



Photoelectric sensors  
W15, Photoelectric proximity sensor, Background  
suppression

WTB15-B2430S94



Type > [WTB15-B2430S94](#)  
Part No. > [1067929](#)



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 ... 100 mm <sup>1)</sup>                          |
| Sensing range:                   | 15 mm ... 100 mm                                       |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>2)</sup>                             |
| Wave length:                     | 650 nm                                                 |
| Special features:                | Fixed sensing range                                    |
| 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

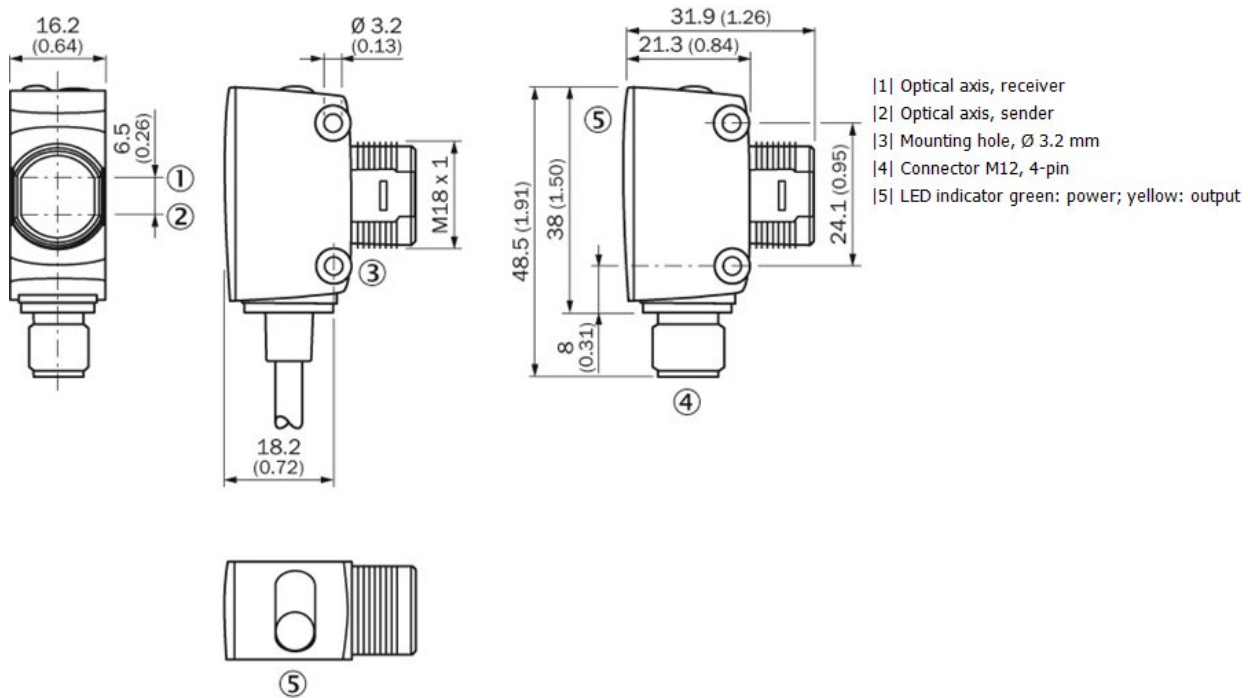
## Mechanics/electronics

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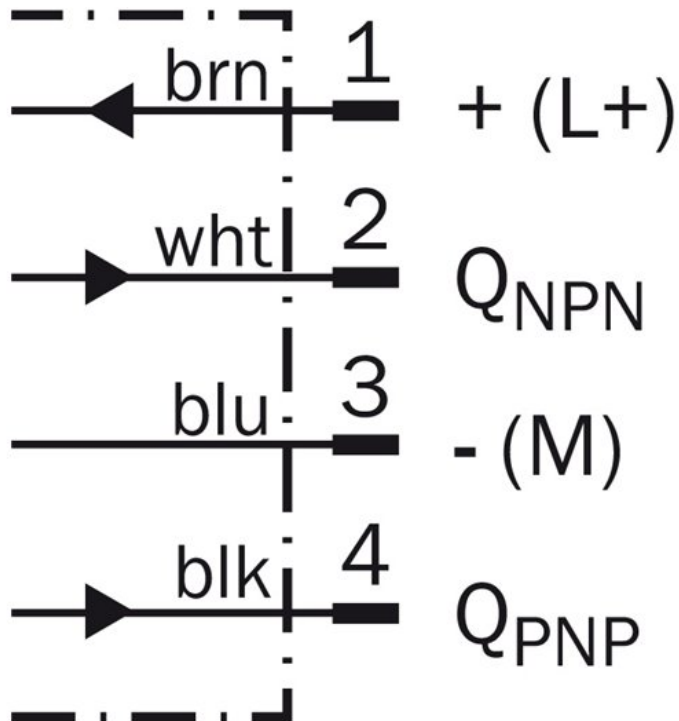
|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                           | < 5 Vpp <sup>2)</sup>             |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>             |
| Output type:                      | NPN, 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:                  | M12, 4-pin male connector         |
| Circuit protection:::             | A, B, D <sup>6) 7) 8)</sup>       |
| Protection class:                 | II <sup>9)</sup>                  |
| Weight:                           | 10 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  $V_S$  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> D = outputs overcurrent and short-circuit protected <sup>9)</sup> Reference voltage: 50 V DC

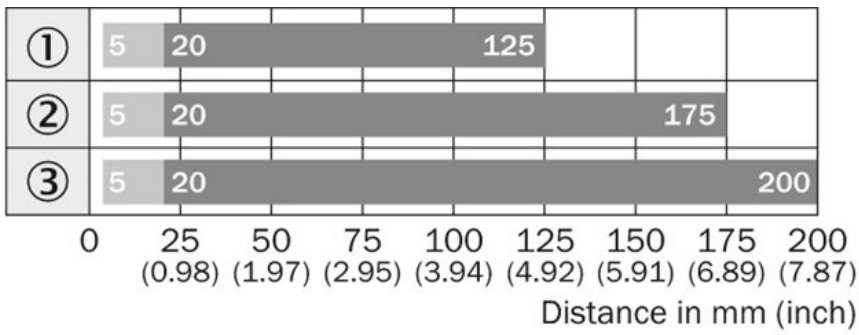
## Dimensional drawing



## Connection diagram



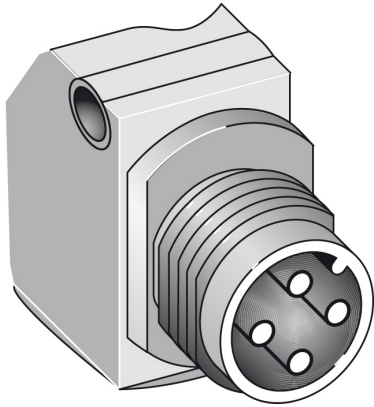
### Sensing range diagram



- |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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