plug M12x1
- G Countersinking for SK nut M5, 4.2mm deep
- H OLED display and membrane keyboard
- 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 • DS_ODSL96BMCV6C1S1500_en_50122746.fim

Specifications

Optical data

| | |
|---------------------------------|---------------------------------------|
| Measurement range ¹⁾ | 150 ... 1500mm |
| Resolution ²⁾ | 0.1 ... 2mm |
| Light source | laser |
| Laser class | 1 in accordance with IEC 60825-1:2007 |
| Wavelength | 655nm (visible red light) |
| Max. output power (peak) | 0.6mW |
| Pulse duration | 22ms |
| Light spot | approx. 1x1mm ² at 800mm |

Error limits (relative to measurement distance)

| | |
|---------------------------------------------|-------------------|
| Absolute measurement accuracy ¹⁾ | ± 1.5% |
| Repeatability ³⁾ | ± 0.5% |
| B/W detection thresh. (6 ... 90% rem.) | ≤ 1% |
| Temperature compensation | yes ⁴⁾ |

Timing

| | |
|-----------------------------|------------------------------|
| Measurement time | 12 ... 60ms ^{1) 5)} |
| Response time ¹⁾ | ≤ 180ms |
| Delay before start-up | ≤ 300ms |

Electrical data

| | |
|------------------------------------------------|---------------------------------------------------------------------------------------|
| Operating voltage U _B ⁶⁾ | 18 ... 30VDC (incl. residual ripple) |
| Residual ripple | ≤ 15% of U _B |
| Open-circuit current | ≤ 150mA |
| Switching output | push-pull switching output ⁷⁾ , PNP light switching, NPN dark switching |
| Signal voltage high/low | ≥ (U _B -2 V)/≤ 2V |
| Analog output | voltage 1 ... 10V, R _i ≥ 2kΩ current 4 ... 20mA, R _L ≤ 500Ω |

Indicators

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

Mechanical data

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

Environmental data

| | |
|-----------------------------------|------------------------------------------|
| Ambient temp. (operation/storage) | -20°C ... +50°C/-30°C ... +70°C |
| Protective circuit ⁸⁾ | 1, 2, 3 |
| VDE safety class ⁹⁾ | II, all-insulated |
| Protection class | IP 67, IP 69K ¹⁰⁾ |
| Standards applied | IEC 60947-5-2 |
| Certifications | UL 508, C22.2 No.14-95 ^{6) 11)} |

- 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) Measurement time in factory setting (ambient light measure mode), operation in other measure modes is not recommended
- 6) For UL applications: for use in class 2 circuits according to NEC only
- 7) The push-pull switching outputs must not be connected in parallel
- 8) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 9) Rating voltage 250VAC, with cover closed
- 10) IP 69K test in accordance with DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives. Acids and bases are not part of the test
- 11) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

Tables

Diagrams

Remarks

Operate in accordance with 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 the intended use.

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

Order guide

| | Designation | Part no. |
|---------------------------|----------------------------|----------|
| With M12 connector | | |
| Current output | ODSL 96B M/C6.C1S-1500-S12 | 50123687 |
| Voltage output | ODSL 96B M/V6.C1S-1500-S12 | 50123686 |

Laser safety notices**ATTENTION, LASER RADIATION – LASER CLASS 1**

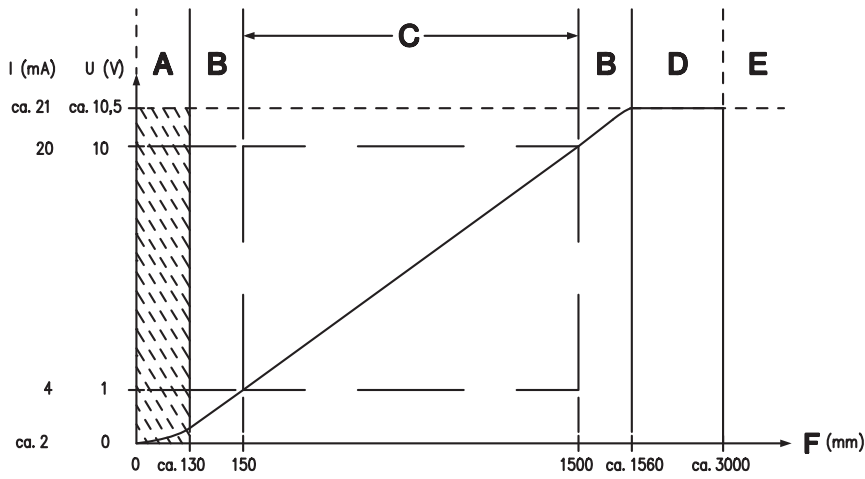
The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product in **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24th, 2007.

- ↳ Adhere to the applicable legal and local regulations regarding protection from laser beams.
- ↳ 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.

Analog output: characteristic curve for factory setting



- A** Area not defined
- B** Linearity not defined
- C** Measurement range
- D** Object present
- E** No object detected
- F** Measurement distance