

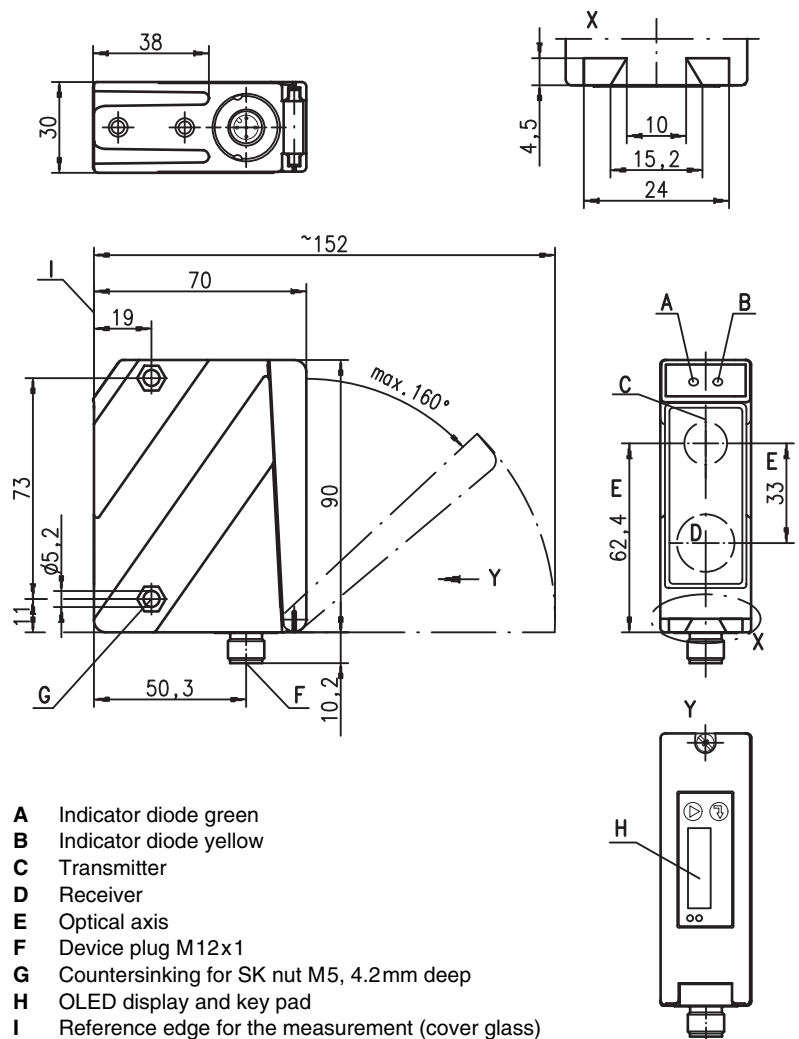
ODS 96B

Optical distance sensors

Art. Nr. 501 08381

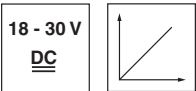


Dimensioned drawing



- 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)

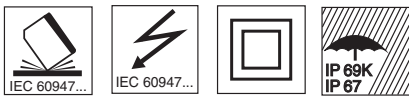
120 ... 1400mm



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

Electrical connection

ODS 96B M/C66.01-...-S12	
18-30V DC +	1 —■— br/BN
2. warn ○ ● ⚡	2 —■— ws/WH
GND	3 —■— bl/BU
1. warn ○ ● ⚡	4 —■— sw/BK
4-20mA	5 —■— gr/GY



Accessories:

(available separately)

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

We reserve the right to make changes • ods_4f6gb.fm

Specifications

Optical data

Measurement range ¹⁾	120 ... 1400mm
Resolution ²⁾	0.1 ... 0.5mm
Light source	LED
Wavelength	880nm (infrared light)
Light spot	approx. 15 x 15mm ² at 600mm

Error limits (relative to measurement distance)

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

Timing

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

Electrical data

Operating voltage U _B ⁵⁾	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U _B
Open-circuit current	≤ 150mA
Switching output	2 push-pull warning outputs ⁶⁾ , PNP light switching, NPN dark switching, respectively
Signal voltage high/low	≥ (U _B -2 V)/≤ 2V
Analogue output	current 4 ... 20mA, R _L ≤ 500Ω

Indicators

Green LED	continuous light	teach-in on GND	teach-in on +U_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	

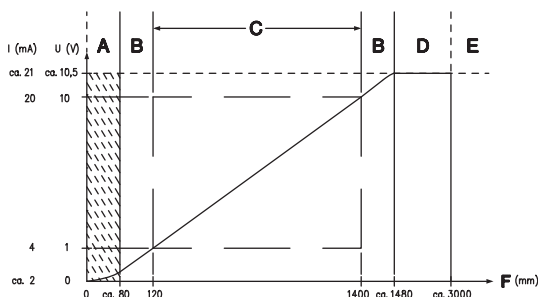
Mechanical data

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 ⁷⁾	1, 2, 3
VDE safety class ⁸⁾	II, all-insulated
Protection class	IP 67, IP 69K ⁹⁾
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Luminosity coefficient 6% ... 90%, complete measurement range, at 20°C, medium range of U_B, measurement object ≥ 50x50mm²
- 2) Minimum and maximum value depend on measurement distance
- 3) Same object, identical environmental conditions, measurement object ≥ 50x50mm²
- 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 250VAC, with cover closed
- 9) 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

With M12 connector

Current output	Designation	Part No.
	ODS 96B M/C66.01-1400-S12	501 06727

Tables

Diagrams

Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- Coding of the warning outputs:

Warning output		Meaning
1	2	
0	0	Distance measurement is impossible
0	1	Object below measurement range (short range)
1	0	Object beyond the measurement range (distant range)
1	1	Optimum function

- **Approved purpose:**
The ODS 96B distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.