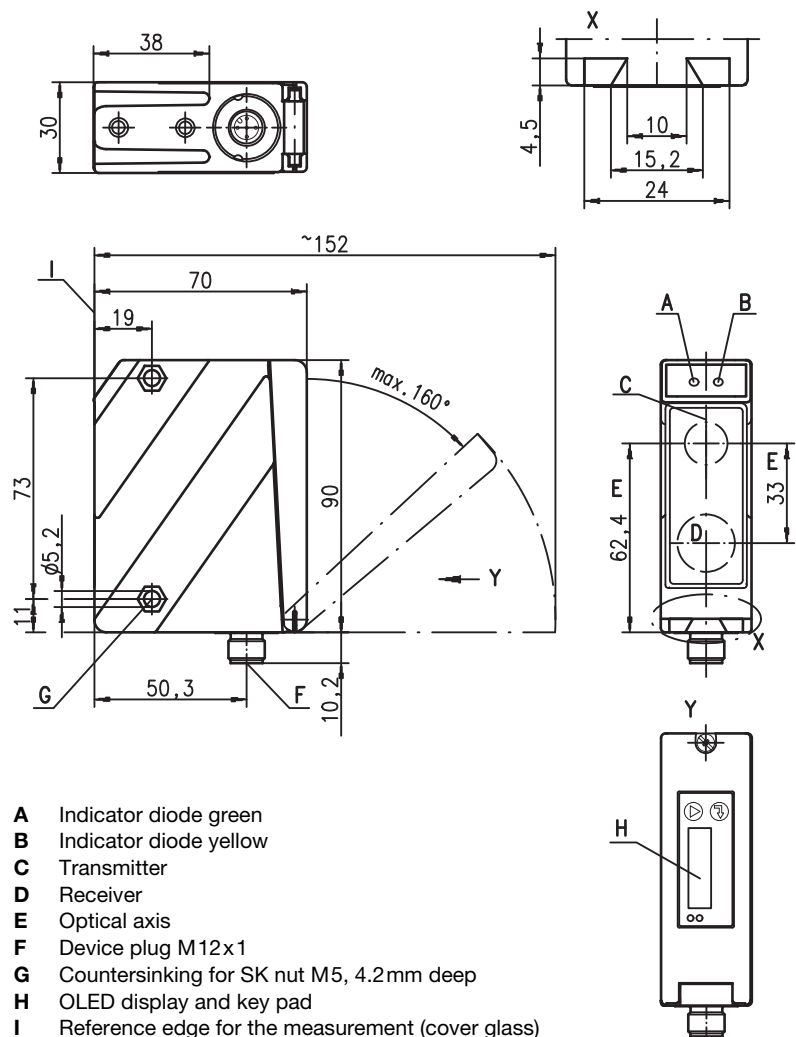


**ODSR 96B**

**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**

ODSR 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

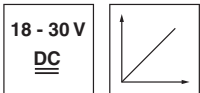
ODSR 96B M/C6...-S12	
18-30V DC +	1 — br/BN
teach in	2 — ws/WH
GND	3 — bl/BU
○ ● ⊕	4 — sw/BK
4-20mA	5 — gr/GY

en 04-2012/11 50107947

We reserve the right to make changes • DS\_ODSR96BMCV6600\_en\_50107947.fm



**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



**Accessories:**

(available separately)

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

## Specifications

### Optical data

Measurement range <sup>1)</sup>	100 ... 600mm
Resolution <sup>2)</sup>	0.1 ... 0.5mm
Light source	LED
Wavelength	635nm (visible red light)
Light spot	approx. 15 x 15mm <sup>2</sup> at 600mm
Laser warning notice	see remarks

### Error limits (relative to measurement distance)

Absolute measurement accuracy <sup>1)</sup>	± 1.5%
Repeatability <sup>3)</sup>	± 0.5%
b/w detect. thresholds (6 ... 90% rem.)	≤ 1%
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 $U_B$	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 150mA
Switching output	push-pull switching output <sup>5)</sup> , PNP light switching, NPN dark switching
Signal voltage high/low	≥ ( $U_B - 2$ V) / ≤ 2V
Analogue output	voltage 1 ... 10V, $R_L \geq 2k\Omega$ current 4 ... 20mA, $R_L \leq 500\Omega$

### Indicators

Green LED	continuous light	<b>teach-in on GND</b>	<b>teach-in on +<math>U_B</math></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	

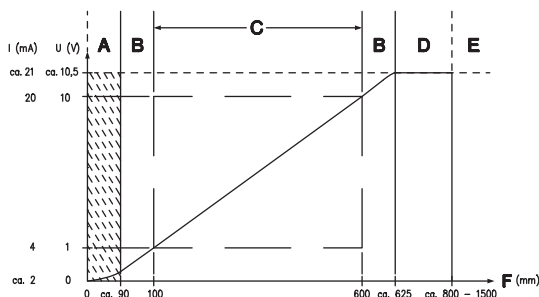
### Mechanical data

Housing	<b>Metal housing</b>
Optics cover	diecast zinc
Weight	glass
Connection type	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  $U_B$ , measurement object  $\geq 50 \times 50$ mm<sup>2</sup>
- 2) Minimum and maximum value depend on measurement distance
- 3) Same object, identical environmental conditions, measurement object  $\geq 50 \times 50$ mm<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

## Tables

## Diagrams

## Remarks

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

## Order guide

	Designation	Part No.
<b>With M12 connector</b>		
Current output	ODSR 96B M/C6-600-S12	501 06730
Voltage output	ODSR 96B M/V6-600-S12	501 06731