



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

WTB4S-3N2232



**Model Name** > [WTB4S-3N2232](#)  
**Part No.** > [1051872](#)



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 ... 120 mm <sup>1)</sup>
Sensing range:	10 mm ... 120 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:	Teach-in
Light spot size (distance):	Ø 2.5 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

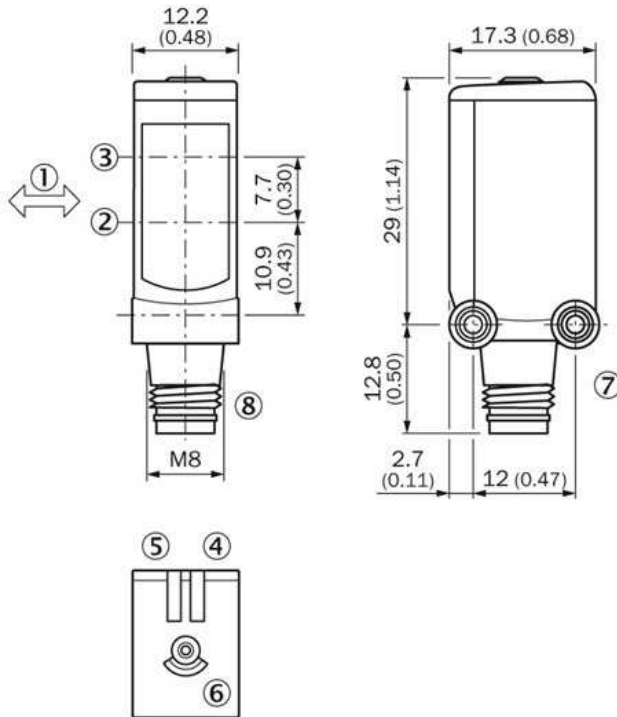
**Mechanics/electronics**

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:	NPN
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) 7) 8)</sup>
Protection class:	III
Weight:	30 g
Housing material:	ABS, Plastic
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

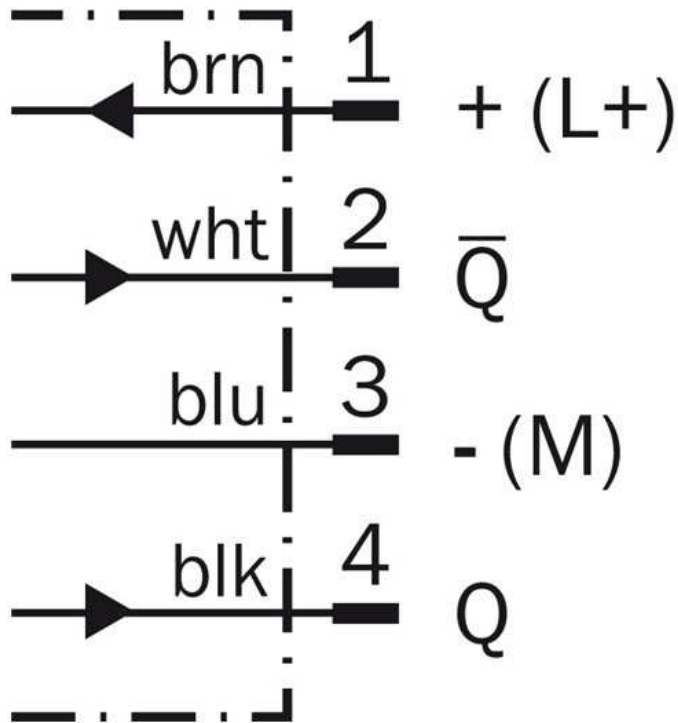
1) Limit values 2) May not exceed or fall short of V<sub>S</sub> tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A = V<sub>S</sub> connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit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

## Dimensional drawing

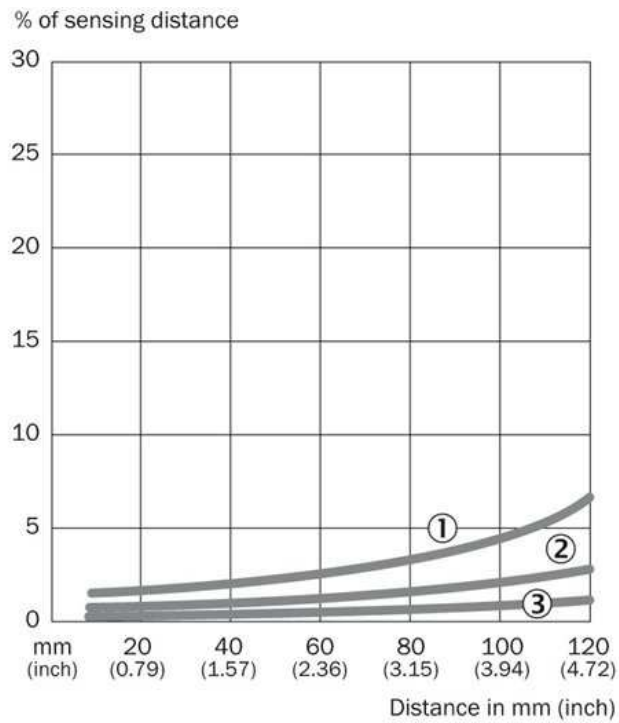


- [1] Standard direction of the material being scanned
- [2] Optical axis receiver
- [3] Optical axis sender
- [4] Status indicator LED green: power on
- [5] Status indicator LED, yellow: Status of received light beam
- [6] Teach-in button
- [7] Threaded mounting hole M3
- [8] Connection

Connection diagram

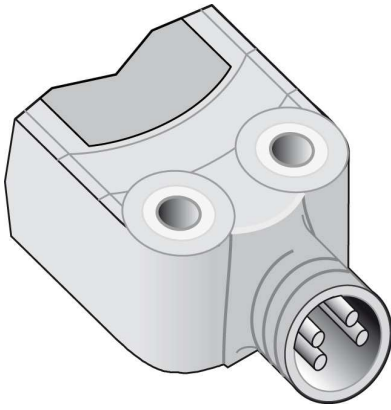


Characteristic curve

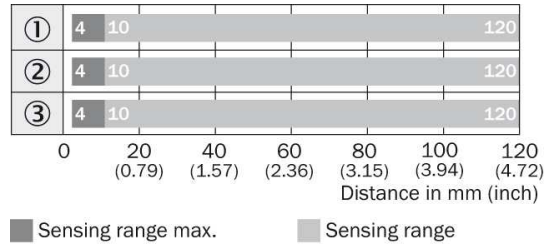


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

## Connection type



## Sensing range diagram



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