

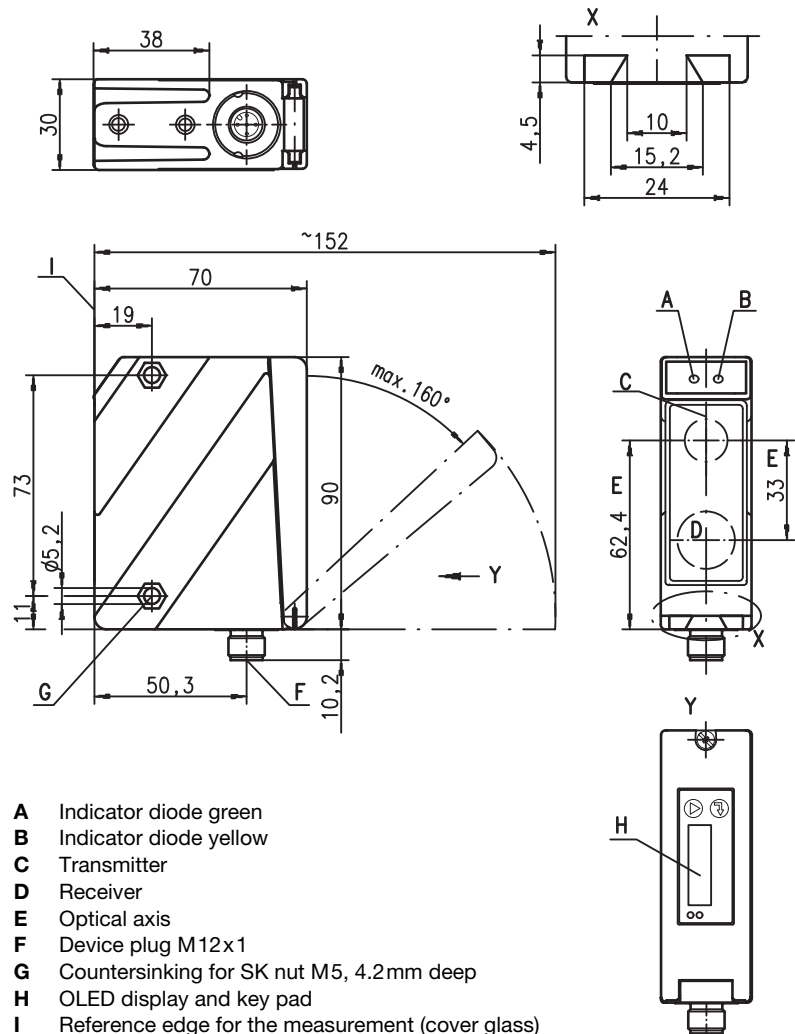
ODS 96B

Optical distance sensors

en 04-2012/11 50107945

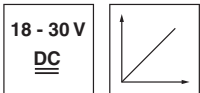


Dimensioned drawing



- 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)

100 ... 600mm



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

Electrical connection

ODS 96B M/V6...-S12	
18-30V DC +	1 — br/BN
teach in	2 — ws/WH
GND	3 — bl/BU
○ ● ⊕	4 — sw/BK
1-10V	5 — gr/GY

ODS 96B M/C6...-S12	
18-30V DC +	1 — br/BN
teach in	2 — ws/WH
GND	3 — bl/BU
○ ● ⊕	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 • DS_ODS96BMCV6600_en_50107945.fm

Specifications

Optical data

Measurement range ¹⁾	100 ... 600mm
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 %
Repeatability ³⁾	± 0.5 %
b/w detect. thresholds (6 ... 90% rem.)	≤ 1 %
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	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U _B
Open-circuit current	≤ 150mA
Switching output	push-pull switching output ⁵⁾ , PNP light switching, NPN dark switching
Signal voltage high/low	≥ (U _B -2 V)/≤ 2V
Analogue output	voltage 1 ... 10V, R _L ≥ 2kΩ current 4 ... 20mA, R _L ≤ 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_B

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

Mechanical data

Housing	
Optics cover	
Weight	
Connection type	

Metal housing

diecast zinc	
glass	
380g	
M12 connector	

Environmental data

Ambient temp. (operation/storage)	-20°C ... +50°C / -30°C ... +70°C
Protective circuit ⁶⁾	1, 2, 3
VDE safety class ⁷⁾	II, all-insulated
Protection class	IP 67, IP 69K ⁸⁾
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

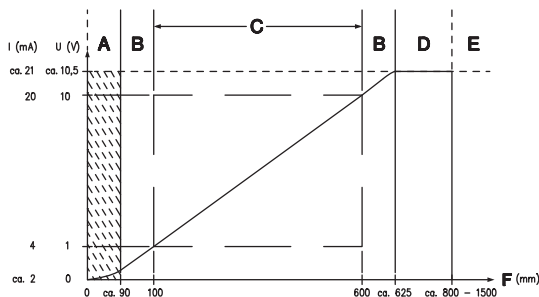
4) Typ. ± 0.02 %/K

5) 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.
With M12 connector		
Current output	ODS 96B M/C6-600-S12	501 06720
Voltage output	ODS 96B M/V6-600-S12	501 06721

Tables

Diagrams

Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- **Approved purpose:** The ODS 96B distance sensors are optical electronic sensors for the optical, contactless measurement of distance to objects.