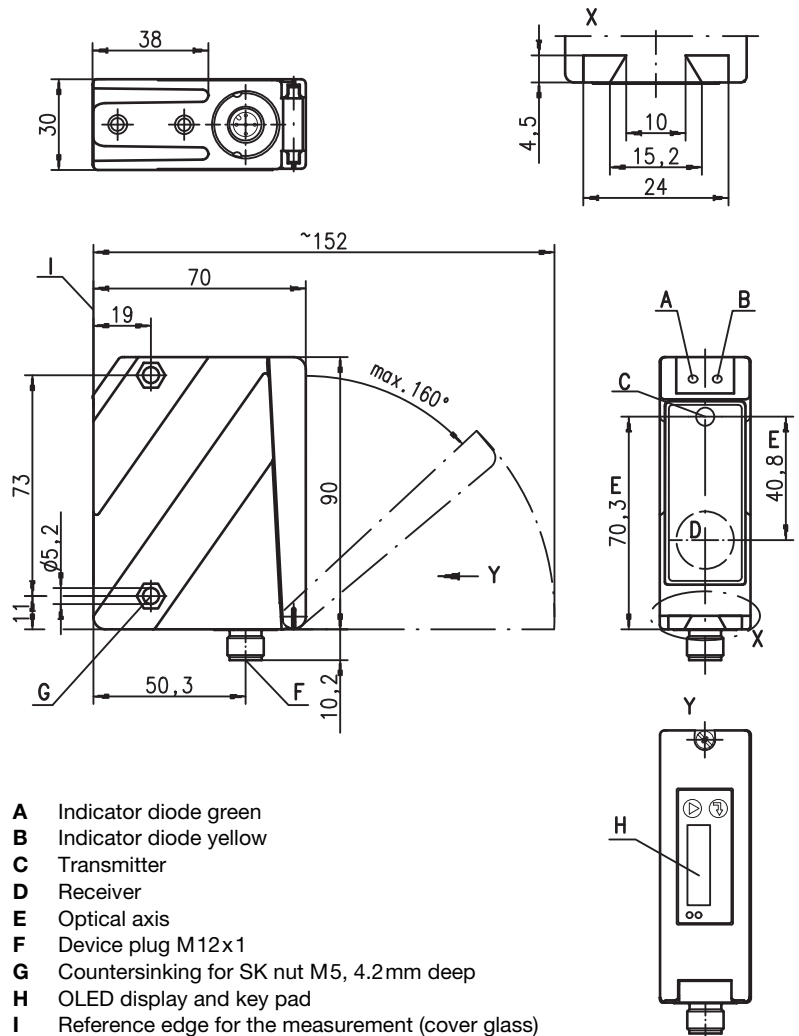


**ODSL 96B**

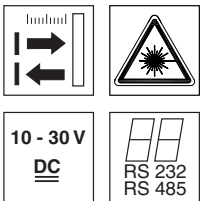
**Optical laser distance sensors**



**Dimensioned drawing**



en 02-2012/11 50108382

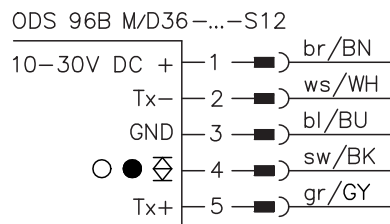
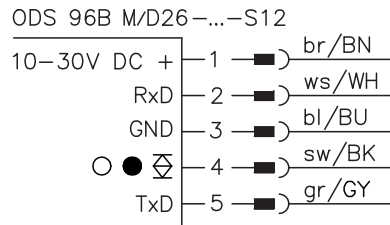


**150 ... 2000mm**

- Reflection-independent distance information
- Highly insensitive to extraneous light
- RS 232 or RS 485 interface
- Measurement transmission configurable (14 bit, 16 bit, ASCII, remote operation)
- Baud rate 9600 ... 57600Bd
- PC/OLED display and key pad for configuration
- Measurement value is indicated in mm on OLED display
- Measurement mode configurable

- 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 • DS\_ODSL96BMD2000\_en\_50108382.fm

## Specifications

### Optical data

Measurement range <sup>1)</sup>	150 ... 2000mm
Resolution <sup>2)</sup>	1 ... 3mm
Light source	laser
Wavelength	655nm (visible red light)
Light spot	divergent, 2x6mm <sup>2</sup> at 2m
Laser warning notice	see remarks

### Error limits (relative to measurement distance)

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

### Timing

Measurement time	1 ... 5 <sup>1)</sup> ms
Response time <sup>1)</sup>	≤ 15ms
Delay before start-up	≤ 300ms

### Electrical data

Operating voltage U <sub>B</sub>	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U <sub>B</sub>
Open-circuit current	≤ 150mA
Switching output	push-pull switching output <sup>5)</sup> , PNP light switching, NPN dark switching
Signal voltage high/low	≥ (U <sub>B</sub> -2 V)/≤ 2V
Serial interface	RS 232/RS 485, 9600 ...57600Bd, 1 start bit, 8 data bits, 1 stop bit, no parity
Transmission protocol	14 bit, 16 bit, ASCII, Remote Control

### Indicators

Green LED	continuous light	<b>teach-in on GND</b>	<b>teach-in on +U<sub>B</sub></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 <sup>6)</sup>	1, 2, 3
VDE safety class <sup>7)</sup>	II, all-insulated
Protection class	IP 67, IP 69K <sup>8)</sup>
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Reflectivity 6% ... 90%, complete measurement range, at 20°C, medium range U<sub>B</sub>, measurement object ≥ 50x50mm<sup>2</sup>, depending on the measurement transmission type and the baud rate
- 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) The push-pull switching outputs must not be connected in parallel
- 6) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 7) Rating voltage 250VAC, with cover closed
- 8) 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.


## Transmission protocol

Factory setting: 9600Bd, 1 start bit, 8 data bits, 1 stop bit, transmission protocol ASCII measurement value

Transmission format: **MMMMM<CR>**

**MMMMM** = measurement value 5 digits in mm (resolution 1 mm)

**<CR>** = ASCII character "Carriage Return" (x0D)

 Further information about available transmission protocols may be found in the technical description "Optical distance sensors ODS 96B".

## Order guide

	Designation	Part No.
<b>With M12 connector</b>		
RS 232 interface	ODSL 96B M/D26-2000-S12	501 06597
RS 485 interface	ODSL 96B M/D36-2000-S12	501 06598

ODSL 96B M/D26-2000-S12 - 02  
ODSL 96B M/D36-2000-S12 - 02

## 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	

LASER LIGHT DO NOT STARE INTO BEAM	
Maximum Output:	1.2mW
Pulse duration:	22ms
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.