



Photoelectric sensors  
W2S-2, Photoelectric proximity sensor,  
Background suppression

WTB2S-2P3275



**Type** > [WTB2S-2P3275](#)  
**Part No.** > [1064620](#)



*Illustration may differ*

**At a glance**

- Sensing ranges of up to 150 mm
- Almost no black/white shift up to 60 mm
- Sensor with line-shaped light spot
- Sensor with laser-like focused light spots
- Precise background suppression that is immune to interference/crosstalk
- High-performance PinPoint 2.0 LED

**Your benefits**

- An ultra-compact design with the performance of large photoelectric proximity sensors offers new space-saving machine construction possibilities.
- Large variety of proximity sensors and operating concepts enable a wide range of application options
- Use in confined spaces: detection of small, flat parts thanks to high-quality background suppression and almost nonexistent black/white shift
- Remote access: models with IO-Link allow data to be easily accessed from the PLC
- High availability and long-term use in grippers thanks to flexible and rugged cable entry



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	4 mm ... 90 mm <sup>1)</sup>
Sensing range:	10 mm ... 70 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	640 nm
Special features:	Line-shaped light spot
Adjustment:	Cable
Light spot size (distance):	2.2 mm x 9 mm (45 mm)

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

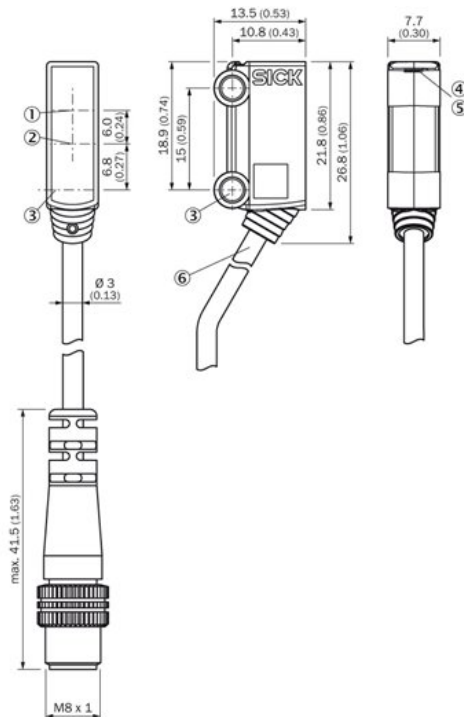
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	≤ 5 Vpp <sup>2)</sup>

Current consumption:	≤ 20 mA <sup>3)</sup>
Output type:	PNP
Switching mode:	Light switching
Output current I <sub>max.</sub> :	< 50 mA
Response time:	< 0.5 ms <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Connection type:	Cable with M8 male connector, 4-pin, 200 mm <sup>6)</sup>
Cable material:	PVC
Cable diameter:	Ø 3 mm
Circuit protection:::	A, B, D <sup>7)</sup> <sup>8)</sup> <sup>9)</sup>
IO-Link:	-
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Special feature:	Line-shaped light spot
Ambient operating temperature:	-25 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493
Housing material:	ABS/PC, Plastic

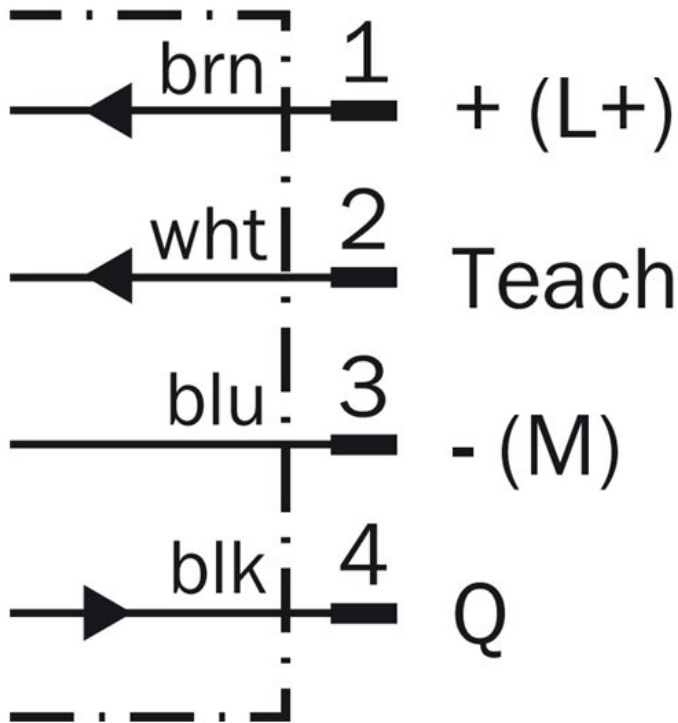
1) Limit values 2) May not exceed or fall below U<sub>v</sub> tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) Do not bend below 0 °C 7) A = V<sub>S</sub> connections reverse-polarity protected 8) B = output reverse-polarity protected 9) D = outputs overcurrent and short-circuit protected

## Dimensional drawing

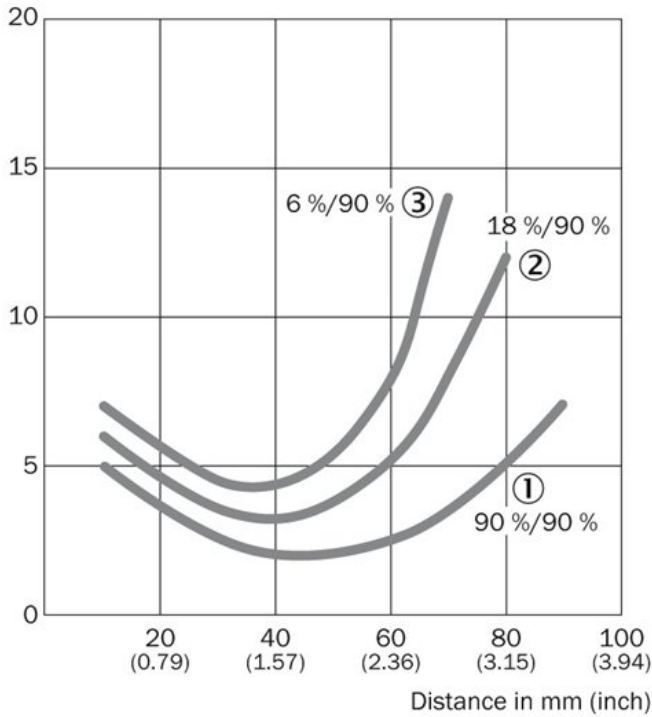


- [1] Optical axis, receiver
- [2] Optical axis, sender
- [3] Middle axis fixing hole Ø 3.2 mm
- [4] Status indicator LED green: supply voltage on
- [5] Status indicator LED, yellow: Status of received light beam
- [6] Connection

Connection diagram



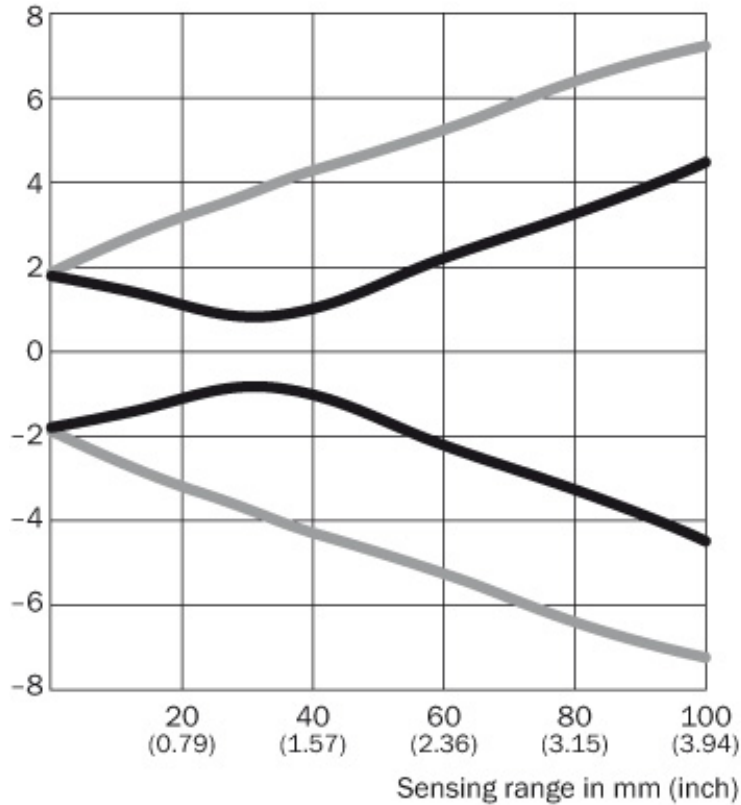
Characteristic curve



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

**Light spot size**

Spot diameter in mm (inch)

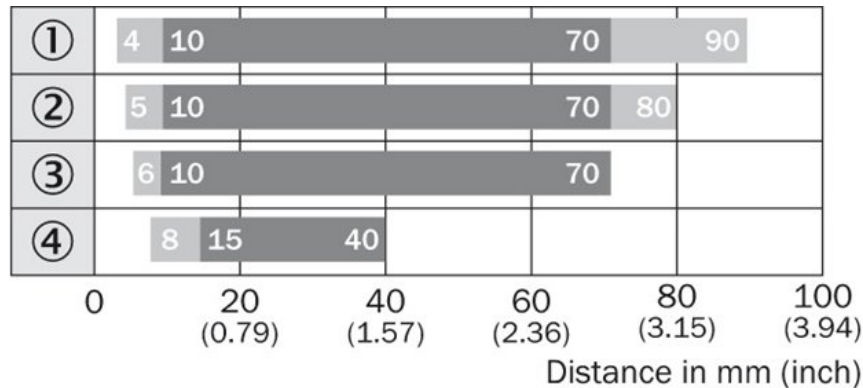


**Dimensions in mm (inch)**

Sensing range	Spot diameter Vertical	Spot diameter Horizontal
<b>0</b> <b>(0.00)</b>	3.5 (0.14)	3.8 (0.15)
<b>10</b> <b>(0.39)</b>	3.0 (0.12)	5.2 (0.20)
<b>20</b> <b>(0.79)</b>	3.3 (0.13)	6.4 (0.25)
<b>30</b> <b>(1.18)</b>	1.8 (0.07)	7.4 (0.29)
<b>40</b> <b>(1.57)</b>	2.0 (0.08)	8.6 (0.34)
<b>60</b> <b>(2.36)</b>	4.4 (0.17)	10.5 (0.41)
<b>80</b> <b>(3.15)</b>	6.5 (0.26)	12.8 (0.50)
<b>100</b> <b>(3.94)</b>	9.0 (0.35)	14.5 (0.57)

— Vertical  
— Horizontal

**Sensing range diagram**



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

■ Sensing range      ■ Sensing range max.

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