



Photoelectric sensors  
W11-2, Photoelectric proximity sensor,  
Background suppression

WTB11-2P2461P04



**Model Name** > [WTB11-2P2461P04](#)  
**Part No.** > [1046950](#)



Illustration may differ

**At a glance**

- Precise background suppression
- Rugged housing for industrial use
- PinPoint LED technology with a highly visible light spot
- Space-saving plastic housing in chemically, thermally or mechanically resistant designs
- Dovetail mounting - standard mounting holes and oblong holes
- Highly visible 360° status LEDs
- Sensing distance adjustment via potentiometer
- Operating distance up to 1,100 mm

**Your benefits**

- State of the art technology e.g OES-3 provides, reliable background suppression and object detection, independent of object color
- High immunity to optical inference reduces false readings and downtime
- PinPoint LED technology provides a bright, small and precise light spot that enables easy sensor alignment
- Precise switching characteristics ensure high performance even in changing application conditions
- Highly visible 360° status LEDs provide quick and easy setup without additional personnel or costly training
- Rugged housing design withstands harsh environments, reducing downtime and maintenance effort
- Easy installation using SICK accessories



**Features**

|                                  |  |
|----------------------------------|--|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 15.6 mm x 48.5 mm x 42 mm                              |
| Housing design (light emission): | Rectangular  |
| Sensing range max.:              | 30 mm ... 1,100 mm <sup>1)</sup>                       |
| Sensing range:                   | 30 mm ... 800 mm                                       |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>2)</sup>                             |
| Wave length:                     | 660 nm   |
| Adjustment:                      | Potentiometer, 5 turns                                 |
| Light spot size (distance):      | Ø 6 mm (200 mm)  |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

## Mechanics/electronics

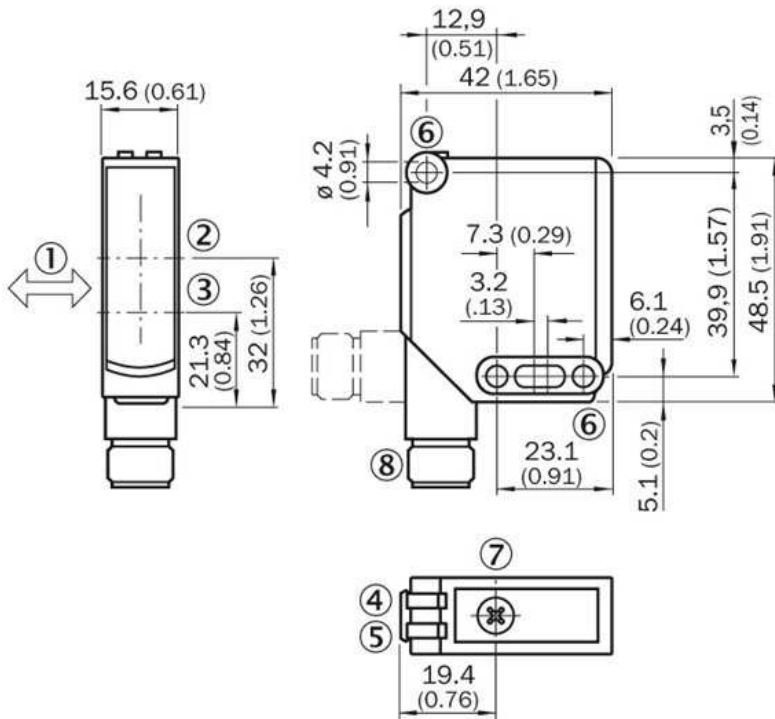
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|                                    |                                      |
|------------------------------------|--------------------------------------|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>    |
| Power consumption:                 | ≤ 30 mA <sup>2)</sup>                |
| Output type:                       | PNP                                  |
| Output function:                   | Complementary                        |
| Switching mode:                    | Light/dark switching                 |
| Signal voltage PNP HIGH/LOW:       | U <sub>v</sub> - 2.5 V / approx. 0 V |
| Output current I <sub>max.</sub> : | 100 mA                               |
| Response time:                     | ≤ 2.5 ms <sup>3)</sup>               |
| Switching frequency:               | 200 Hz <sup>4)</sup>                 |
| Connection type:                   | Connector M12, 4-pin                 |
| Circuit protection:::              | A, C, D <sup>5) 6) 7)</sup>          |
| Protection class:                  | II                                   |
| Weight:                            | 120 g                                |
| Special device:                    | ✓                                    |
| Housing material:                  | ABS, Plastic                         |
| Optics material:                   | PMMA                                 |
| Enclosure rating:                  | IP 66<br>IP 67<br>IP 69K             |
| Items supplied:                    | 2 screws and nuts                    |
| Ambient operating temperature:     | -30 °C ... 60 °C                     |
| Ambient storage temperature:       | -40 °C ... 75 °C                     |
| UL File No.:                       | NRKH.E181493 & NRKH7.E181493         |

May not exceed or fall short of V<sub>S</sub> tolerances;

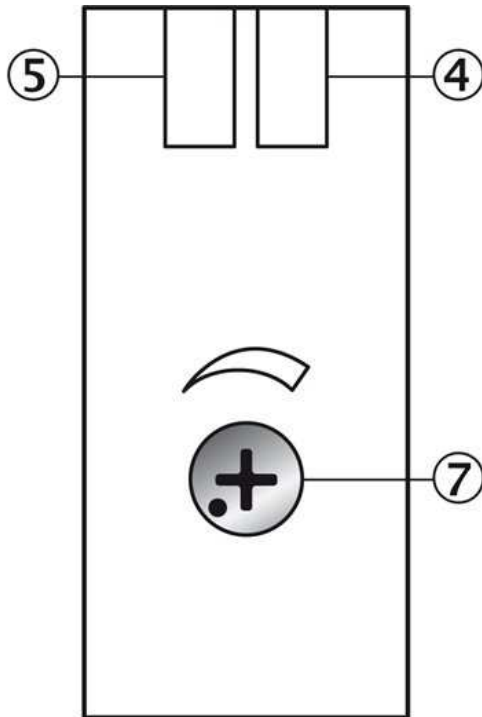
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> Without load <sup>3)</sup> Signal transit time with resistive load <sup>4)</sup> With light/dark ratio 1:1 <sup>5)</sup> A = V<sub>S</sub>  
<sup>6)</sup> C = interference suppression <sup>7)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing



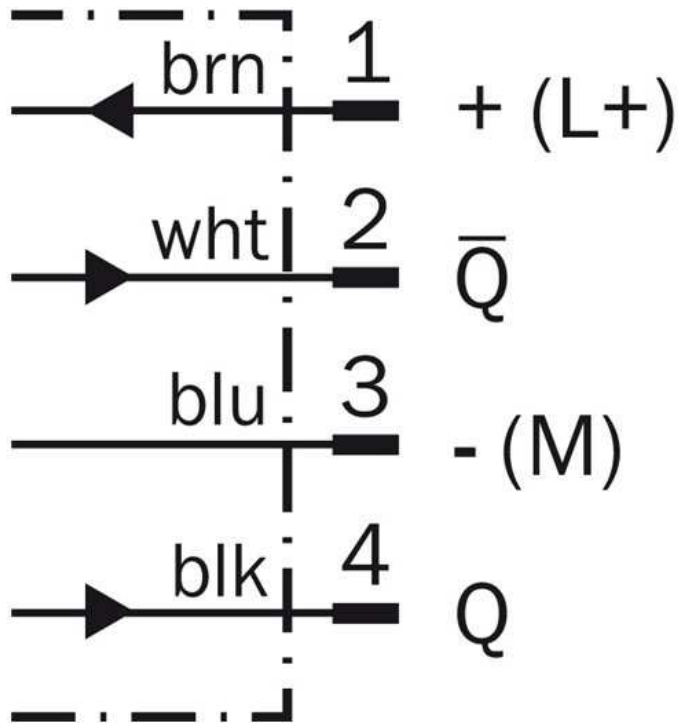
- |1| Standard direction of the material being scanned
- |2| Optical axis, receiver
- |3| Optical axis, sender
- |4| Status indicator LED green: power on
- |5| Status indicator LED,  
yellow: Status of received light beam
- |6| Mounting hole  $\varnothing 4.2$  mm
- |7| Sensing range adjustment: potentiometer
- |8| Connection

## Adjustments possible

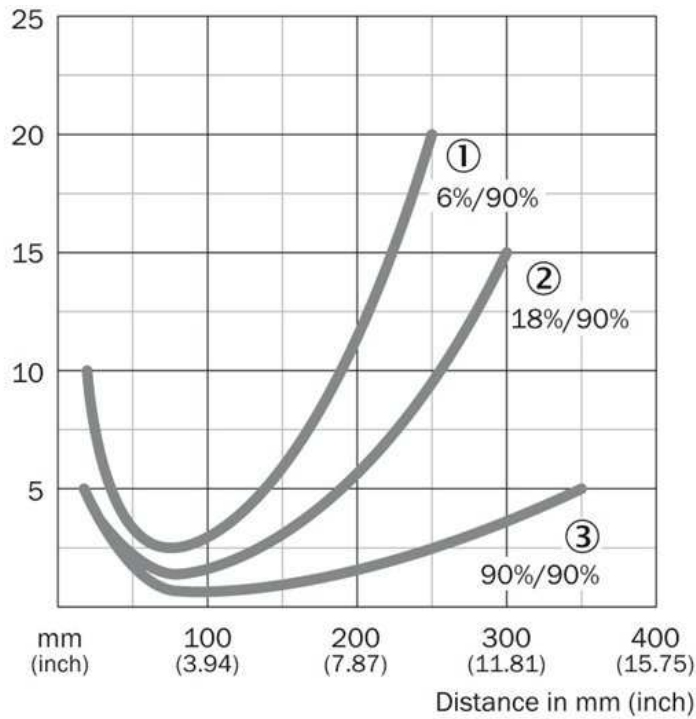


- |4| Status indicator LED green: power on
- |5| Status indicator LED,  
yellow: Status of received light beam
- |7| Sensing range adjustment: potentiometer

### Connection diagram

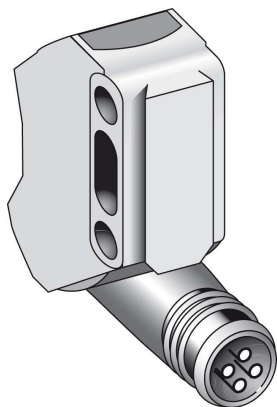


### Characteristic curve

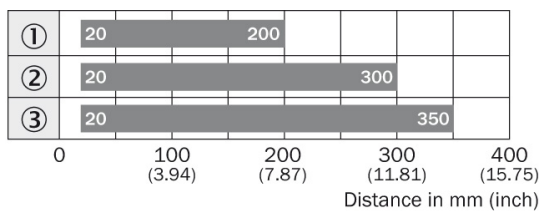


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

## Connection type



## Sensing range diagram



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission

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