



Photoelectric sensors  
W15, Photoelectric proximity sensor, Background  
suppression

WTB15-A1131



**Model Name** > [WTB15-A1131](#)  
**Part No.** > [1046281](#)



*Illustration may differ*

**At a glance**

- Photoelectric proximity sensor with background suppression and 200 mm sensing distance
- Suppression of background reflections based on OES3 ASIC technology, with second LED emitter
- Red PinPoint LED
- Mounting flexibility: M18 front mount using plastic nut or snap ring, side assembly with 24.1 mm through holes
- Flush mounting possible using the snap ring
- Transparent back cover

**Your benefits**

- Photoelectric proximity sensor with best-in-class background suppression, reducing product loss and increasing throughput
- Reliable object detection, even in difficult environments
- Perfect light spot visibility and light spot geometry simplifies alignment
- Completely compatible with many competitor models, making it easy to install and commission
- Flush mounting reduces setup time and prevents obstructions to material flow on conveyor sections
- Clearly visible LED indicators reduce setup time and simplify troubleshooting



**Features**

|                                  |  |
|----------------------------------|--|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 16.2 mm x 48.5 mm x 31.9 mm                            |
| Housing design (light emission): | Hybrid   |
| Thread diameter (housing):       | M18 x 1  |
| Sensing range max.:              | 4 mm ... 200 mm <sup>1)</sup>                          |
| Sensing range:                   | 15 mm ... 200 mm                                       |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>2)</sup>                             |
| Wave length:                     | 650 nm   |
| Light spot size (distance):      | Ø 7 mm (50 mm)   |

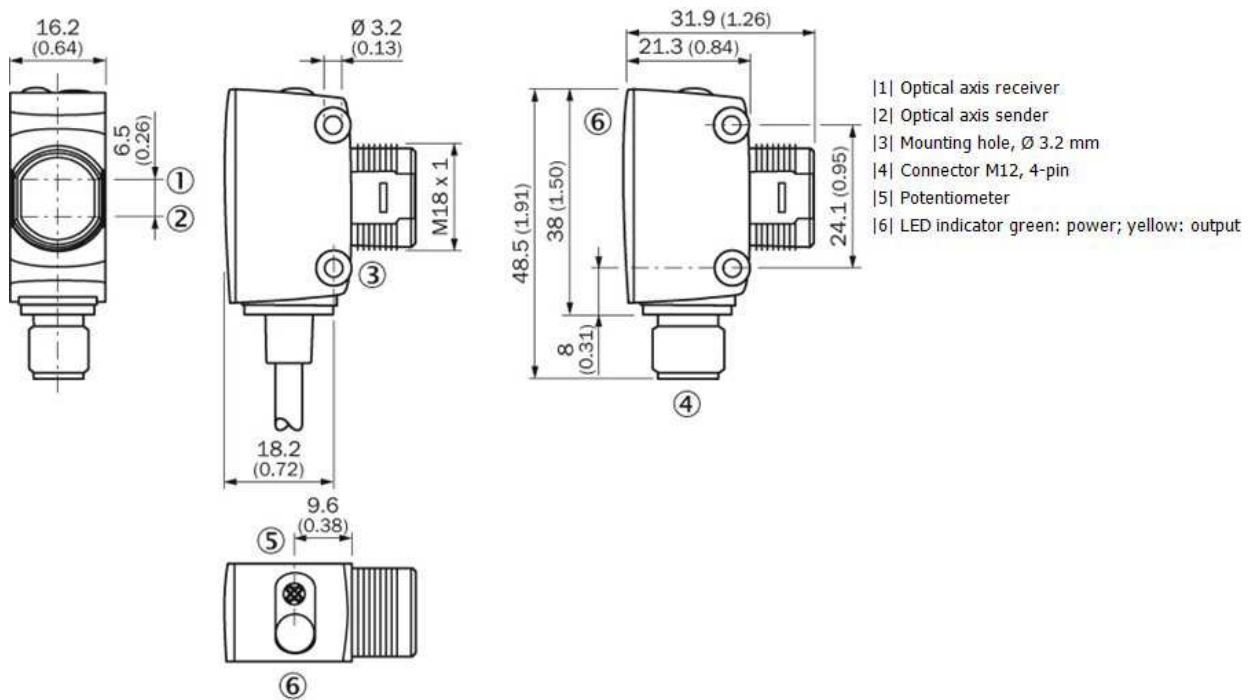
<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033)    <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

**Mechanics/electronics**

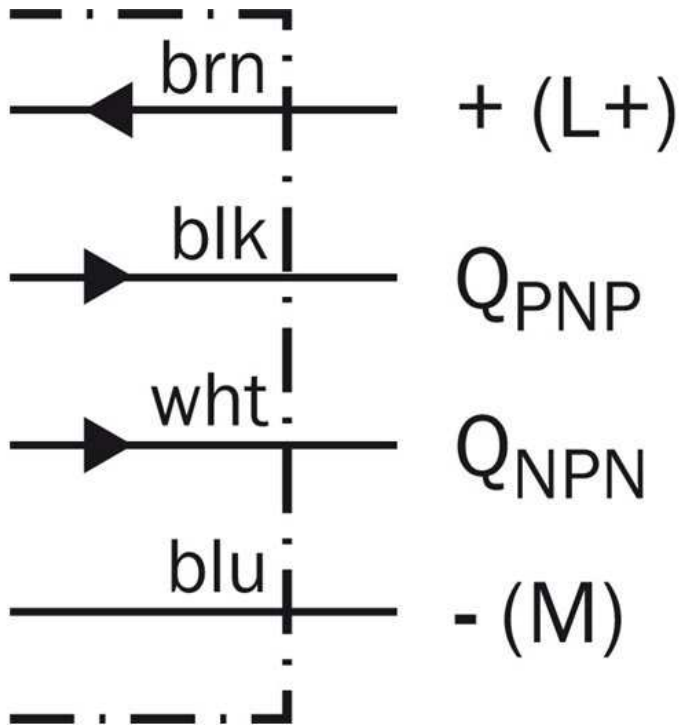
|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                           | < 5 V <sub>pp</sub> <sup>2)</sup> |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>             |
| Output type:                      | NPN, PNP                          |
| Switching mode:                   | Dark switching                    |
| Output current I <sub>max</sub> : | ≤ 100 mA <sup>4)</sup>            |
| Response time:                    | < 0.5 ms <sup>4)</sup>            |
| Switching frequency:              | 1,000 Hz <sup>5)</sup>            |
| Connection type:                  | Cable, 4-wire, 2 m <sup>6)</sup>  |
| Cable material:                   | PUR                               |
| Conductor cross-section:          | 0.14 mm <sup>2</sup>              |
| Circuit protection:::             | A, B, D <sup>7) 8) 9)</sup>       |
| Protection class:                 | II <sup>10)</sup>                 |
| Weight:                           | 20 g                              |
| Optics material:                  | PMMA                              |
| Enclosure rating:                 | IP 66<br>IP 67                    |
| Items supplied:                   | Snap-ring and M18 nut             |
| Ambient operating temperature:    | -40 °C ... +60 °C                 |
| Ambient storage temperature:      | -40 °C ... +75 °C                 |
| UL File No.:                      | NRKH.E189383 & NRKH7.E189383      |
| Housing material:                 | ABS, Plastic                      |

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> 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> Do not bend below 0 °C <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> D = outputs overcurrent and short-circuit protected <sup>10)</sup> Reference voltage: 50 V DC

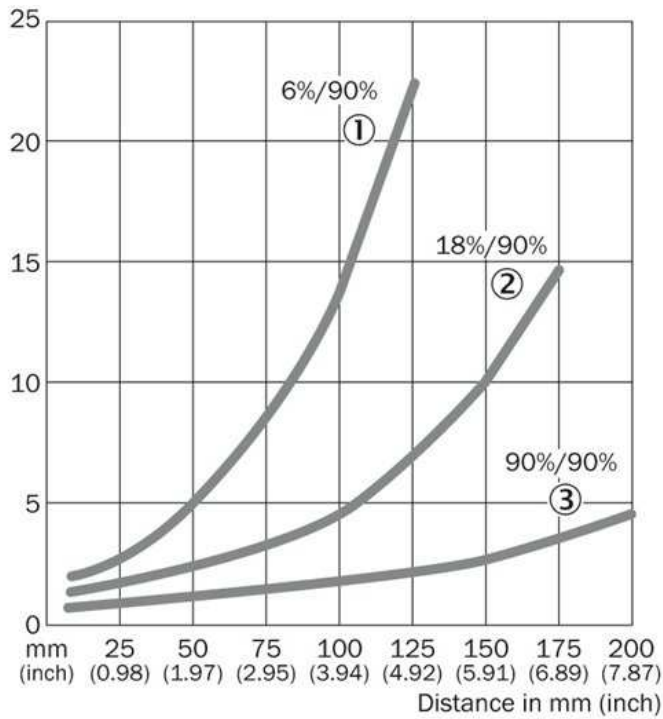
**Dimensional drawing**



**Connection diagram**

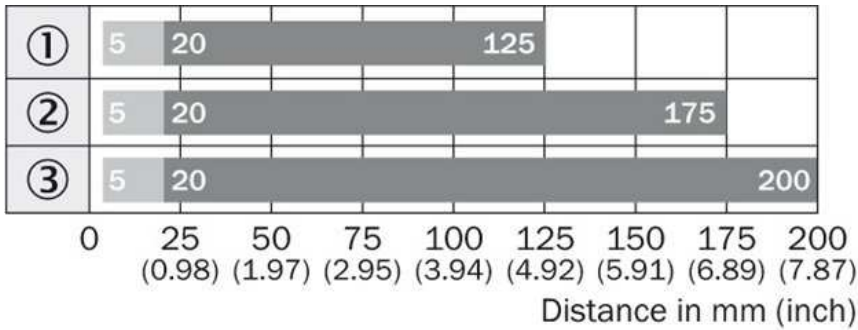


**Characteristic curve**



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

**Sensing range diagram**

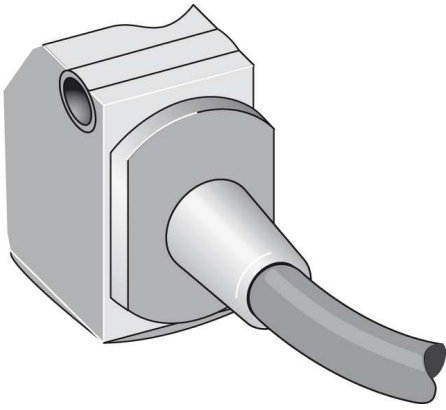


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

■ Sensing range      ■ Sensing range max.

Connection type

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