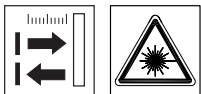


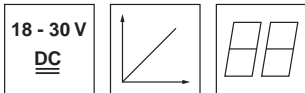
**ODSL 9**

**Optical laser distance sensors**

en 01-2010/02 50112185

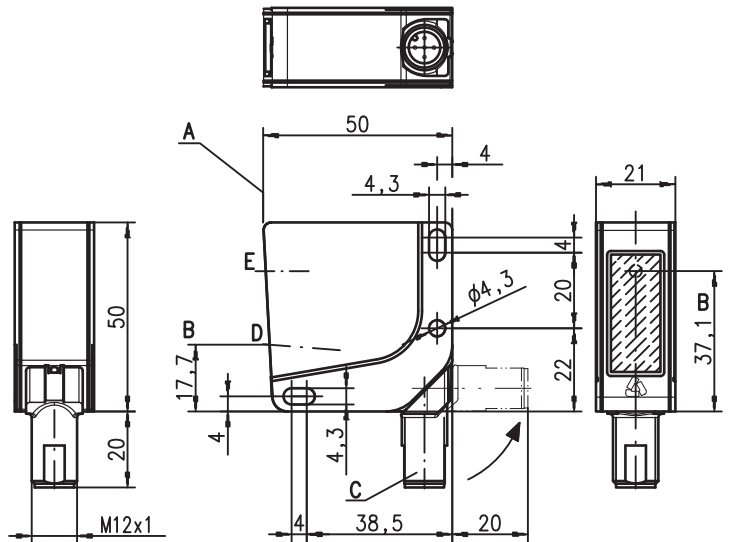


**50 ... 450mm**

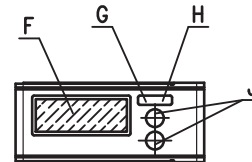


- Large measurement range
- Reflection-independent distance information
- Highly insensitive to extraneous light
- Measurement value is indicated in mm on LC display
- Configurable measurement mode
- Configurable measurement data preprocessing and filter
- M12 turning connector

**Dimensioned drawing**

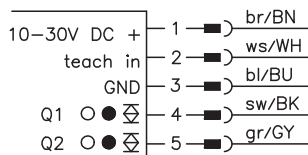


- A** Reference edge for the measurement
- B** Optical axis
- C** Device plug M12
- D** Receiver
- E** Transmitter
- F** LCD display
- G** Indicator diode yellow
- H** Indicator diode green
- J** Control buttons

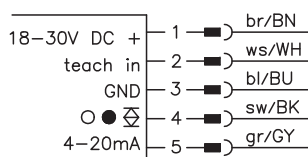


**Electrical connection**

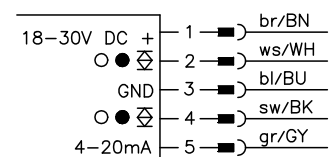
ODSL 9/66...



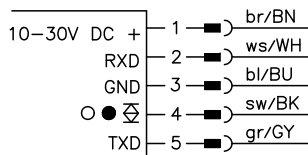
ODSL 9/C6...



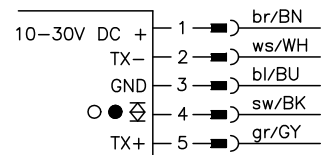
ODSL 9/C66...



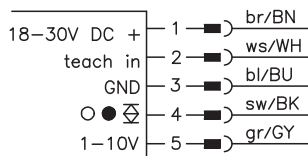
ODSL 9/D26...



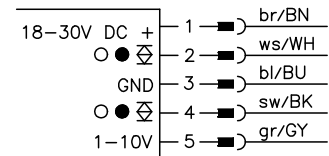
ODSL 9/D36...



ODSL 9/V6...



ODSL 9/V66...

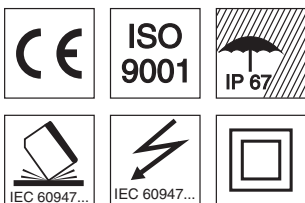


**Accessories:**

(available separately)

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

We reserve the right to make changes • DS\_ODSL9\_450\_en.fm



## Specifications

### Optical data

Measurement range <sup>1)</sup>	50 ... 450mm
Resolution	0.1mm
Light source	laser
Wavelength	655nm
Light spot	divergent, 1x1mm <sup>2</sup> at 450mm
Laser warning notice	see remarks

### Error limits (relative to measurement distance)

Absolute measurement accuracy <sup>1)</sup>	± 1%
Repeatability <sup>2)</sup>	± 0.5%
B/W detection thresh. (6 ... 90% rem.)	≤ 0.5%
Temperature compensation	yes <sup>3)</sup>

### Timing

Measurement time	2ms <sup>1)</sup>
Response time	≤ 6ms
Delay before start-up	≤ 300ms

### Electrical data

Operating voltage U <sub>B</sub>	...C6/C66/V6/V66 ...D26/D36/66	18 ... 30VDC (incl. residual ripple) 10 ... 30VDC (incl. residual ripple)
Residual ripple		≤ 15% of U <sub>B</sub>
Open-circuit current		≤ 180mA
Switching output		push-pull switching output <sup>4)</sup> , PNP light switching, NPN dark switching
Signal voltage high/low		≥ (U <sub>B</sub> -2 V)/≤ 2V
Analog output	...V6/V66 ...C6/C66	voltage 1 ... 10V / 0 ... 10V / 1 ... 5V / 0 ... 5V, R <sub>L</sub> ≥ 2kΩ current 4 ... 20mA, R <sub>L</sub> ≤ 500Ω
Serial interface	...D26/D36	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

		Teach-in on GND	Teach-in on +U <sub>B</sub>
Green LED	continuous light flashing off	ready fault no voltage	teaching procedure
Yellow LED	continuous light flashing off	object inside teach-in measurement distance object outside teach-in measurement distance	teaching procedure

### Mechanical data

Housing	plastic
Optics cover	glass
Weight	approx. 50g
Connection type	M12 connector, 5-pin

### Environmental data

Ambient temp. (operation/storage)	-20°C ... +50°C / -30°C ... +70°C
Protective circuit <sup>5)</sup>	1, 2, 3
VDE safety class <sup>6)</sup>	II, all-insulated
Protection class	IP 67
Laser class	2 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Luminosity coefficient 6% ... 90%, complete measurement range, "Standard" operating mode, at 20°C, medium range of U<sub>B</sub>, measurement object ≥ 50x50mm<sup>2</sup>
- 2) Same object, identical environmental conditions, measurement object ≥ 50x50mm<sup>2</sup>
- 3) Typ. ± 0.02 %/K
- 4) The push-pull switching outputs must not be connected in parallel
- 5) 1=polarity reversal protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 6) Rating voltage 50VAC

## Order guide

	Designation	Part No.
<b>Analog current output</b>		
1 teachable push/pull output	ODSL 9/C6-450-S12	50111157
2 push/pull outputs	ODSL 9/C66-450-S12	50111161
<b>Analog voltage output</b>		
1 teachable push/pull output	ODSL 9/V6-450-S12	50111158
2 push/pull outputs	ODSL 9/V66-450-S12	50111162
<b>Serial digital output</b>		
RS 232, 1 push/pull output	ODSL 9/D26-450-S12	50111159
RS 485, 1 push/pull output	ODSL 9/D36-450-S12	50111160
<b>Only switching outputs</b>		
2 teachable push/pull outputs	ODSL 9/66-450-S12	50111163

## Tables

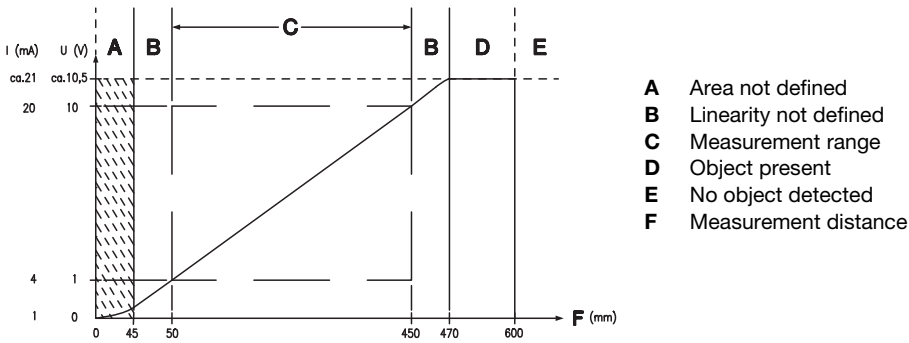
## Diagrams

## Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- **Approved purpose:** The ODSL 9 laser distance sensors are optoelectronic sensors for the optical, contactless measurement of the distance to objects. This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

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	

**Analog output: characteristic curve for factory setting**



**Serial output: transmission protocol for factory setting**

9600Bd, 1 start bit, 8 data bits, 1 stop bit,  
transmission protocol ASCII measurement values

Transmission format: **MMMMM<CR>**

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

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

