



## Photoelectric sensors W12-3, Through-beam photoelectric sensor

WSE12-3P1111



**Model Name** > [WSE12-3P1111](#)  
**Part No.** > [1041464](#)



*Illustration may differ*

#### At a glance

- Through-beam variant
- Rugged die-cast zinc housing optional Teflon® coating
- PinPoint LED technology with highly visible light spot
- Chemically, thermally and mechanically resistant metal housing
- Dovetail mounting - mounting holes and oblong holes
- Highly visible status LEDs
- Operating range up to 20 m

#### Your benefits

- Outstanding sensor performance in small housings
- Reliable object detection of difficult targets using best-in-class technology
- A wide range of different sensor housings and connection systems ensures optimal integration of sensors in the system
- Many options for protective housings - super tough VISTAL™, metal or highly resistant plastic, ensures that the sensor can be installed without damage
- Wide range of accessories ensures easy installation, quick commissioning and maximum sensor performance for varying application needs



#### Features

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor |
| Dimensions (W x H x D):          | 15.6 mm x 48.5 mm x 42 mm         |
| Housing design (light emission): | Rectangular                       |
| Sensing range max.:              | 0 m ... 20 m                      |
| Sensing range:                   | 0 m ... 15 m                      |
| Type of light:                   | Infrared light                    |
| Light source:                    | LED <sup>1)</sup>                 |
| Wave length:                     | 850 nm                            |
| Angle of dispersion:             | Ca. 1.5 °                         |
| Adjustment:                      | Potentiometer, 5-turn             |

<sup>1)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

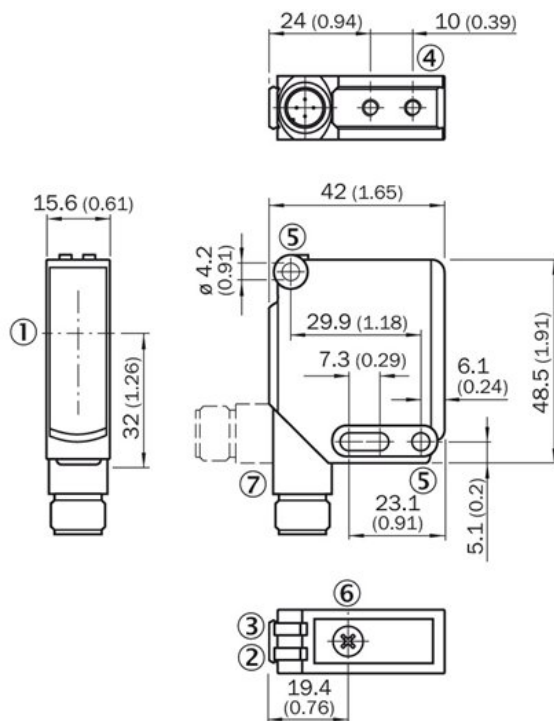
#### Mechanics/electronics

|                            |                                   |
|----------------------------|-----------------------------------|
| Supply voltage:            | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                    | ≤ 5 Vpp <sup>2)</sup>             |
| Power consumption, sender: | ≤ 30 mA <sup>3)</sup>             |

|                                       |                                                                                                                           |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Power consumption, receiver:          | $\leq 15 \text{ mA}$ <sup>4)</sup>                                                                                        |
| Output type:                          | PNP                                                                                                                       |
| Output function:                      | Complementary                                                                                                             |
| Switching mode:                       | Light/dark-switching                                                                                                      |
| Signal voltage PNP HIGH/LOW:          | $> U_v - 2,5 \text{ V} / \text{ca. } 0 \text{ V}$                                                                         |
| Output current I <sub>max.</sub> :    | 100 mA                                                                                                                    |
| Response time:                        | $\leq 330 \mu\text{s}$ <sup>5)</sup>                                                                                      |
| Switching frequency:                  | 1,500 Hz <sup>6)</sup>                                                                                                    |
| Connection type:                      | Cable, 4-wire, 2 m <sup>7)</sup>                                                                                          |
| Cable material:                       | PVC                                                                                                                       |
| Conductor cross-section:              | 0.25 mm <sup>2</sup>                                                                                                      |
| Circuit protection:::                 | A, C, D <sup>8)</sup> <sup>9)</sup> <sup>10)</sup>                                                                        |
| Protection class:                     | II                                                                                                                        |
| Weight:                               | 200 g                                                                                                                     |
| Special device:                       | -                                                                                                                         |
| Housing material:                     | Metal                                                                                                                     |
| Enclosure rating:                     | IP 66<br>IP 67<br>IP 69K                                                                                                  |
| Test input sender off:                | TE to 0 V                                                                                                                 |
| Ambient operating temperature:        | -40 °C ... 60 °C                                                                                                          |
| Ambient storage temperature:          | -40 °C ... 75 °C                                                                                                          |
| Part number of individual components: | Receiver, WE12-3P1111, 2046737Receiver, WE12-3P1111, 2046737,<br>Sender, WS12-3D1110, 2046739Sender, WS12-3D1110, 2046739 |
| UL File No.:                          | NRKH.E181493 & NRKH7.E181493                                                                                              |

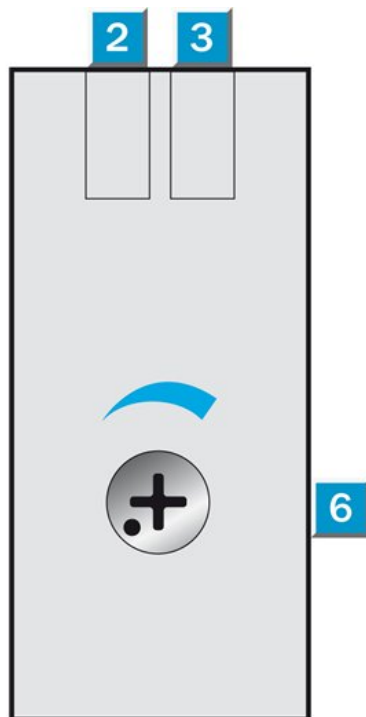
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A  
<sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances  
<sup>3)</sup> <sup>4)</sup> Without load  
<sup>5)</sup> Signal transit time with  
<sup>6)</sup> With light/dark ratio 1:1  
<sup>7)</sup> Do not bend below 0 °C  
<sup>8)</sup> A =  $V_S$  connections reverse-polarity protected  
<sup>9)</sup> C = interference suppression  
<sup>10)</sup> D = outputs  
 overcurrent and short-circuit protected

## Dimensional drawing



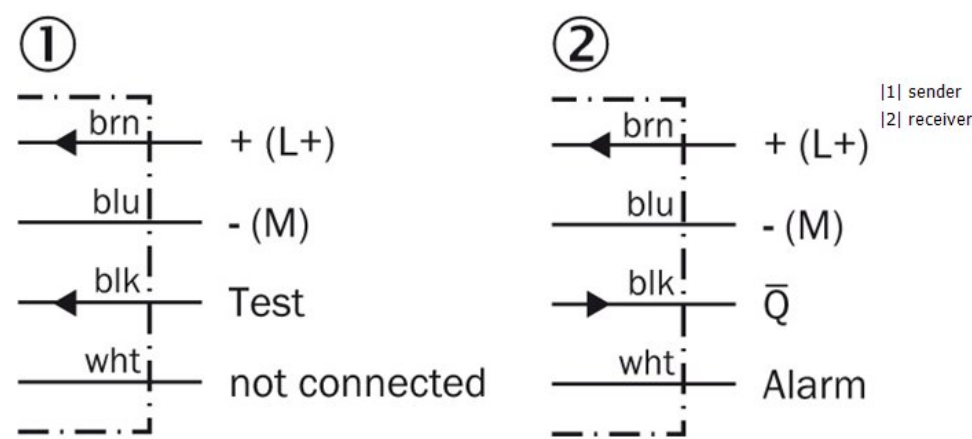
- [1] Optical axis
- [2] LED indicator yellow: Light received
- [3] Green LED indicator: supply voltage active
- [4] M4 threaded mounting hole, 4 mm deep
- [5] Mounting hole,  $\varnothing$  4.2 mm
- [6] Sensitivity adjustment: poti
- [7] Connection

## Adjustments possible

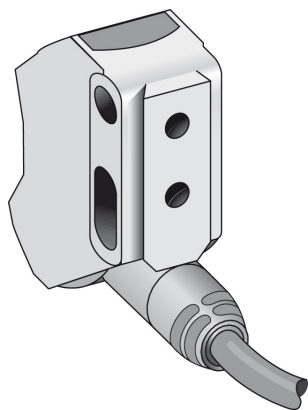


- [2] LED indicator yellow: Light received
- [3] Green LED indicator: supply voltage active
- [6] Sensitivity adjustment: poti

Connection diagram



Connection type



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