



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

WTB4S-3P3232H



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

**Model Name** > [WTB4S-3P3232H](#)  
**Part No.** > [1048096](#)



*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 49.2 mm x 22.15 mm                          |
| Housing design:                  | Hygiene                                                |
| Housing design (light emission): | Rectangular                                            |
| Sensing range max.:              | 3 mm ... 120 mm <sup>1)</sup>                          |
| Sensing range:                   | 10 mm ... 120 mm <sup>2)</sup>                         |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>3)</sup>                             |
| Wave length:                     | 650 nm                                                 |
| Teach-in:                        | Single teach-in button                                 |
| Adjustment:                      | Teach-in                                               |

Light spot size (distance):

Ø 2.5 mm (50 mm)

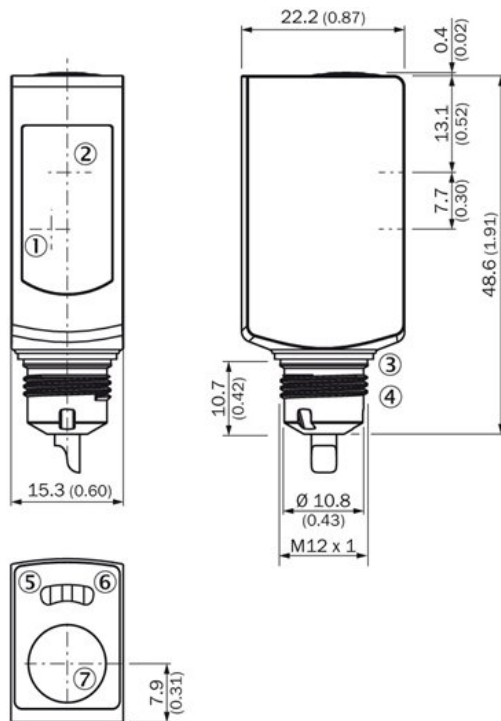
<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life of 100,000 h at  $T_A = +25\text{ °C}$

## Mechanics/electronics

|                                    |                                                                                       |
|------------------------------------|---------------------------------------------------------------------------------------|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>                                                     |
| Power consumption:                 | $\leq 30\text{ mA}$ <sup>2)</sup>                                                     |
| Output type:                       | PNP                                                                                   |
| Output function:                   | Complementary                                                                         |
| Switching mode:                    | Light/dark-switching                                                                  |
| Output current I <sub>max.</sub> : | $\leq 100\text{ mA}$                                                                  |
| Response time:                     | $< 0.5\text{ ms}$ <sup>3)</sup>                                                       |
| Switching frequency:               | 1,000 Hz <sup>4)</sup>                                                                |
| Connection type:                   | Cable with connector M8, 4-pin, 150 mm <sup>5)</sup>                                  |
| Cable material:                    | PVC                                                                                   |
| Circuit protection:::              | A<br>B<br>C <sup>6) 7) 8)</sup>                                                       |
| Protection class:                  | III                                                                                   |
| Weight:                            | 50 g                                                                                  |
| Housing material:                  | Stainless steel, Stainless steel 316L                                                 |
| Enclosure rating:                  | IP 66<br>IP 67<br>IP 68<br>IP 69K                                                     |
| Ambient operating temperature:     | $-30\text{ °C} \dots 60\text{ °C}$ , $-30\text{ °C} \dots 70\text{ °C}$ <sup>9)</sup> |
| Ambient storage temperature:       | $-30\text{ °C} \dots 75\text{ °C}$                                                    |
| UL File No.:                       | FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493                                      |

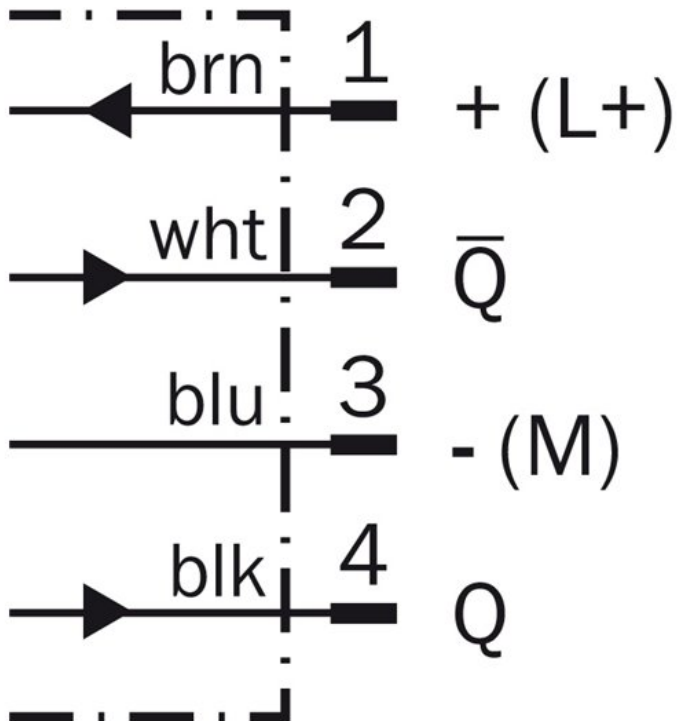
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> Without load <sup>3)</sup> Signal transit time with resistive load <sup>4)</sup> With light/dark ratio 1:1 <sup>5)</sup> Do not bend below 0 °C <sup>6)</sup> A = V connections reverse-polarity protected <sup>7)</sup> B = inputs and output reverse-polarity protected <sup>8)</sup> C = interference suppression <sup>9)</sup> At UV  $\leq 24\text{ V}$  and IA  $< 30\text{ mA}$

## Dimensional drawing

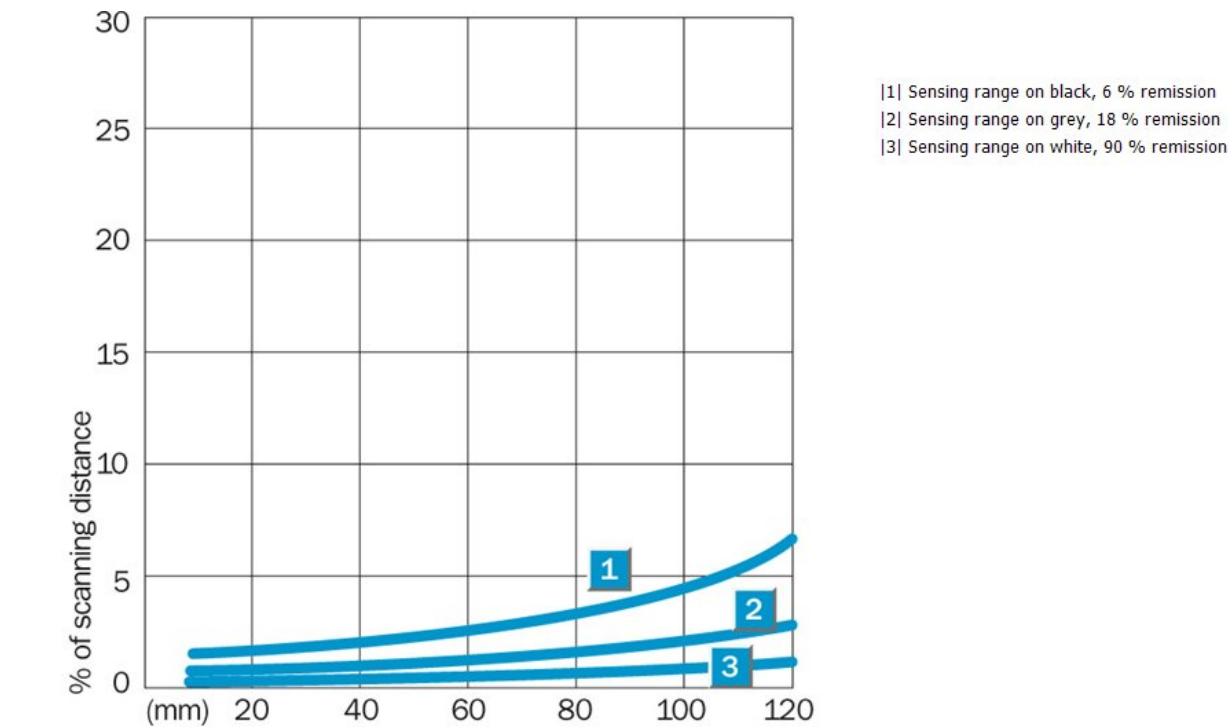


- |1| Center of optical axis, receiver
- |2| Center of optical axis, sender
- |3| gasket (tightening torque 6Nm)
- |4| Connector M12
- |5| Status indicator LED,  
yellow: Status of received light beam
- |6| Status indicator LED green: power on
- |7| Teach-in button

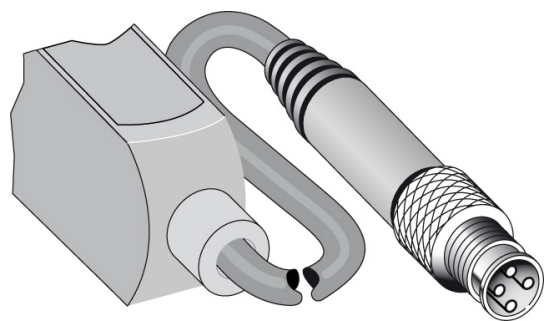
## Connection diagram



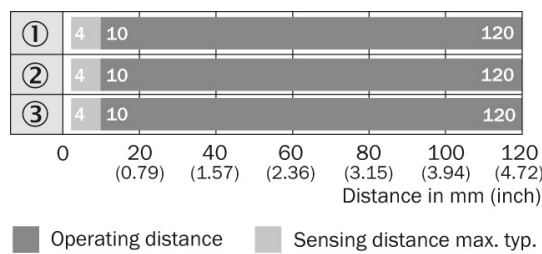
Characteristic curve



Connection type



Sensing range diagram



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

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