

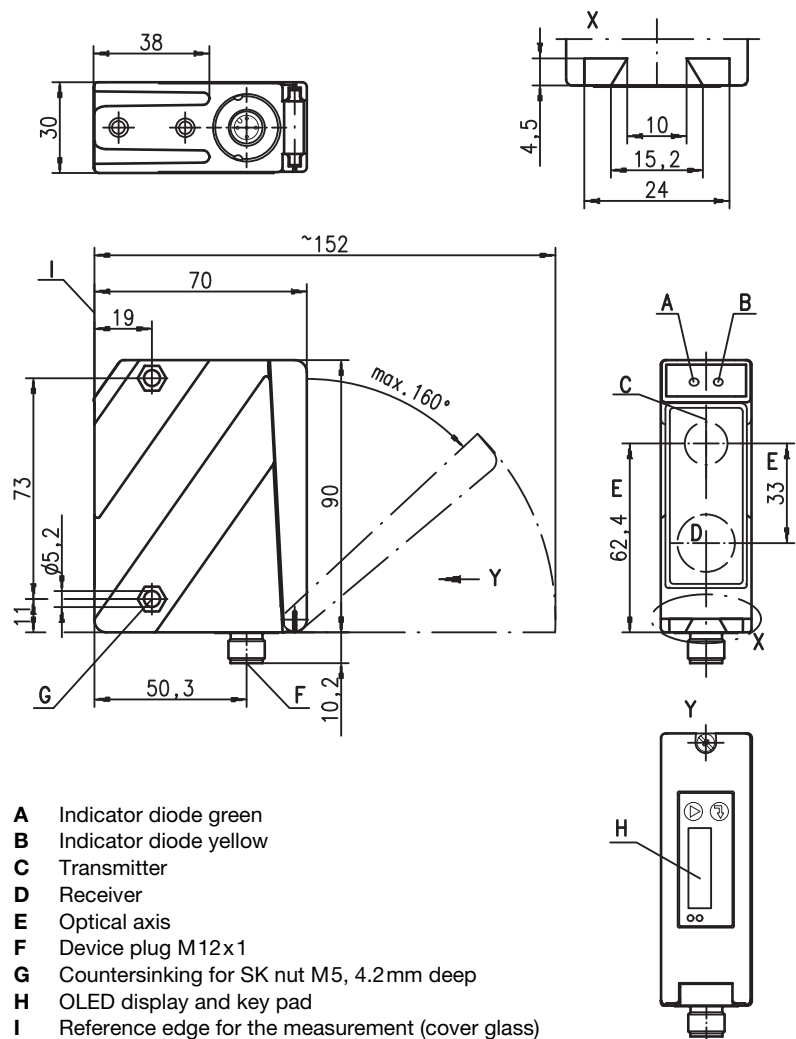
ODS 96B

Optical distance sensors

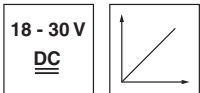
en 04-2012/11 50107945



Dimensioned drawing



100 ... 600mm



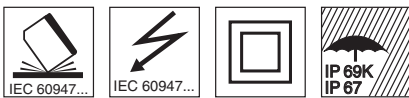
- Reflection-independent distance information
- Highly insensitive to extraneous light
- Analogue current or voltage output
- PC/OLED display and key pad for configuration
- Measurement value is indicated in mm on OLED display
- Measurement range and mode adjustable
- Teachable switching output and analogue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

- 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/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 |

| | |
|---------------------|------------|
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| 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 | |

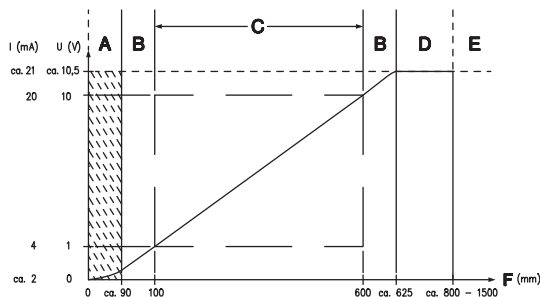
Metal housing

| | |
|---------------|--|
| 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.