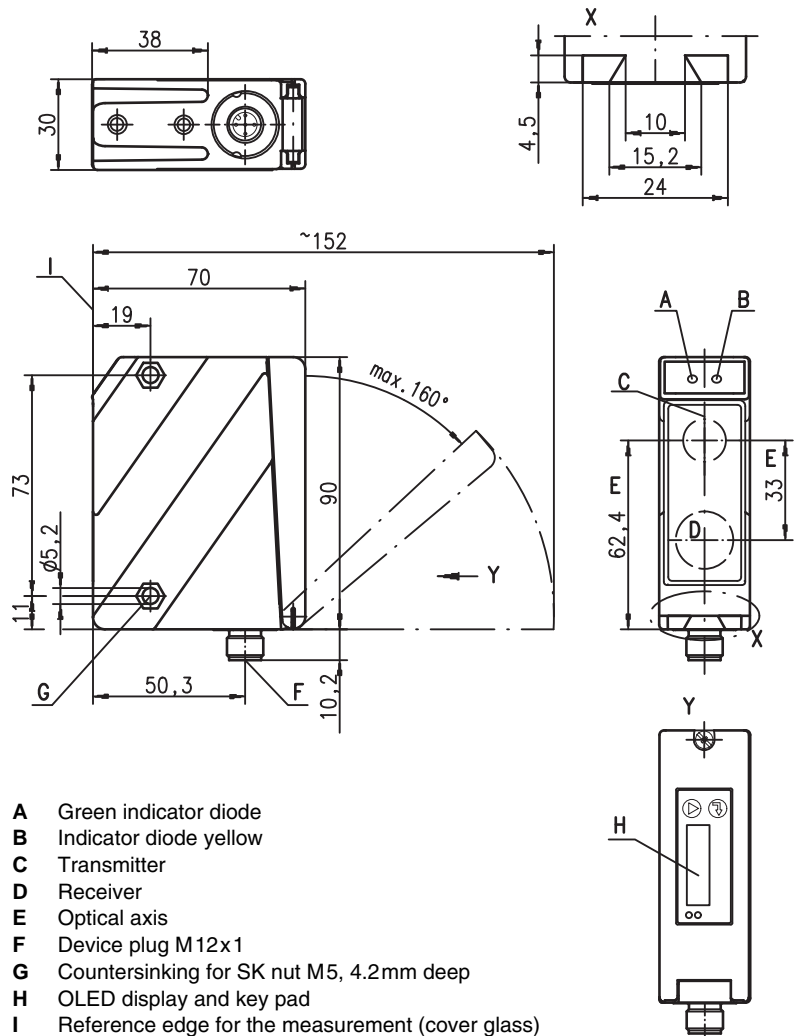


**ODS 96B**

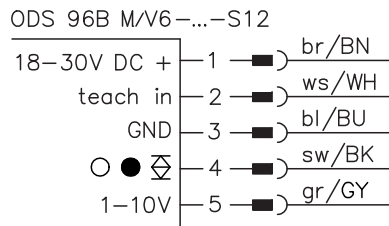
**Optical distance sensors**



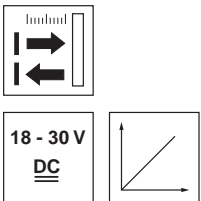
**Dimensioned drawing**



**Electrical connection**



120 ... 1400 mm



- Reflection-independent distance information
- Highly insensitive to extraneous light
- Analogue voltage output
- PC/OLED display and key pad for configuration
- Measurement value is indicated in mm on OLED display
- Measurement range and mode adjustable
- Switching output and teachable analogue output



**Accessories:**

(available separately)

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

We reserve the right to make changes • DS\_ODS96B\_M\_V6\_1400\_S12\_en.fm

## Specifications

### Optical data

Measurement range <sup>1)</sup>	120 ... 1400 mm
Resolution <sup>2)</sup>	0.1 ... 2 mm
Light source	LED
Wavelength	880 nm (infrared light)
Light spot	approx. 15 x 15 mm <sup>2</sup> at 600 mm

### Error limits (relative to measurement distance)

Absolute measurement accuracy <sup>1)</sup>	± 1.5% up to 800 mm, ± 2% up to 1400 mm
Repeatability <sup>3)</sup>	± 0.5% up to 800 mm, ± 1% up to 1400 mm
B/w detect. thresholds (6 ... 90% rem.)	≤ 1% up to 800 mm, ≤ 2% up to 1400 mm
Temperature compensation	yes <sup>4)</sup>

### Timing

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

### Electrical data

Operating voltage U <sub>B</sub> <sup>5)</sup>	18 ... 30 VDC (incl. residual ripple)
Residual ripple	≤ 15% of U <sub>B</sub>
Open-circuit current	≤ 150 mA
Switching output	push-pull switching output <sup>6)</sup> , PNP light switching, NPN dark switching
Signal voltage high/low	≥ (U <sub>B</sub> - 2 V) / ≤ 2 V
Analogue output	voltage 1 ... 10 V / 0 ... 10 V / 1 ... 5 V / 0 ... 5 V, R <sub>L</sub> ≥ 2 kΩ

### 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	

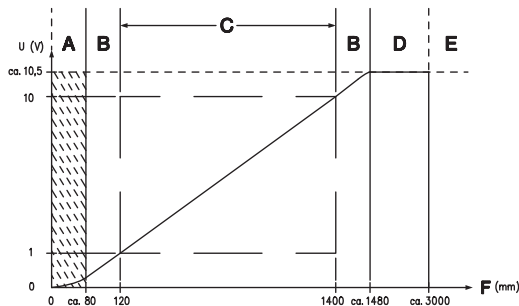
### Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	380 g
Connection type	M 12 connector

### Environmental data

Ambient temp. (operation/storage)	-20°C ... +50°C / -30°C ... +70°C
Protective circuit <sup>7)</sup>	1, 2, 3
VDE safety class <sup>8)</sup>	II, all-insulated
Protection class	IP 67, IP 69K <sup>9)</sup>
Standards applied	IEC/EN 60947-5-2, UL 508

- 1) Luminosity coefficient 6% ... 90%, complete measurement range, at 20°C, medium range of U<sub>B</sub>, measurement object ≥ 50x50 mm<sup>2</sup>
- 2) Minimum and maximum value depend on measurement distance
- 3) Same object, identical environmental conditions, measurement object ≥ 50x50 mm<sup>2</sup>
- 4) Typ. ± 0.02 %/K
- 5) For UL applications: for use in class 2 circuits according to NEC only
- 6) The push-pull switching outputs must not be connected in parallel
- 7) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs
- 8) Rating voltage 250 VAC, with cover closed
- 9) 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



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

## Tables

## Diagrams

## Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- **Approved purpose:** 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.

## Order guide

	Designation	Part No.
With M12 connector	ODS 96B M/V6-1400-S12	50110231