



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

WTB4S-3P2132V



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

**Model Name** > [WTB4S-3P2132V](#)  
**Part No.** > [1046397](#)



*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 ... 120 mm <sup>1)</sup>                          |
| Sensing range:                   | 10 mm ... 120 mm                                       |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>2)</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)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at  $T_A = +25\text{ °C}$

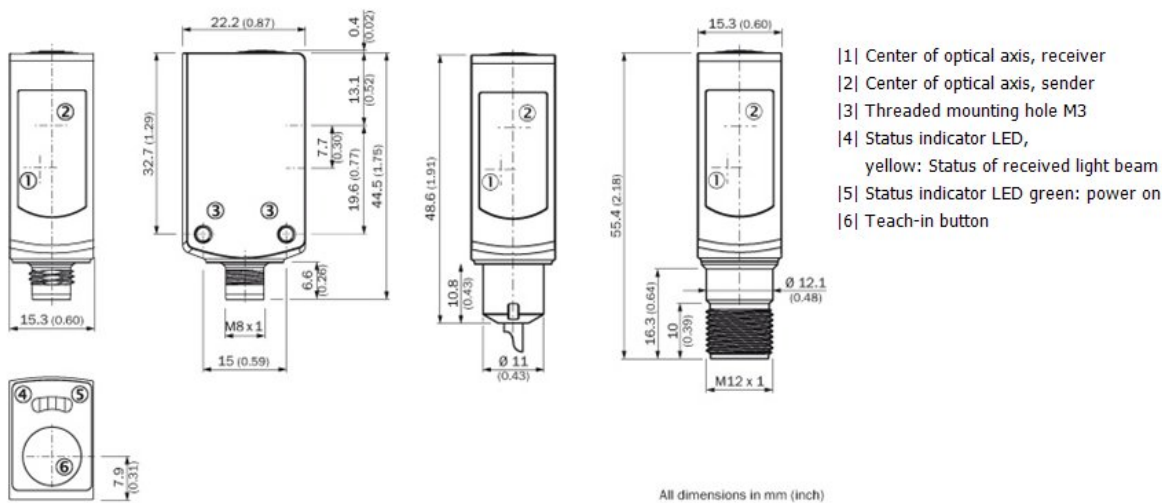
## Mechanics/electronics

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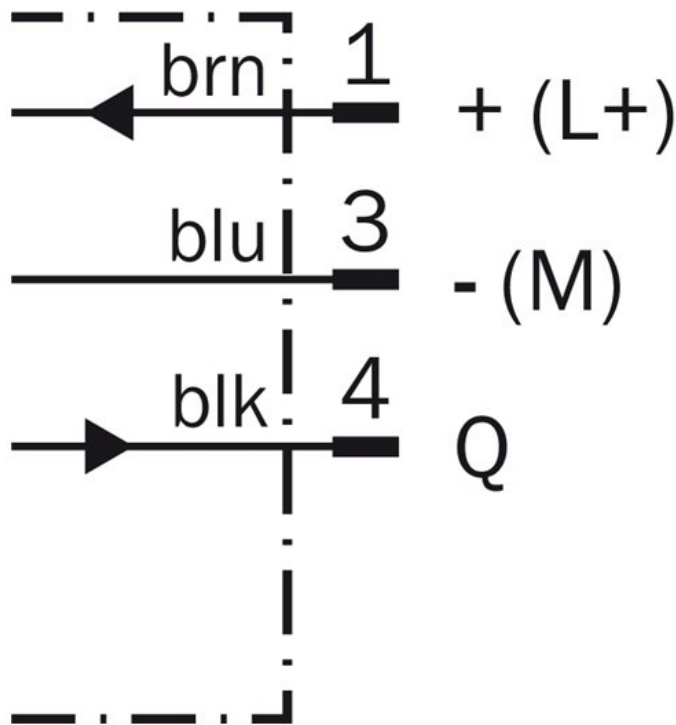
|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>                 |
| Ripple:                           | < 5 Vpp <sup>2)</sup>                             |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>                             |
| Output type:                      | PNP                                               |
| Switching mode:                   | Light 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 M8, 3-pin                               |
| Circuit protection:::             | A, B, C <sup>6)</sup> <sup>7)</sup> <sup>8)</sup> |
| Protection class:                 | III                                               |
| Weight:                           | 40 g                                              |
| Special device:                   | -                                                 |
| Housing material:                 | Stainless steel, Stainless steel 316L             |
| Enclosure rating:                 | IP 66<br>IP 67<br>IP 68 <sup>9)</sup><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                      |

<sup>1)</sup> 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> A =  $V_S$  connections reverse-polarity protected <sup>7)</sup> B = inputs and output reverse-polarity protected <sup>8)</sup>  
C = interference suppression <sup>9)</sup> Only in case of correctly mounted IP 69K connecting cable <sup>10)</sup> At  $UV \leq 24\text{ V}$  and  $IA < 30\text{ mA}$

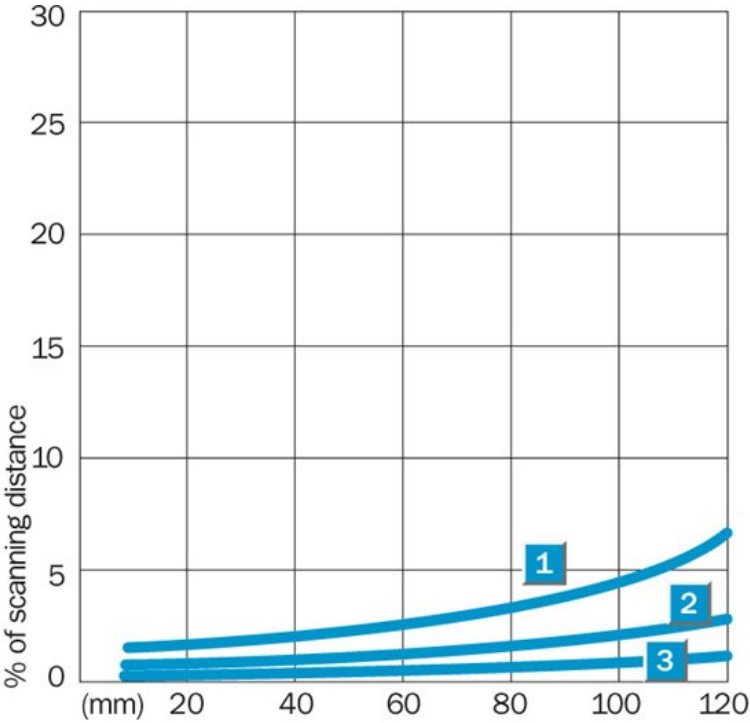
Dimensional drawing



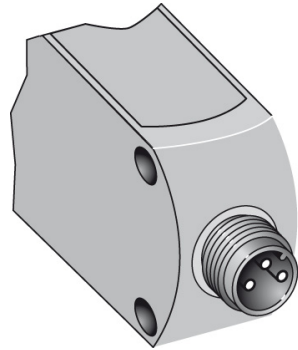
Connection diagram



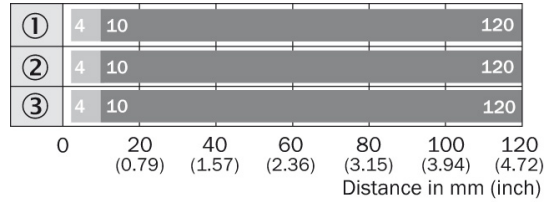
Characteristic curve



Connection type



Sensing range diagram



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

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