



Photoelectric sensors  
W4S-3, Photoelectric proximity sensor,  
Background suppression

WTB4S-3P3162



**Model Name** > [WTB4S-3P3162](#)  
**Part No.** > [1042038](#)



*Illustration may differ*

**At a glance**

- Best background suppression in its class
- Setting either via teach-in pushbutton, 5-turn potentiometer cable or by IO-Link
- All models with PinPoint LED technology
- Versions with laser-like LED light spots
- High immunity to ambient light

**Your benefits**

- Less downtime due to reliable detection of all types of objects
- Laser-like light spot provides quick and easy alignment
- Smart machine design makes it possible to mount the sensor in the tightest spaces
- Reliable object detection due to best-in-class background suppression and high immunity to ambient light



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	12.2 mm x 41.8 mm x 17.3 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
Teach-in:	Single teach-in button
Adjustment:	Single teach-in button
Light spot size (distance):	Ø 6.5 mm (150 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

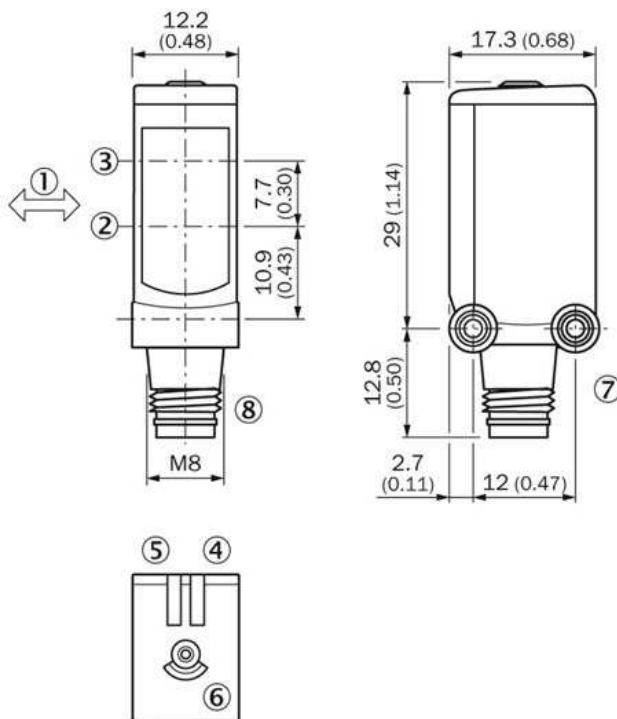
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple::	< 5 Vpp <sup>2) 3)</sup>
Power consumption:	≤ 20 mA <sup>4)</sup>
Output type:	PNP
Switching mode:	Light switching
Output current I <sub>max.</sub> :	≤ 100 mA

Response time:	< 0.5 ms <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Connection type:	Cable with connector M8, 3-pin, 100 mm
Conductor cross-section:	0.14 mm <sup>2</sup>
Cable diameter:	Ø 3.4 mm
Circuit protection:::	A, C, D <sup>7) 8) 9)</sup>
Protection class:	III
Weight:	30 g
Optics material:	PMMA
Enclosure rating:	IP 67 IP 66
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Housing material:	ABS, Plastic

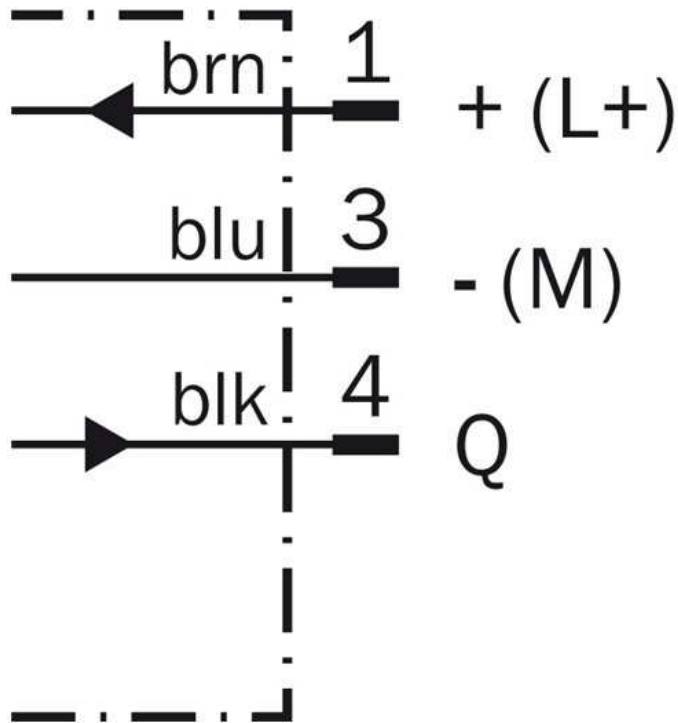
1) Limit values 2) 3) May not exceed or fall short of  $V_S$  tolerances 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) A =  $V_S$   
connections reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

## Dimensional drawing

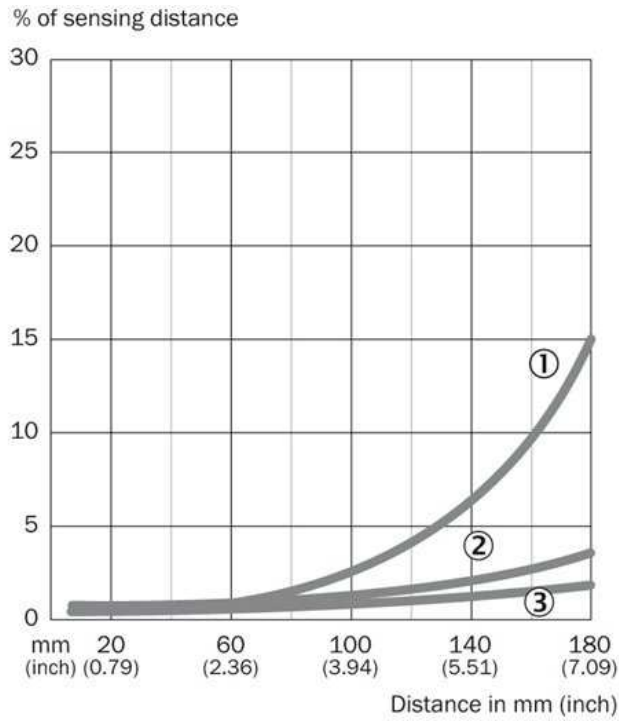


- |1| Standard direction of the material being detected
- |2| Optical axis receiver
- |3| Optical axis sender
- |4| Status indicator LED green: power on
- |5| Status indicator LED,  
yellow: Status of received light beam
- |6| Teach-in button
- |7| Threaded mounting hole M3
- |8| Connection

Connection diagram



Characteristic curve

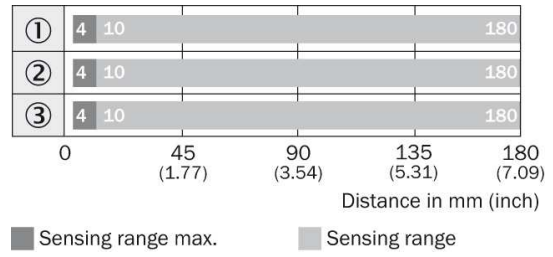


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

## Connection type



## Sensing range diagram



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