



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

WTB4S-3P5204HS02



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Model Name > [WTB4S-3P5204HS02](#)
Part No. > [1054865](#)



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 63.2 mm x 22.15 mm
Housing design:	Hygiene
Housing design (light emission):	Rectangular
Sensing range max.:	4 mm ... 120 mm ¹⁾
Sensing range:	10 mm ... 120 mm ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	650 nm
Teach-in:	Single teach-in button

Adjustment:

Teach-in
cable⁴⁾

Light spot size (distance):

Ø 2.5 mm (50 mm)

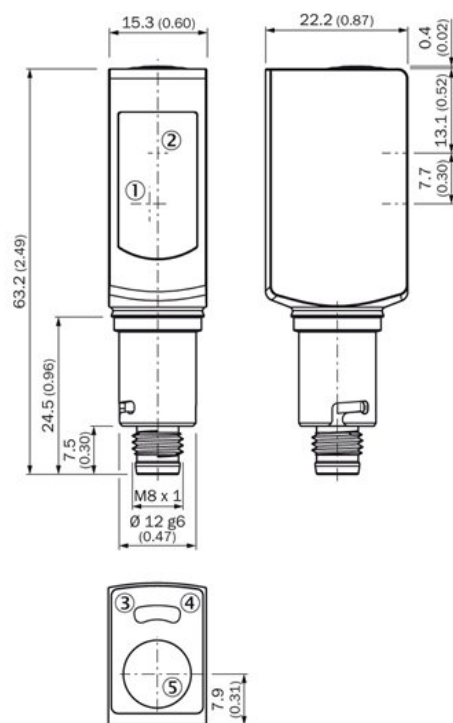
^{1) 2)} Object with 90 % reflectance (referred to standard white DIN 5033) ³⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$ ⁴⁾ External teach-in: pulse > 2 s with voltage Uv with PNP and M with NPN

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp
Power consumption:	≤ 30 mA ²⁾
Output type:	PNP
Output function:	Complementary
Switching mode:	Light switching
Output current I _{max} :	≤ 100 mA
Response time:	< 0.5 ms ³⁾
Switching frequency:	± 1,000 Hz ⁴⁾
Connection type:	Connector M8, 4-pin ⁵⁾
Circuit protection:::	A B 6) 7) 8) C
Protection class:	III
Weight:	140 g
Housing material:	Stainless steel, Stainless steel 316L
Enclosure rating:	IP 66 IP 67 IP 68 IP 69K
Special feature:	D12 adapter shaft
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 ⁹⁾
Ambient storage temperature:	-30 °C ... 75 °C
Mechanical connection:	D12 adapter shaft

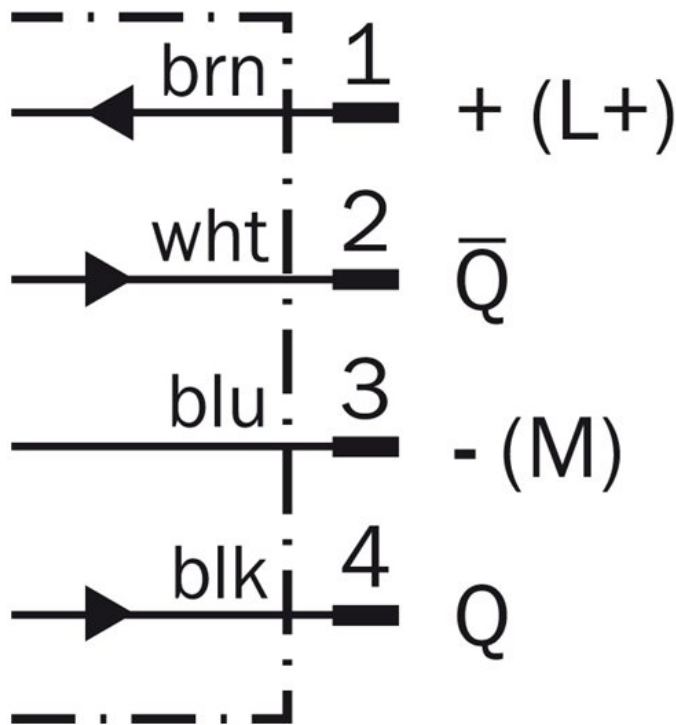
¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A ²⁾ Without load ³⁾ Signal transit time with resistive load ⁴⁾ With light/dark ratio 1:1 ⁵⁾ Tightening torque, max.: 0.6 Nm ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ B = inputs and output reverse-polarity protected ⁸⁾ C = interference suppression ⁹⁾ At UV ≤ 24 V and IA < 30 mA

Dimensional drawing

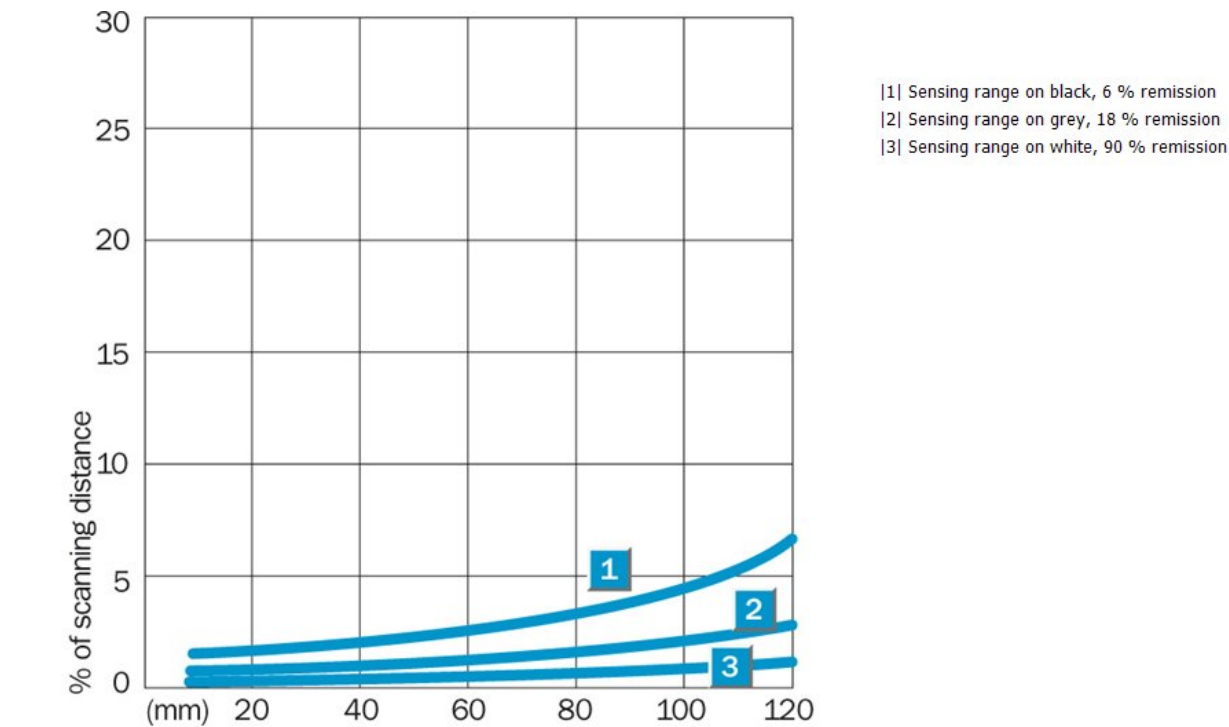


- |1| Centre of receiver's optical axis
- |2| Center of optical axis, sender
- |3| Status indicator LED,
yellow: Status of received light beam
- |4| Status indicator LED green: power on
- |5| single teach-in button

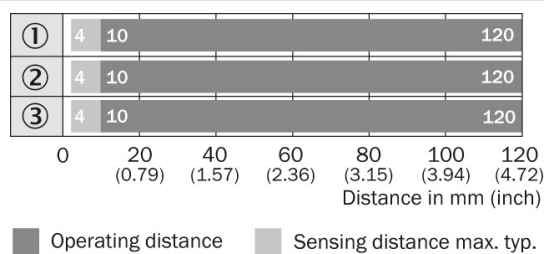
Connection diagram



Characteristic curve



Sensing range diagram



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

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