



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

WTB4S-3N1165H



Type > **WTB4S-3N1165H**  
Part No. > **1048107**



*Illustration may differ*

**At a glance**

- Hygienic designed stainless steel housing and accessories (316L/1.4404)
- Hygienic mounting using M12-adapter thread or D12-adapter shaft
- IP 66, IP 67, IP 68 and IP 69K enclosure rating and Ecolab certified
- Resistant to a variety of common cleaning and disinfection agents
- Best background and extraneous light suppression in its class with OES3 technology and two emitter LED's
- Stainless steel teach-in pushbutton with a metal membrane
- Flexible sensing ranges and hysteresis settings
- Key lock function, remote teach, quality monitoring

**Your benefits**

- Smooth hygienic housing and accessories with no grooves or crevices eliminates the potential for bacteria to grow, providing a more hygienic solution.
- Long service life in harsh conditions ensures less downtime and fewer replacement costs
- OES3 technology and special optical design ensures reliable detection of objects at an extended range which ensures less machine downtime caused by faulty switching
- Easy adjustment via a stainless steel metal membrane teach-in pushbutton
- Quick and easy format adjustment
- Easy monitoring of sensor status
- Key lock function and parameter download prevent incorrect settings
- Simple sensor cloning



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	15.25 mm x 48.6 mm x 22.15 mm
Housing design:	Hygiene
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	3 mm ... 500 mm <sup>1)</sup>
Sensing range:	10 mm ... 350 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	650 nm
Adjustment:	⌀ Cable

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  $T_A = +25\text{ °C}$  <sup>4)</sup> External teach-in: pulse > 2 s with voltage Uv with PNP and M with NPN

## 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: ≤ 30 mA <sup>3)</sup>  
Output type: NPN  
Switching mode: Light 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: Cable, 4-wire, 2 m <sup>6)</sup>  
Cable material: PVC  
Conductor cross-section: 0.14 mm<sup>2</sup>  
Circuit protection::: A  
B <sup>7) 8) 9)</sup>  
C  
Protection class: III  
Weight: 80 g  
Housing material: Stainless steel, Stainless steel 316L  
Enclosure rating: IP 66  
IP 67  
IP 68  
IP 69K  
Ambient operating temperature: -30 °C ... 60 °C, -30 °C ... 70 °C <sup>10)</sup>  
Ambient storage temperature: -30 °C ... 75 °C  
UL File No.: FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  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> Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output  
reverse-polarity protected <sup>9)</sup> C = interference suppression <sup>10)</sup> At UV ≤ 24 V and IA < 30 mA

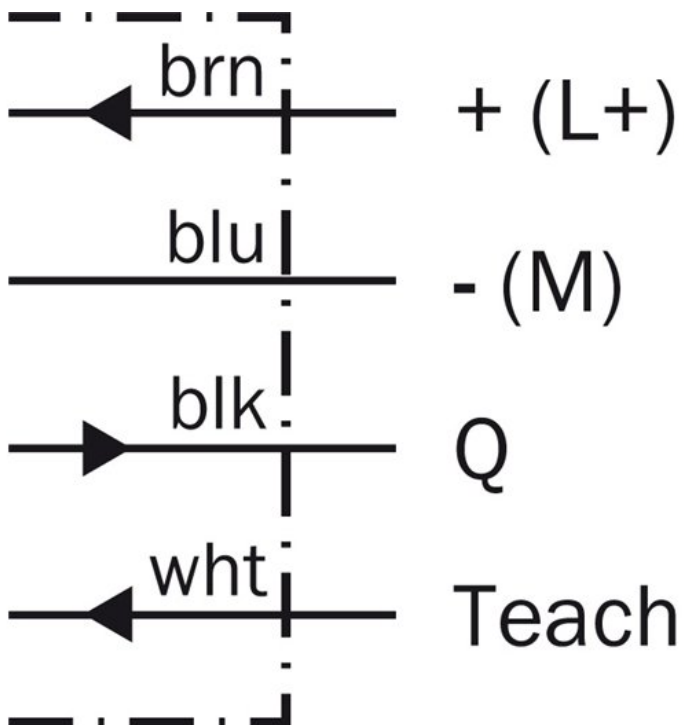
## Dimensional drawing

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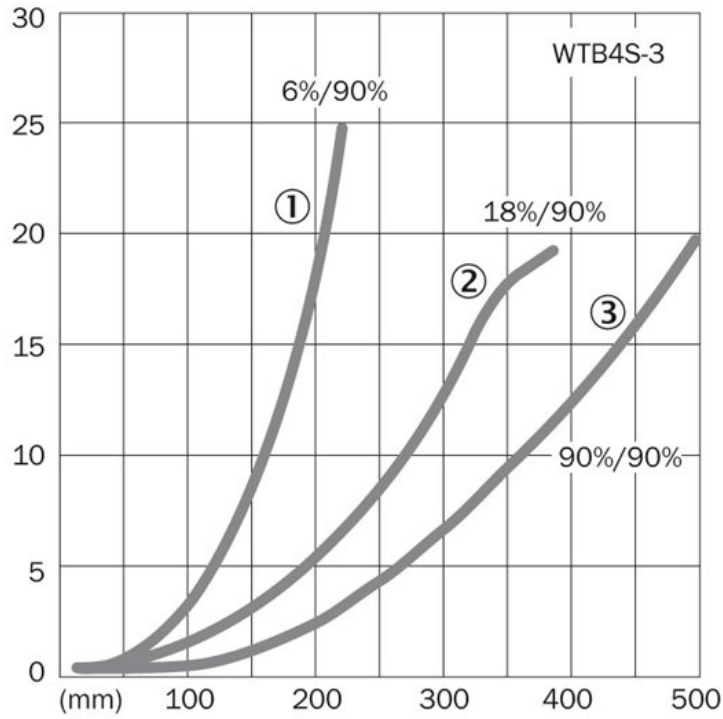
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## Connection diagram

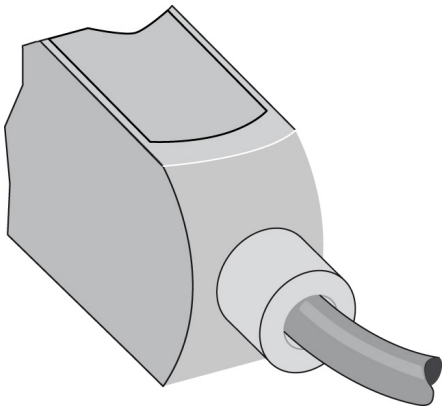
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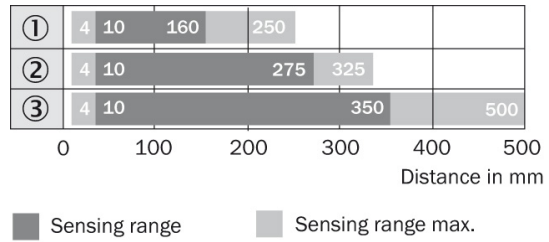
**Characteristic curve**



**Connection type**



**Sensing range diagram**



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