

## W15, Photoelectric proximity sensor, Background suppression



A blue SICK W-15 Series photoelectric sensor is shown. It has a cylindrical body with a lens on the front and a label on the side. The label includes the SICK logo, the model name 'W-15 Series', and technical specifications: '10...30 LK', 'SIL 2, 100 mA', 'Supply: 12V', 'Output: PNP', 'Range: 10...30 m', 'IP67', and 'CE' and 'UL' certification marks. A black cable is attached to the bottom.

**Model Name** > **WTB15-B1131**  
**Part No.** > **1046282**



*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                                                 |
| Adjustment:                      | Potentiometer, 5-turn                                  |
| Light spot size (distance):      | 7 mm (50 mm)                                           |

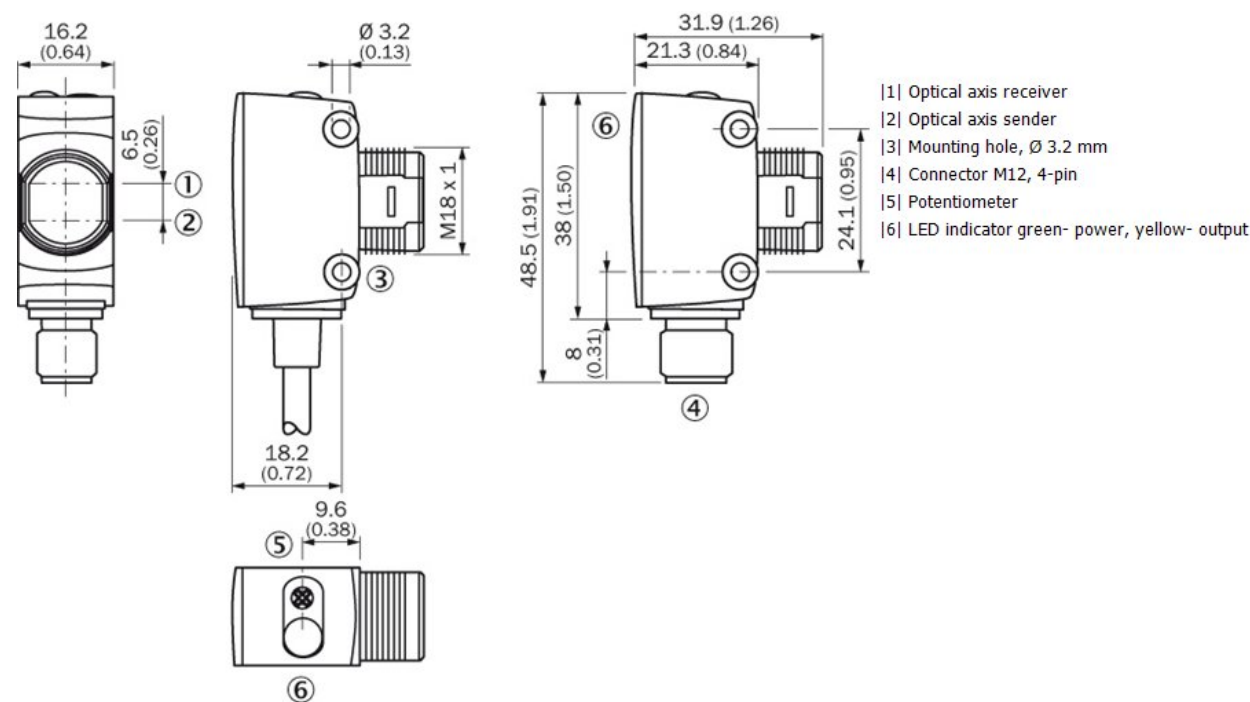
<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

## Mechanics/electronics

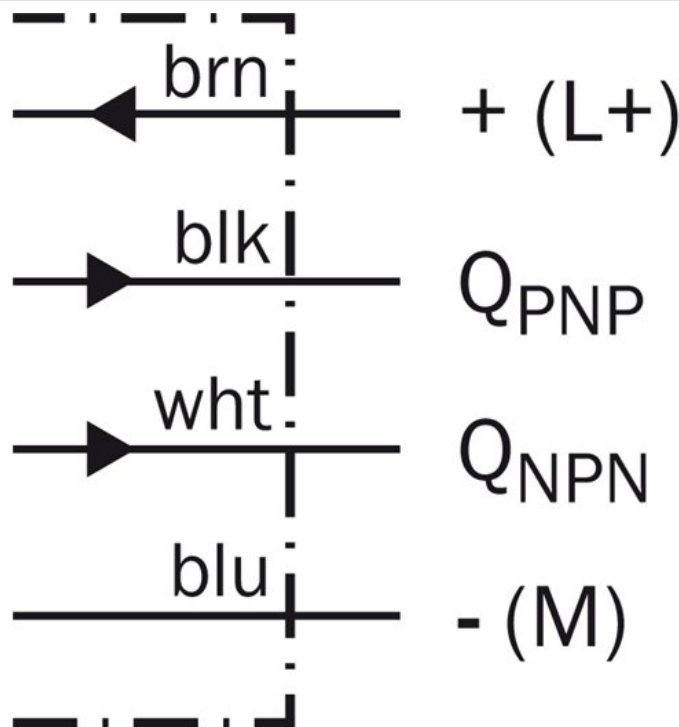
|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>                 |
| Ripple:                           | < 5 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 <sup>4)</sup>                            |
| Response time:                    | < 0.5 ms <sup>5)</sup>                            |
| Switching frequency:              | 1,000 Hz <sup>6)</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)</sup> <sup>8)</sup> <sup>9)</sup> |
| Protection class:                 | II <sup>10)</sup>                                 |
| Weight:                           | 20 g                                              |
| Housing material:                 | ABS, Plastic                                      |
| 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.:                      | NRKH7.E189383                                     |

<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

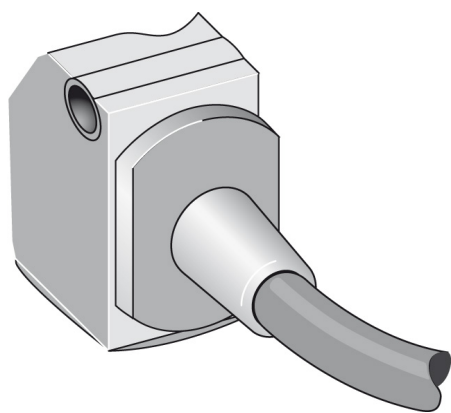
Dimensional drawing



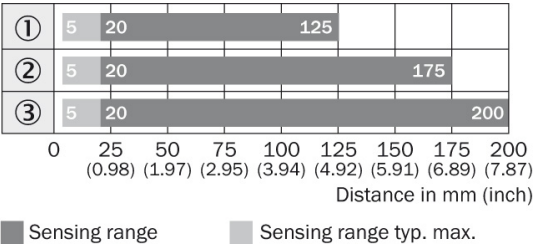
Connection diagram



Connection type



Sensing range diagram



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

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