



Photoelectric sensors  
W18-3, Photoelectric proximity sensor,  
Background suppression

WT18-3N430



**Type** > [WT18-3N430](#)  
**Part No.** > [1025898](#)



Illustration may differ

**At a glance**

- Sender LED with visible red light
- Precise background suppression
- Sensing range adjustment via potentiometer
- Immune to ambient light
- Rugged plastic housing

**Your benefits**

- Fast installation due to highly visible red light saves time
- Reliable object detection with high-precision background suppression due to second sender LED
- Quick and easy sensing distance adjustment due to 4-turn potentiometer
- Crosstalk and ambient light immunity reduce false readings and downtime
- High availability in the field



**Features**

|                                  |  |
|----------------------------------|--|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 17.6 mm x 75.5 mm x 33.5 mm                            |
| Housing design (light emission): | Rectangular  |
| Sensing range max.:              | 10 mm ... 600 mm <sup>1)</sup>                         |
| Sensing range:                   | 50 mm ... 600 mm <sup>2)</sup>                         |
| Type of light:                   | Visible red light                                      |
| Light source:                    | LED <sup>3)</sup>                                      |
| Adjustment:                      | Potentiometer, 4 turns                                 |
| Light spot size (distance):      | Ø 15 mm (300 mm)                                       |
| Continuous threshold adaption:   | -  |

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

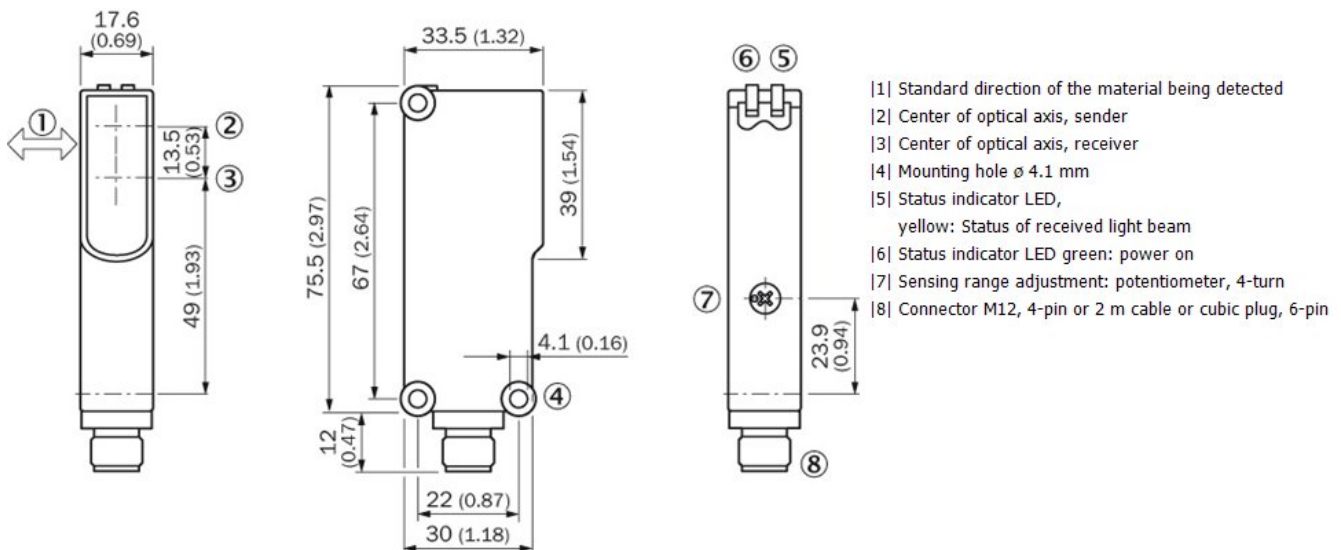
**Mechanics/electronics**

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                            | < 5 Vpp <sup>2)</sup>             |
| Power consumption:                 | 40 mA <sup>3)</sup>               |
| Output type:                       | NPN                               |
| Output function:                   | Complementary                     |
| Switching mode:                    | Light/dark switching              |
| Output current I <sub>max.</sub> : | 100 mA                            |

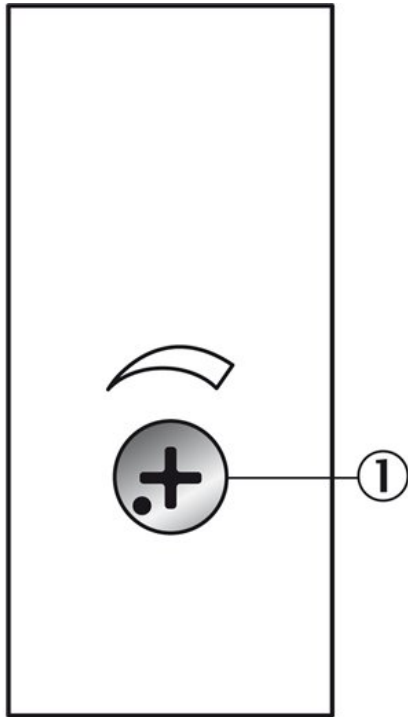
|                                |                              |
|--------------------------------|------------------------------|
| Response time:                 | < 700 $\mu$ s <sup>4)</sup>  |
| Switching frequency:           | 700 Hz <sup>5)</sup>         |
| Connection type:               | M12, 4-pin male connector    |
| Circuit protection:::          | A, C, D <sup>6) 7) 8)</sup>  |
| Weight:                        | 40 g                         |
| Housing material:              | ABS, Plastic                 |
| Optics material:               | PMMA                         |
| Enclosure rating:              | IP 67                        |
| Ambient operating temperature: | -40 °C ... +60 °C            |
| Ambient storage temperature:   | -40 °C ... +75 °C            |
| UL File No.:                   | NRKH.E181493 & NRKH7.E181493 |

1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of  $V_S$  tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A =  $V_S$  connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected

## Dimensional drawing

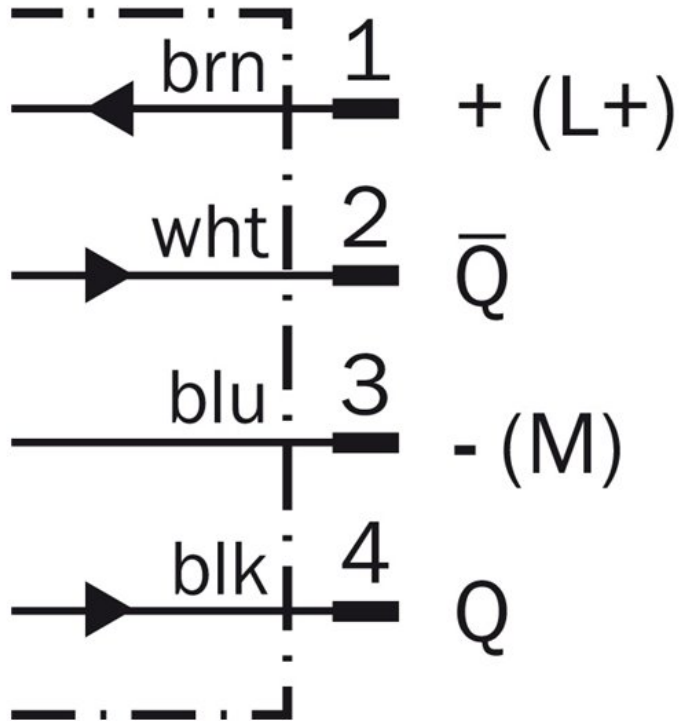


Adjustments possible

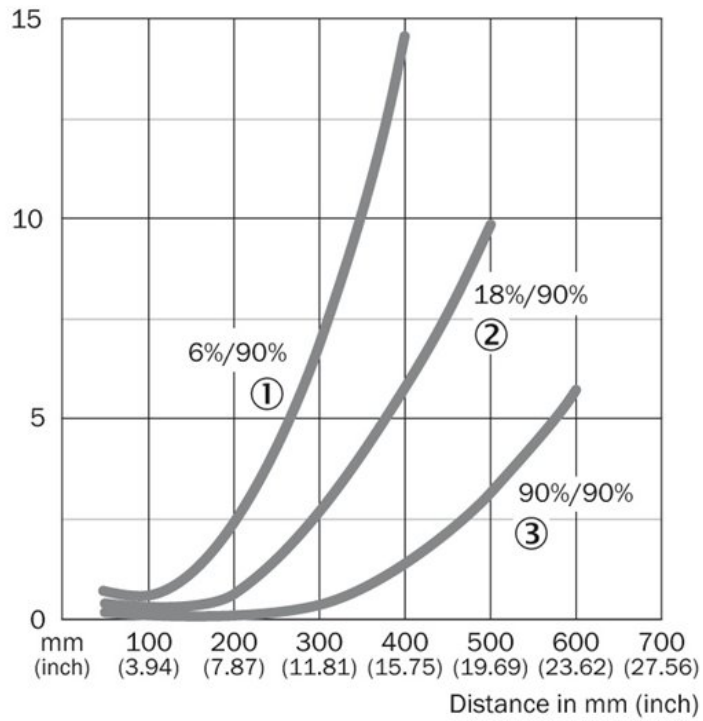


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

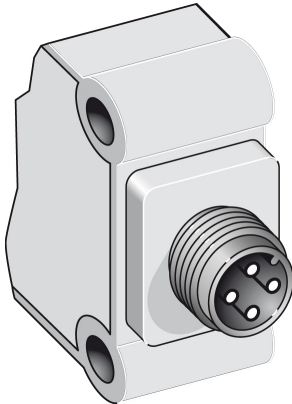


## Characteristic curve

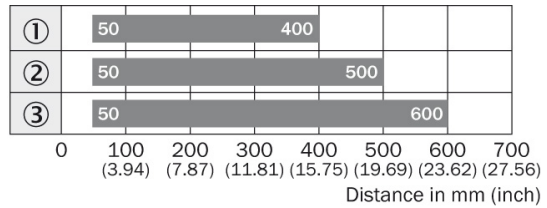


- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission

## Connection type



## Sensing range diagram



■ Sensing range

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- ③ Sensing range on white, 90 % remission

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