



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

WTB4S-3N2432V



**Model Name** > [WTB4S-3N2432V](#)  
**Part No.** > [1054674](#)



*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 49.2 mm x 22.2 mm                           |
| Housing design:                  | Washdown   |
| Housing design (light emission): | Rectangular  |
| Sensing range max.:              | 4 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   |
| Adjustment:                      | Single teach-in button                                 |
| 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  $T_A = +25\text{ °C}$

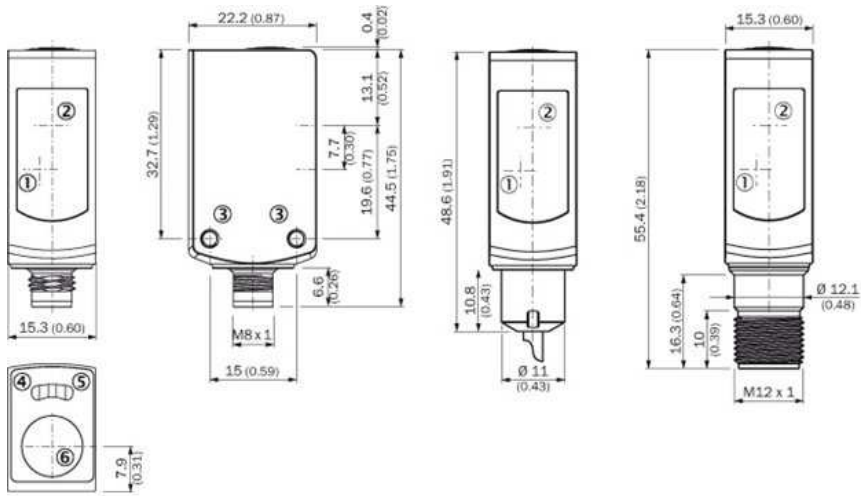
## Mechanics/electronics

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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   |
| Output function:                   | Complementary                                       |
| Switching mode:                    | Light/dark 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:                   | Connector M12, 4-pin <sup>6)</sup>                  |
| Circuit protection:::              | A, B, C <sup>7) 8) 9)</sup>                         |
| Protection class:                  | III   |
| Weight:                            | 45 g  |
| Special device:                    | -   |
| Enclosure rating:                  | IP 66<br>IP 67<br>IP 68<br>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.:                       | NRKH.E181493 & NRKH7.E181493                        |
| Housing material:                  | Stainless steel, Stainless steel 316L               |

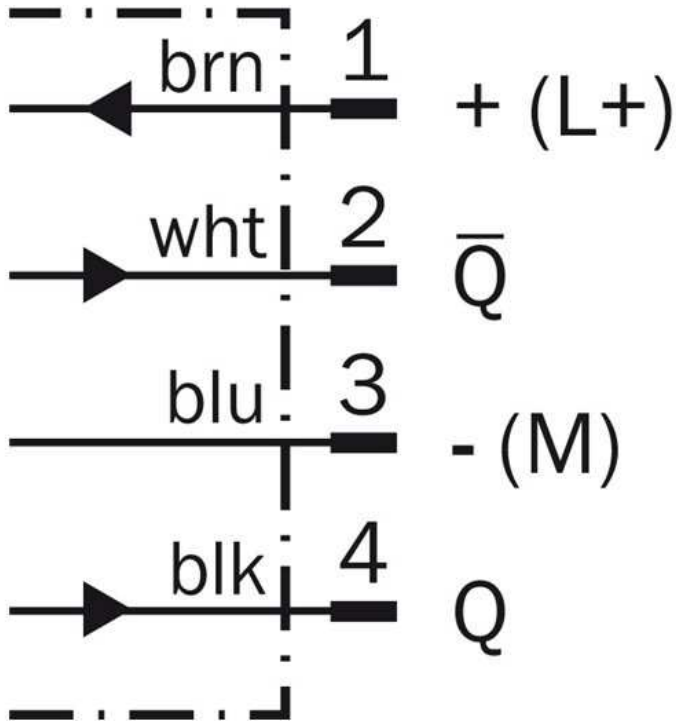
1) Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup>  
Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> Tightening torque, max.: 0.7 Nm <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

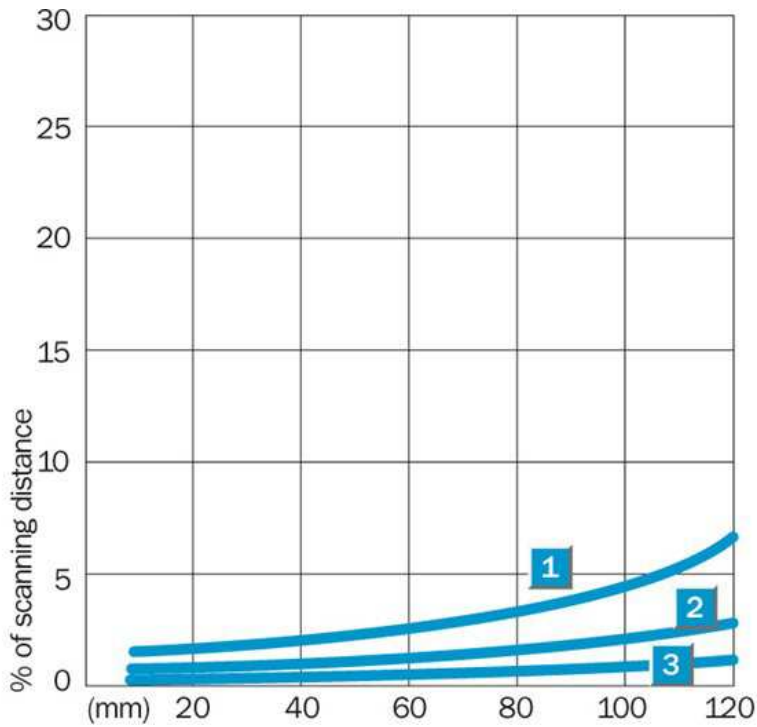


- [1] Center of optical axis, receiver
- [2] Center of optical axis, sender
- [3] Threaded mounting hole M3
- [4] Status indicator LED,  
yellow: Status of received light beam
- [5] Status indicator LED green: supply voltage on
- [6] Teach-in button

## Connection diagram

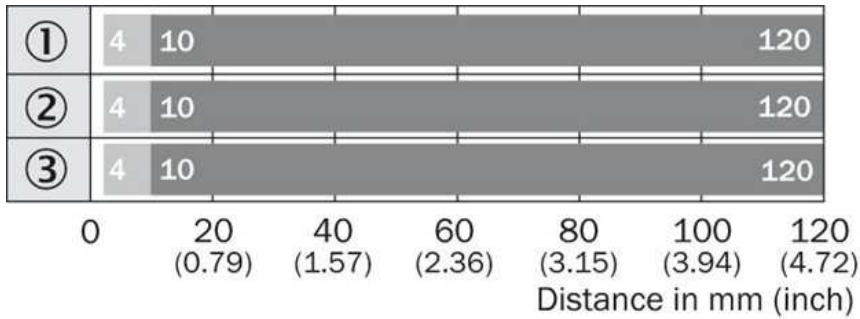


### Characteristic curve



- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

### Sensing range diagram



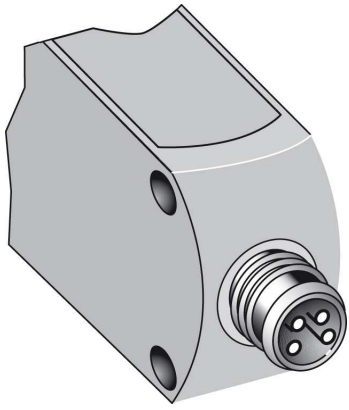
- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

■ Operating distance    ■ Sensing distance max. typ.

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

Connection type

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