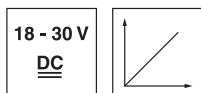
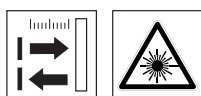


# ODSL 96B

## Optical laser distance sensors



**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

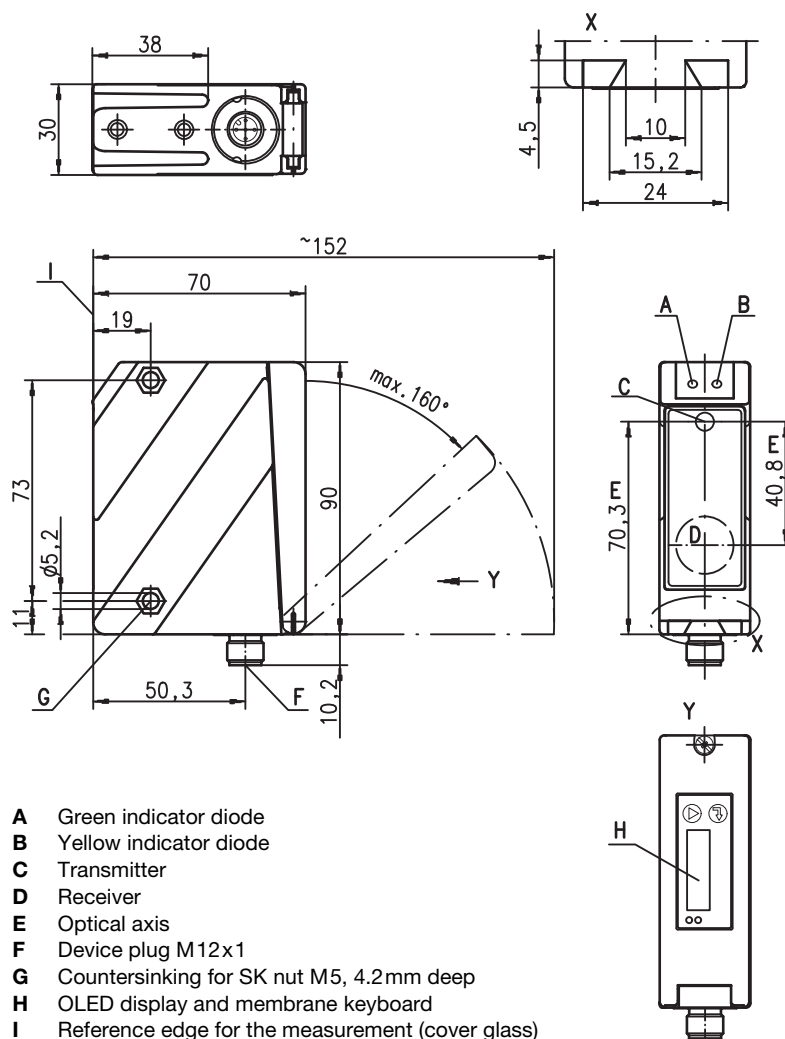


### Accessories:

(available separately)

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

## Dimensioned drawing



## Electrical connection

ODSL 96B M/V6...-S12

18-30V DC +	1	■	br/BN
teach in	2	■	ws/WH
GND	3	■	bl/BU
○ ● ⊗	4	■	sw/BK
1-10V	5	■	gr/GY

ODSL 96B M/C6...-S12		
18-30V DC +	1	br/BN
teach in	2	ws/WH
GND	3	bl/BU
○ ● ⊗	4	sw/BK
4-20mA	5	gr/GY

## 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 $U_B$ <sup>6)</sup>	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 150mA
Switching output	push-pull switching output <sup>7)</sup> , PNP light switching, NPN dark switching
Signal voltage high/low	≥ ( $U_B - 2V$ ) / ≤ 2V
Analog output	voltage 1 ... 10V, $R_L \geq 2k\Omega$ current 4 ... 20mA, $R_L \leq 500\Omega$

### Indicators

	Teach-in on GND	Teach-in on $+U_B$
Green LED	continuous light	ready
	flashing	fault
	off	teach event
Yellow LED	continuous light	no voltage
	flashing	object inside teach-in measurement distance
	off	teach event
		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 <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  $U_B$ , measurement object  $\geq 50 \times 50 \text{ mm}^2$

2) Minimum and maximum value depend on measurement distance

3) Same object, identical environmental conditions, measurement object  $\geq 50 \times 50 \text{ mm}^2$

4) Typ.  $\pm 0.02\%$ /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

ODSL 96B M/C6.C1S-1500-S12 - 02

ODSL 96B M/V6.C1S-1500-S12 - 02

**ODSL 96B**

**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**

