



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

WTB4S-3P2204VS02



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Model Name > [WTB4S-3P2204VS02](#)
Part No. > [1047652](#)



Illustration may differ

At a glance

- WashDown rated for fluid tightness (IP 66, IP 67, IP 68 and IP 69K) and Ecolab certified
- Tough stainless steel housing (316L/1.4404)
- Resistant to a variety of common cleaning and disinfection agents
- Modern electrical connection available - M12 connector with pin casting
- Best background and extraneous light suppression in its class with OES3 technology and two emitter LED's
- Flexible sensing ranges and hysteresis settings
- Key lock function, remote teach, quality monitoring

Your benefits

- 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
- Quick and easy alignment due to highly visible PinPoint emitter LED
- 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 44.9 mm x 22.2 mm
Housing design:	Washdown
Housing design (light emission):	Rectangular, Slim
Sensing range max.:	4 mm ... 280 mm ¹⁾
Sensing range:	10 mm ... 150 mm
Type of light:	Visible red light
Light source:	PinPoint LED ²⁾
Wave length:	650 nm
Teach-in:	Single teach-in button
Adjustment:	Teach-in ³⁾ cable

Light spot size (distance): Ø 2.5 mm (100 mm)

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$ ³⁾ External teach-in: pulse > 2 s with voltage

Uv with PNP and M with NPN

Mechanics/electronics

Supply voltage: 10 V DC ... 30 V DC ¹⁾

Ripple: < 5 Vpp ²⁾

Power consumption: ≤ 30 mA ³⁾

Output type: PNP

Switching mode: Light switching

Output current I_{max}: ≤ 100 mA

Response time: < 0.5 ms ⁴⁾

Switching frequency: 1,000 Hz ⁵⁾

Connection type: Connector M8, 4-pin

Circuit protection::: A, B, C ⁶⁾ ⁷⁾ ⁸⁾

Protection class: III

Weight: 40 g

Special device: -

Housing material: Stainless steel, Stainless steel 316L

Enclosure rating: IP 66

IP 67

IP 68 ⁹⁾

IP 69K

Special features: Light spot diameter of 2.5 mm in 150 mm distance, Reduced sensing range of 280 mm

Ambient operating temperature: -30 °C ... 60 °C, -30 °C ... 70 °C ¹⁰⁾

Ambient storage temperature: -30 °C ... 75 °C

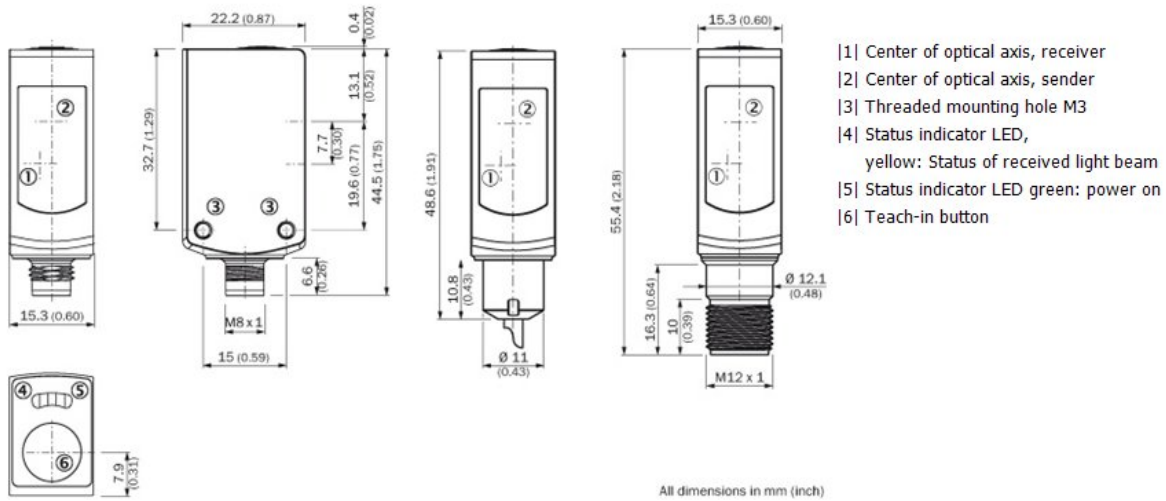
UL File No.: NRKH.E181493 & NRKH7.E181493

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾

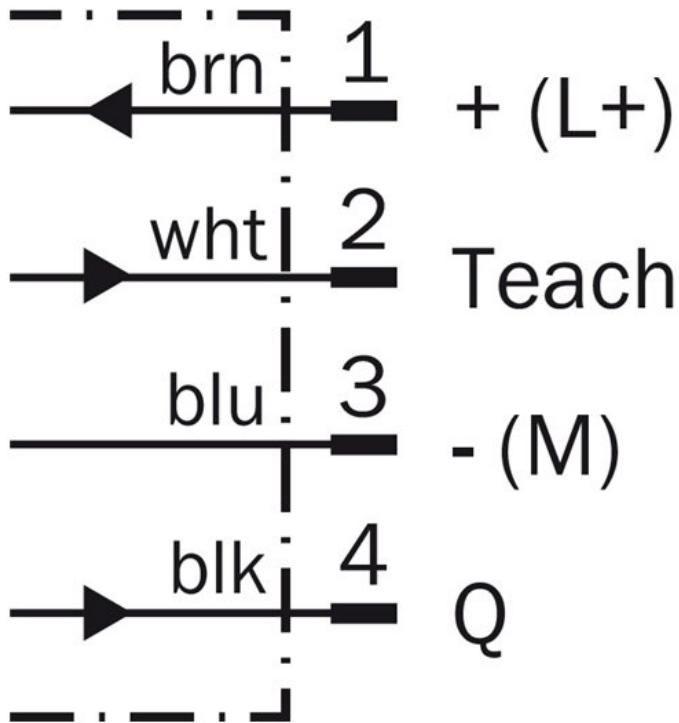
Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ $A = V_S$ connections reverse-polarity protected ⁷⁾ B = inputs and output reverse-polarity protected ⁸⁾

C = interference suppression ⁹⁾ Only in case of correctly mounted IP 69K connecting cable ¹⁰⁾ At UV ≤ 24 V and IA < 30 mA

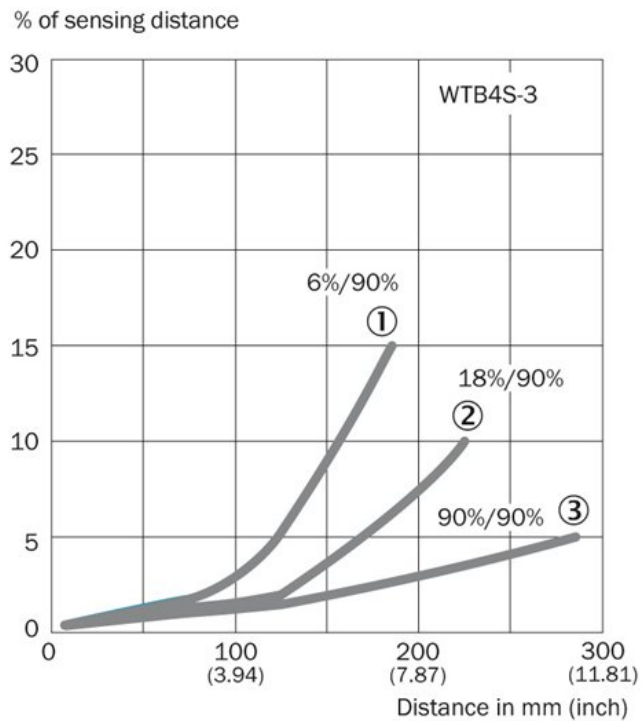
Dimensional drawing



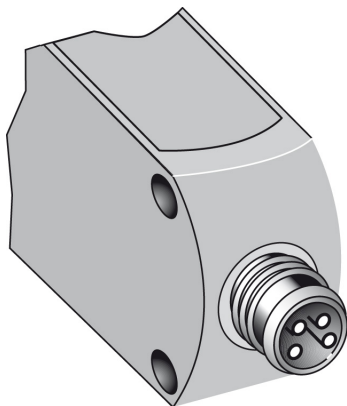
Connection diagram



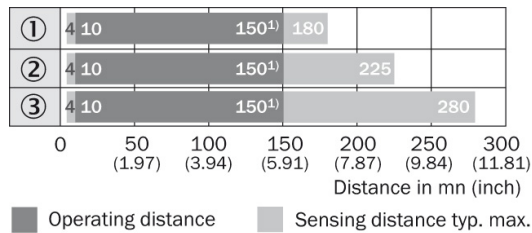
Characteristic curve



Connection type



Sensing range diagram



- ① Sensing distance on black, 6 % remission
- ② Sensing distance on grey, 18 % remission
- ③ Sensing distance on whitw, 90 % remission

¹⁾ Due to the focus of the light spot at 100 mm (3.94 inch)

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