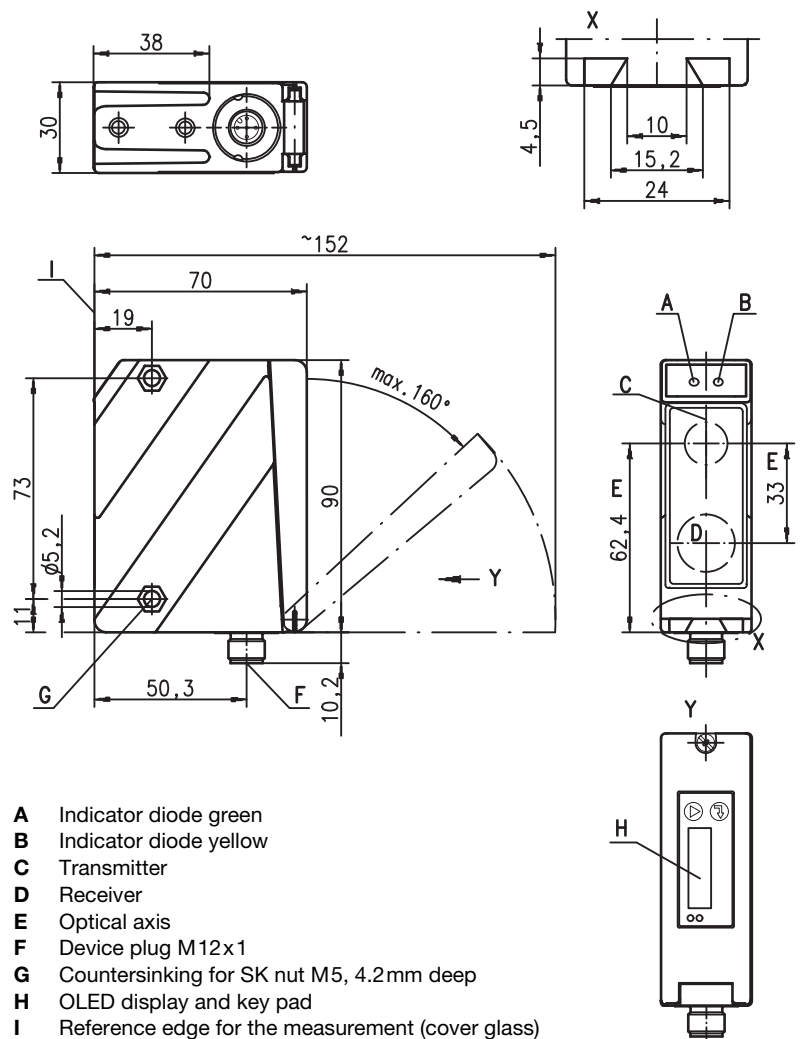


**ODS 96B**

**Optical distance sensors**



**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)

**Electrical connection**

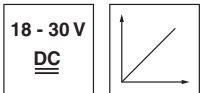
ODS 96B M/C66.01-...-S12	
18-30V DC +	1 —■— br/BN
2. warn	2 —●— ws/WH
GND	3 —■— bl/BU
1. warn	4 —■— sw/BK
4-20mA	5 —■— gr/GY

en 02-2012/11 50108381

We reserve the right to make changes • DS\_ODS96BMC66011400\_en\_50108381.fm



**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



**Accessories:**

(available separately)

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

## Specifications

### Optical data

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

### Error limits (relative to measurement distance)

Absolute measurement accuracy <sup>1)</sup>	± 1.5% up to 800mm, ± 2% up to 1400mm
Repeatability <sup>3)</sup>	± 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 <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>	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U <sub>B</sub>
Open-circuit current	≤ 150mA
Switching output	2 push-pull warning outputs <sup>5)</sup> , PNP light switching, NPN dark switching, respectively
Signal voltage high/low	≥ (U <sub>B</sub> -2 V)/≤ 2V
Analogue output	current 4 ... 20mA, R <sub>L</sub> ≤ 500Ω

### Indicators

Green LED	continuous light
	flashing
	off
Yellow LED	continuous light
	flashing
	off

### teach-in on GND

ready	
fault	teaching procedure
no voltage	
object inside teach-in measurement distance	teaching procedure
object outside teach-in measurement distance	

### teach-in on +U<sub>B</sub>

ready	
fault	teaching procedure
no voltage	
object inside teach-in measurement distance	teaching procedure
object outside teach-in measurement distance	

### Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	380g
Connection type	M12 connector

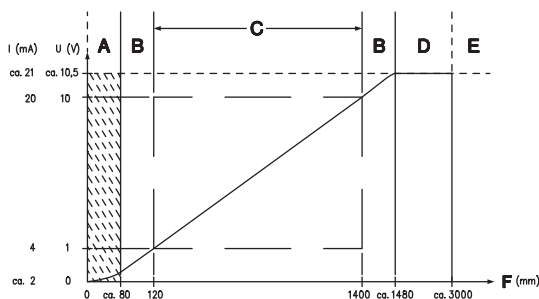
### Metal housing

diecast zinc
glass
380g
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) Luminosity coefficient 6% ... 90%, complete measurement range, at 20°C, medium range of U<sub>B</sub>, measurement object ≥ 50x50mm<sup>2</sup>
- 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.



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

## Order guide

	Designation	Part No.
<b>With M12 connector</b>		
Current output	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.