

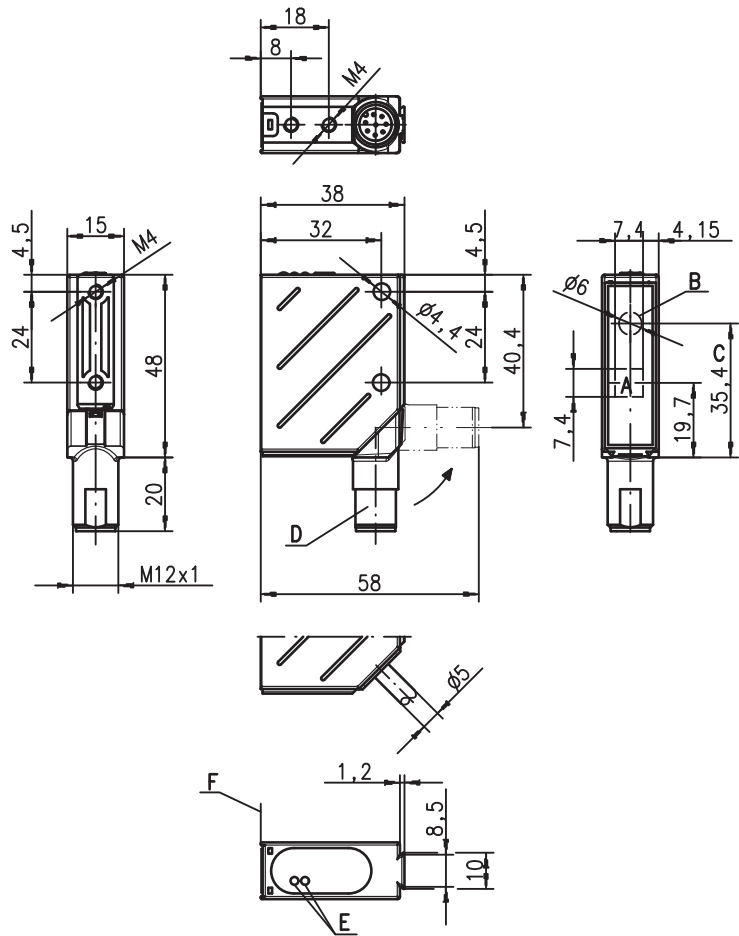
**ODSL 8**

**Optical laser distance sensors**

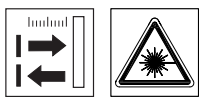
Art. Nr. 501 09345



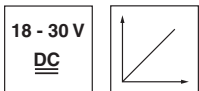
**Dimensioned drawing**



- A Receiver
- B Transmitter
- C Optical axis
- D 90° turning connector
- E LED yellow, green
- F Reference edge for the measurement (cover glass)



**25 ... 45 mm**



- Reflection-independent distance information
- Highly insensitive to extraneous light
- Analogue current and voltage output
- Measurement range and mode adjustable
- Teachable switching output
- M12 turning connector

**Electrical connection**

18-30V DC +	1	ws/WH
	2	br/BN
GND	3	gn/GN
	4	ge/YE
teach in	5	gr/GR
4-20mA	6	rs/PK
1-10V	7	bl/BU
Analog GND	8	rt/RD



**Accessories:**

(available separately)

- Mounting systems
- Configuration adaptor UPG 5
- Configuration software
- Cable with M12 connector (K-D ...)
- Control guard

We reserve the right to make changes • ods\_21gb.fm

## Specifications

### Optical data

Measurement range <sup>1)</sup>	25 ... 45mm
Resolution	0.01 mm
Light source	laser
Wavelength	650nm (visible red light)
Light spot	divergent, 1x6mm <sup>2</sup> at 45mm
Laser warning notice	see remarks

### Error limits (relative to measurement distance)

Absolute measurement accuracy <sup>1)</sup>	0.5%
Repeatability <sup>2)</sup>	0.1%
b/w detection thresh. (6 ... 90% rem.)	≤ 0.5%

### Timing

Measurement time	2 ... 5 ms
Response time	≤ 150 ms
Delay before start-up	≤ 300 ms

### Electrical data

Operating voltage U <sub>B</sub>	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U <sub>B</sub>
Open-circuit current	≤ 50mA
Switching output	PNP transistor, high-active
Signal voltage high/low	≥ (U <sub>B</sub> -2 V)/≤ 2V
Analogue output	voltage 1 ... 10V, R <sub>L</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	teaching procedure
Yellow LED	continuous light	no voltage	
	flashing	object inside teach-in measurement distance	teaching procedure
	off	object outside teach-in measurement distance	

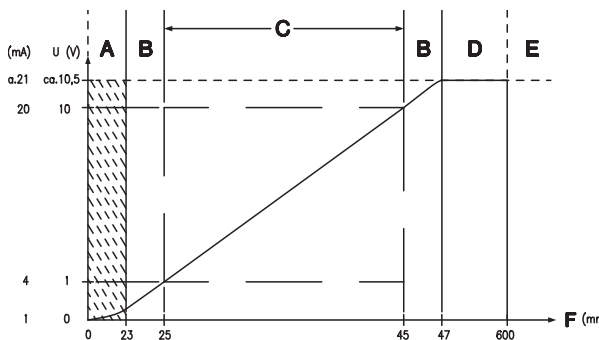
### Mechanical data

Housing	metal
Optics cover	glass
Weight	70g
Connection type	M12 connector, 8-pin, turning

### Environmental data

Ambient temp. (operation/storage)	-20°C ... +50°C/-40°C ... +70°C
Protective circuit <sup>3)</sup>	2, 3
VDE safety class <sup>4)</sup>	II, all-insulated
Protection class <sup>5)</sup>	IP 67, IP 69K <sup>6)</sup>
Laser class	2 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Luminosity coefficient 6% ... 90%, over the entire temperature range, measurement object ≥ 50x50mm<sup>2</sup>
- 2) Same object, identical environmental conditions, measurement object ≥ 50x50mm<sup>2</sup>
- 3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) Rating voltage 250VAC
- 5) In stop position of the turning connector (turning connector locked)
- 6) 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



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

## Order guide

	<b>Designation</b>	
<b>With M12 connector</b>	ODSL 8/V4-45-S12	501 01883
<b>Configuration adaptor</b>	UPG 5	500 39627

## Tables

## Diagrams

## Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- **Teaching procedure:** Position measured object at desired measurement distance. Connect teach input to +U<sub>B</sub> for ≥ 2s. Reconnect teach input to GND, switching output is programmed.
- The voltage output of the analogue version is calibrated before delivery.
- **Approved purpose:** The ODSL 8 laser distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.

LASER LIGHT DO NOT STARE INTO BEAM	
Maximum Output:	1.2mW
Pulse duration:	4ms
Wavelength:	650nm
CLASS 2 LASER PRODUCT IEC 60825-1:1993+A2:2001 Complies with 21 CFR 1040.10	