



Photoelectric sensors  
W4-3, Photoelectric proximity sensor,  
Background suppression

WTB4-3P2271



**Model Name** > [WTB4-3P2271](#)  
**Part No.** > [1042190](#)



*Illustration may differ*

#### At a glance

- Intense light spot with PinPoint LED technology
- Sensor with IR light available upon request
- Sensing range of 4 - 150 mm
- Background suppression sensor available with laser-like light spot
- Adjustment either via teach-in pushbutton, 5-turn potentiometer, cable or IO-Link
- Second emitter LED designed for suppression of shiny backgrounds
- Flexible sensing ranges and hysteresis settings
- Key lock function, remote teach, quality monitoring

#### Your benefits

- Reliable detection of objects regardless of color and consistency
- Smart machine design ensures low-cost integration due to mounting flexibility in areas with limited space
- Best-in-class background suppression and a high immunity to ambient light, ensuring reliable object detection
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- Precise detection with a high level of repeat accuracy due to an intense light spot with PinPoint LED technology
- Quick and easy format adjustment
- Easy monitoring of sensor status
- Key lock function and parameter download prevent incorrect settings



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 16 mm x 39.5 mm x 12 mm                                |
| Housing design (light emission): | Rectangular                                            |
| Sensing range max.:              | 4 mm ... 150 mm <sup>1)</sup>                          |
| Sensing range:                   | 15 mm ... 150 mm <sup>2)</sup>                         |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>3)</sup>                             |
| Wave length:                     | 650 nm                                                 |
| Adjustment:                      | Potentiometer, 5-turn                                  |
| Light spot size (distance):      | 5 x 28 mm (50 mm)                                      |

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

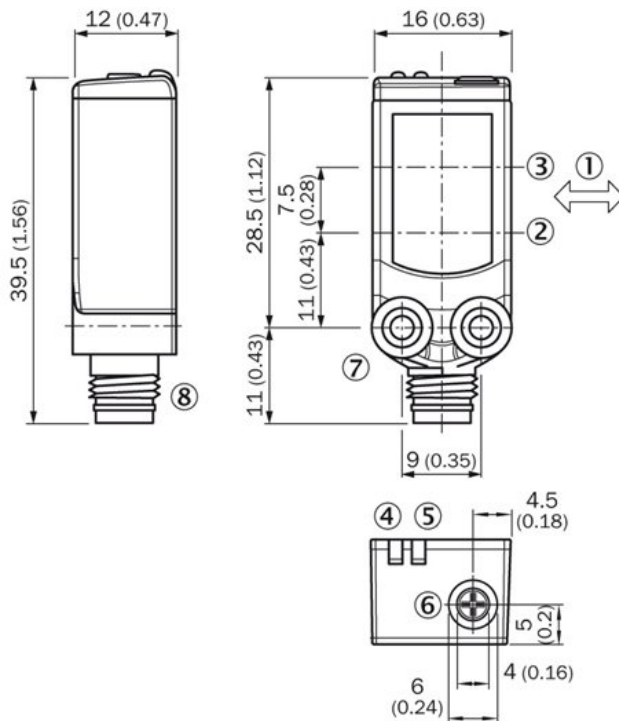
## Mechanics/electronics

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|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>                 |
| Ripple:                           | < 5 Vpp <sup>2)</sup>                             |
| Power consumption:                | ≤ 20 mA <sup>3)</sup>                             |
| Output type:                      | PNP                                               |
| Output function:                  | Complementary                                     |
| Switching mode:                   | Light/dark-switching                              |
| Output current I <sub>max</sub> : | ≤ 100 mA                                          |
| Response time:                    | < 0.5 ms <sup>4)</sup>                            |
| Switching frequency:              | 1,000 Hz <sup>5)</sup>                            |
| Connection type:                  | Connector M8, 4-pin                               |
| Circuit protection:::             | A, C, D <sup>6)</sup> <sup>7)</sup> <sup>8)</sup> |
| Protection class:                 | III                                               |
| Weight:                           | 30 g                                              |
| Housing material:                 | ABS, Plastic                                      |
| Optics material:                  | PMMA                                              |
| Enclosure rating:                 | IP 67<br>IP 66                                    |
| Special feature:                  | Line-shaped light spot                            |
| Ambient operating temperature:    | -40 °C ... 60 °C                                  |
| Ambient storage temperature:      | -40 °C ... 75 °C                                  |
| UL File No.:                      | NRKH.E181493 & NRKH7.E181493                      |

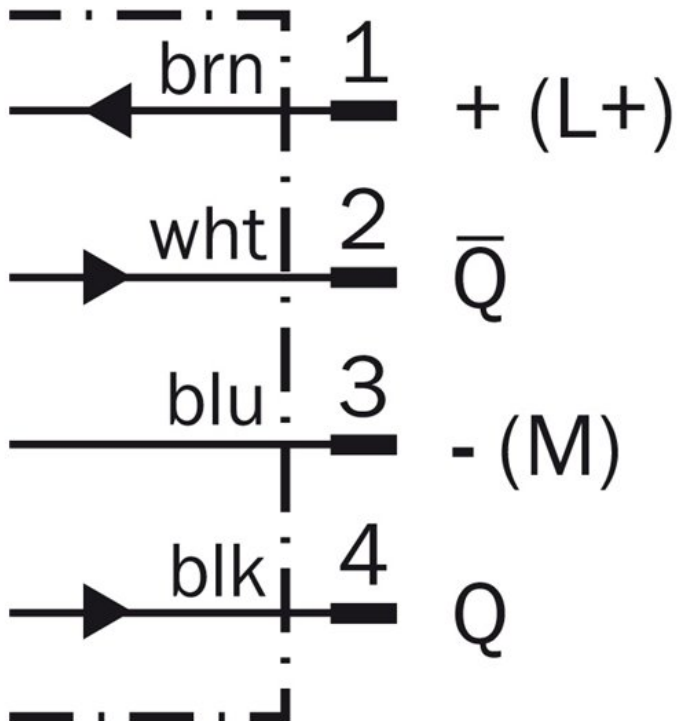
<sup>1)</sup> Limit values   <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> tolerances   <sup>3)</sup> Without load   <sup>4)</sup> Signal transit time with resistive load   <sup>5)</sup> With light/dark ratio 1:1   <sup>6)</sup> A = V<sub>S</sub>  
connections reverse-polarity protected   <sup>7)</sup> C = interference suppression   <sup>8)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing

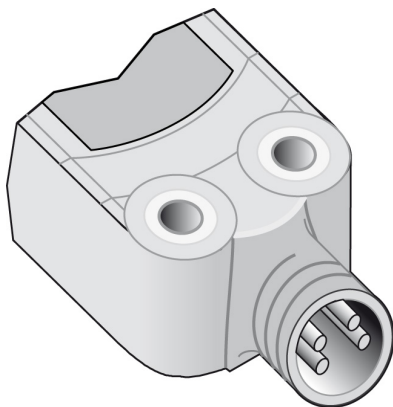


- |1| Standard direction of the material being scanned
- |2| Optical axis, sender
- |3| Optical axis, receiver
- |4| Status indicator LED,  
yellow: Status of received light beam
- |5| Status indicator LED green: power on
- |6| Potentiometer
- |7| Threaded mounting hole M3
- |8| Connection

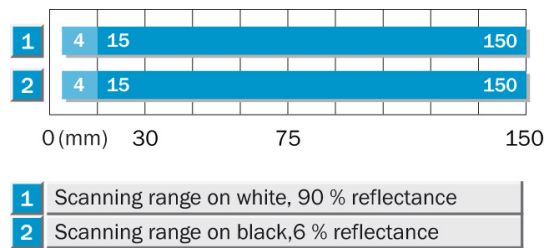
## Connection diagram



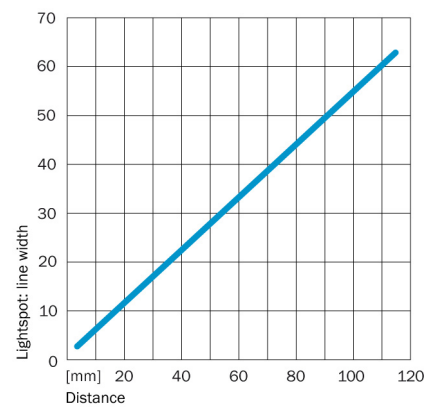
Connection type



Sensing range diagram



Light spot size



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