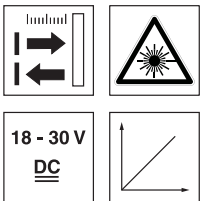


**ODSL 96B**

**Optical laser distance sensors**

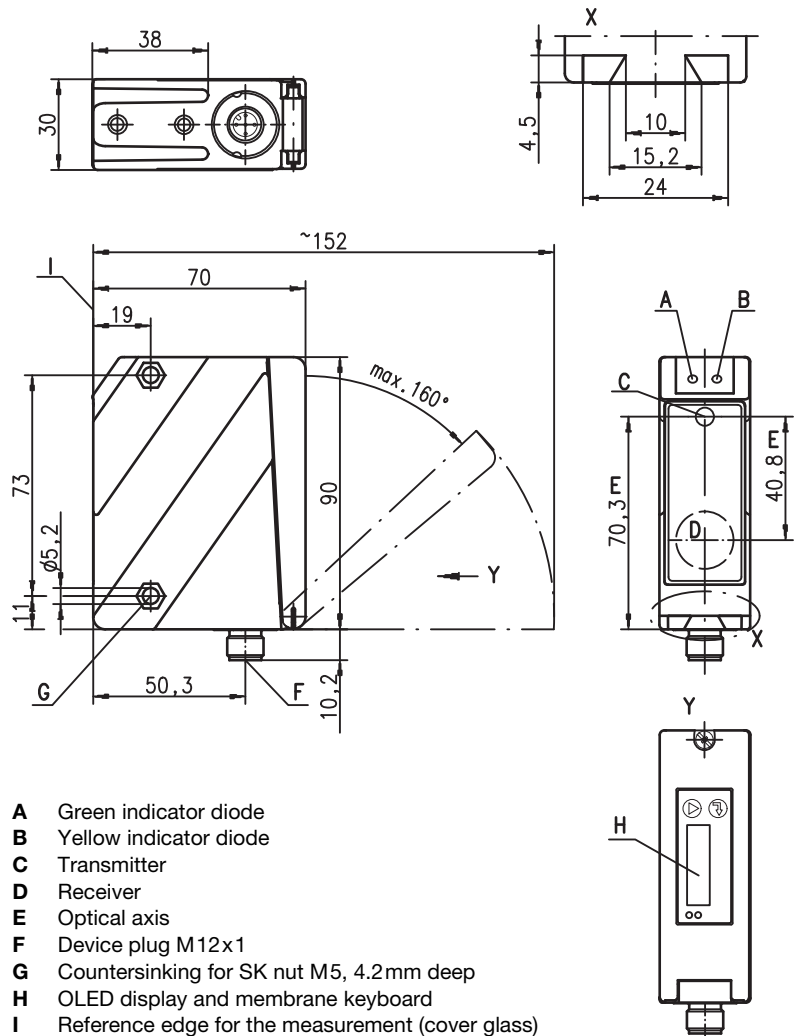
en 02-2015/12 50122746



**150 ... 1500mm**

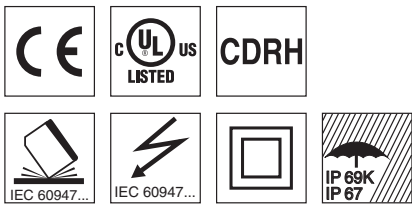
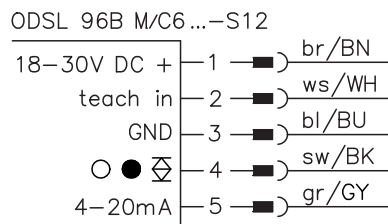
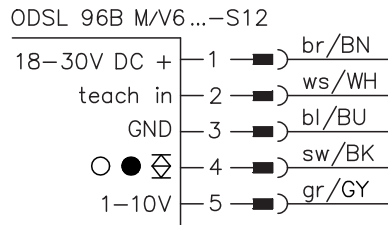
- Reflection-independent distance information
- Red light laser diode with laser class 1
- Analog current or voltage output
- PC/OLED display and membrane keyboard for configuration
- Measurement value display in mm on OLED display
- Configurable measurement range and measure mode
- Teachable switching 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 <sup>1)</sup>	150 ... 1500mm
Resolution <sup>2)</sup>	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 <sup>2</sup> at 800mm

### Error limits (relative to measurement distance)

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

### Timing

Measurement time	12 ... 60ms <sup>1) 5)</sup>
Response time <sup>1)</sup>	≤ 180ms
Delay before start-up	≤ 300ms

### Electrical data

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

### Indicators

Green LED	continuous light	<b>Teach-in on GND</b>	<b>Teach-in on +U<sub>B</sub></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	<b>Metal housing</b>
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 <sup>8)</sup>	1, 2, 3
VDE safety class <sup>9)</sup>	II, all-insulated
Protection class	IP 67, IP 69K <sup>10)</sup>
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-95 <sup>6) 11)</sup>

- 1) Luminosity coefficient 6% ... 90%, complete measurement range, at 20°C, medium range of U<sub>B</sub>, measurement object ≥ 50x50mm<sup>2</sup>
- 2) Minimum and maximum value depend on measurement distance
- 3) Same object, identical environmental conditions, measurement object ≥ 50x50mm<sup>2</sup>
- 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.
<b>With M12 connector</b>		
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**

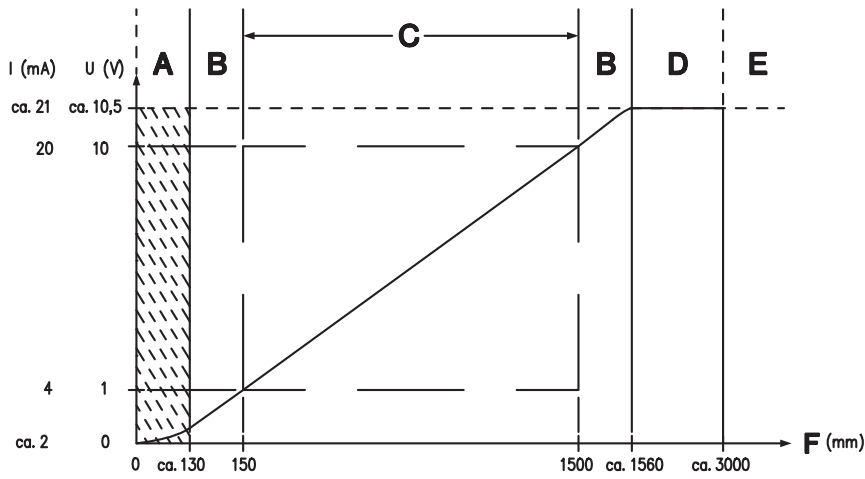
The device satisfies the requirements of IEC 60825-1:2007 (EN 60825-1:2007) safety regulations for a product in **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24th, 2007.

- ↳ 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