



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

WTB4S-3P2402VS09



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Model Name > [WTB4S-3P2402VS09](#)
Part No. > [1054706](#)



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 cable

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

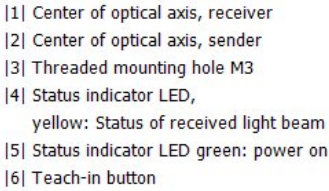
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$

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/dark-switching
Output current I _{max} :	≤ 100 mA
Response time:	< 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, C ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	III
Weight:	45 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

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 $UV \leq 24\text{ V}$ and $IA < 30\text{ mA}$

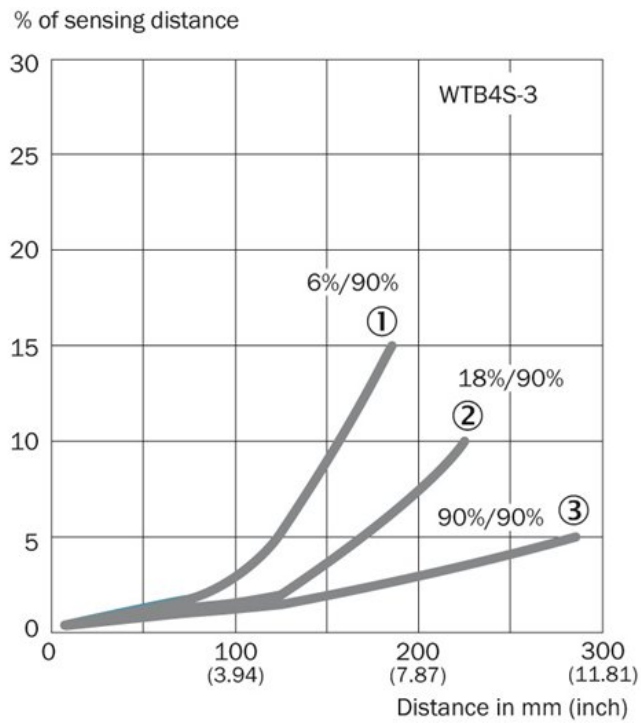
- [1] Center of optical axis, receiver
- [2] Center of optical axis, sender
- [3] Threaded mounting hole M3
- [4] Status indicator LED,
yellow: Status of received light beam
- [5] Status indicator LED green: power on
- [6] Teach-in button



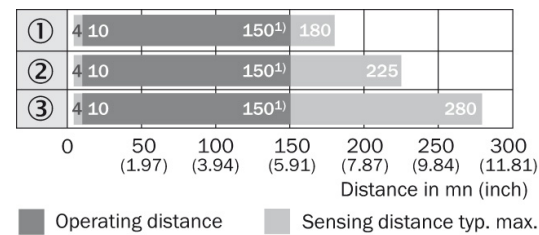
All dimensions in mm (inch)

Diagram of a four-strand DNA molecule. The strands are labeled from top to bottom: brn (1), wht (2), blu (3), and blk (4). To the right of the strands are labels: + (L+), $\bar{Q}$, - (M), and Q/C.

Characteristic curve



Sensing range diagram



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

⁴⁾ Due to the focus of the light spot at 100 mm (3.94 inch)

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