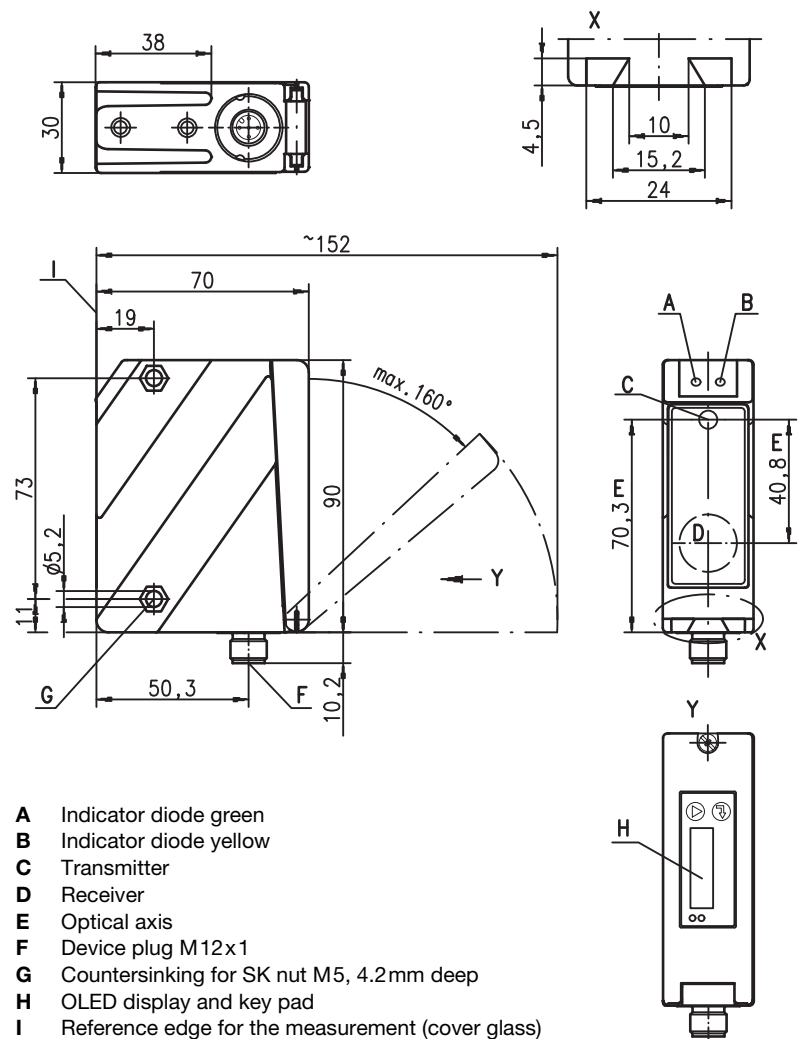


## ODSL 96B



### Dimensioned drawing



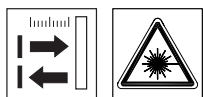
### Electrical connection

#### ODSL 96B M/V6-...-S12

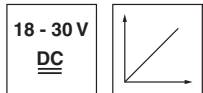
|             |   |       |
|-------------|---|-------|
| 18-30V DC + | 1 | br/BN |
| teach in    | 2 | ws/WH |
| GND         | 3 | bl/BU |
| ○ ● ⊗       | 4 | sw/BK |
| 1-10V       | 5 | gr/GY |

#### ODSL 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 |



150 ... 1200mm



- Wide rectangular-shaped light spot for measurements on objects with openings
- 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> | 150 ... 1200mm                                    |
| Resolution <sup>2)</sup>        | 0.1 ... 1.5mm                                     |
| Light source                    | laser                                             |
| Wavelength                      | 655nm (red light)                                 |
| Light spot                      | divergent, approx. 15 x 4mm <sup>2</sup> at 800mm |

### Error limits (relative to measurement distance)

|                                             |                                         |
|---------------------------------------------|-----------------------------------------|
| Absolute measurement accuracy <sup>1)</sup> | ± 1.5 % up to 800mm, ± 2 % up to 1200mm |
| Repeatability <sup>3)</sup>                 | ± 0.5 % up to 800mm, ± 1 % up to 1200mm |
| b/w detect. thresholds (6 ... 90% rem.)     | ≤ 1 % up to 800mm, ≤ 1.5 % up to 1200mm |
| 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                 | push-pull switching output <sup>5)</sup> ,<br>PNP light switching, NPN dark switching |
| Signal voltage high/low          | ≥ (U <sub>B</sub> -2 V)/≤ 2V                                                          |
| Analogue output                  | voltage 1 ... 10V, R <sub>i</sub> ≥ 2kΩ<br>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>

### Mechanical data

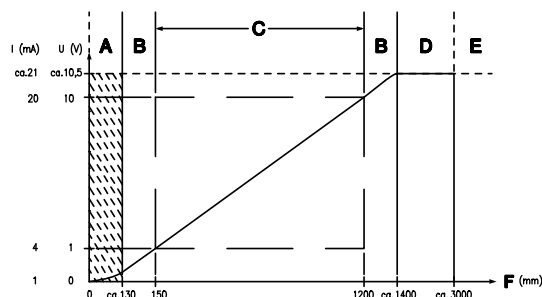
|                 |               |
|-----------------|---------------|
| Housing         | diecast zinc  |
| Optics cover    | glass         |
| Weight          | 380g          |
| Connection type | M12 connector |

### Metal housing

### 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>       |
| Laser class                       | 2 (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

### With M12 connector

|                |                           |           |
|----------------|---------------------------|-----------|
| Current output | ODSL 96B M/C6.XL-1200-S12 | 501 06736 |
| Voltage output | ODSL 96B M/V6.XL-1200-S12 | 501 06737 |

## Tables

## Diagrams

## Remarks

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

|                                            |       |
|--------------------------------------------|-------|
| LASER LIGHT<br>DO NOT STARE INTO BEAM      |       |
| Maximum Output:                            | 1.2mW |
| Pulse duration:                            | 22ms  |
| Wavelength:                                | 655nm |
| CLASS 2 LASER PRODUCT<br>EN60825-1:2003-10 |       |

|                                                                                   |       |
|-----------------------------------------------------------------------------------|-------|
| LASER LIGHT<br>DO NOT STARE INTO BEAM                                             |       |
| Maximum Output:                                                                   | 1.2mW |
| Pulse duration:                                                                   | 22ms  |
| Wavelength:                                                                       | 655nm |
| CLASS 2 LASER PRODUCT<br>IEC 60825-1:1993+A2:2001<br>Complies with 21 CFR 1040.10 |       |