



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

WT18-3P420S09



**Model Name** > [WT18-3P420S09](#)  
**Part No.** > [1027572](#)



*Illustration may differ*

#### At a glance

- Sender LED with infrared light
- Precise background suppression
- Adjustable sensing distance
- Immune to ambient light
- Rugged plastic housing

#### Your benefits

- Long sensing distances due to high-performance infrared light
- Reliable object detection with high-precision background suppression due to second sender LED
- Quick and easy sensing range adjustment
- 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 ... 700 mm <sup>1)</sup>                         |
| Sensing range:                   | 50 mm ... 1,000 mm <sup>2)</sup>                       |
| Type of light:                   | Infrared light                                         |
| Light source:                    | LED <sup>3)</sup>                                      |
| Alarm output:                    | -                                                      |
| Health output:                   | -                                                      |
| Adjustment:                      | Potentiometer, 4 turns                                 |
| Light spot size (distance):      | Ø 30 mm (600 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

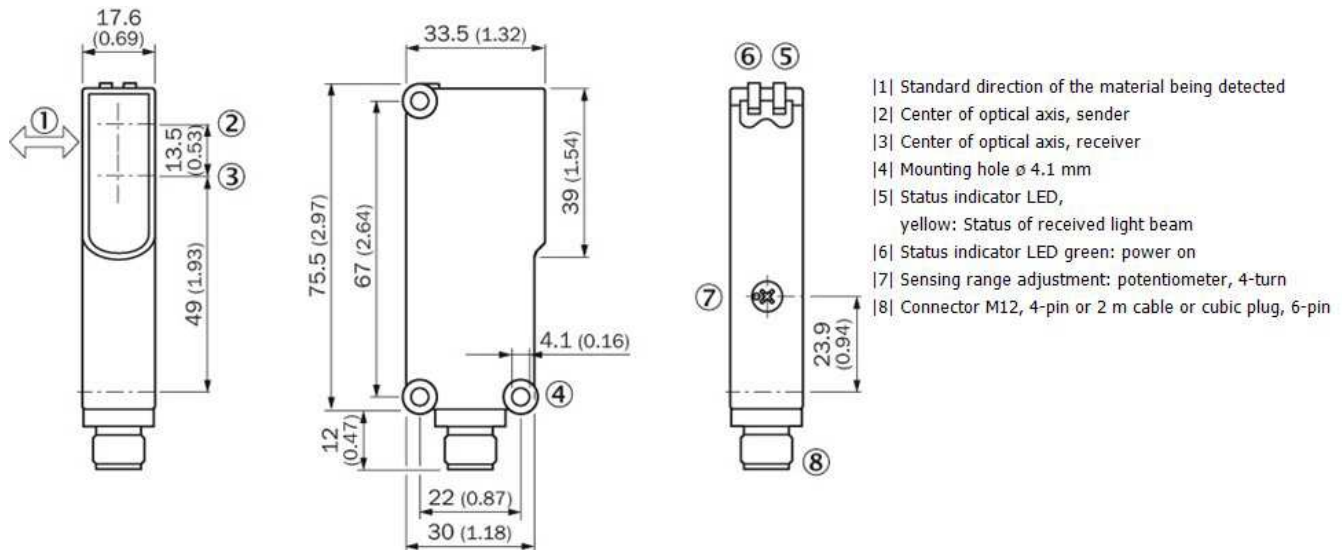
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| Supply voltage:    | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:            | < 5 Vpp <sup>2)</sup>             |
| Power consumption: | 55 mA <sup>3)</sup>               |
| Output type:       | PNP                               |
| Output function:   | Complementary                     |

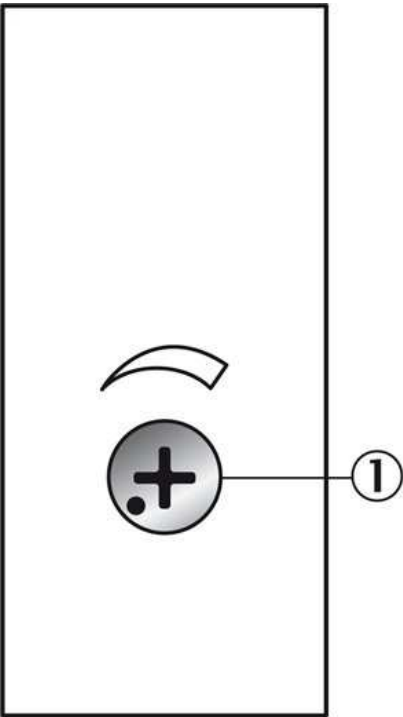
|                                   |                              |
|-----------------------------------|------------------------------|
| Switching mode:                   | Light/dark switching         |
| Output current I <sub>max</sub> : | 100 mA                       |
| Response time:                    | < 700 µs <sup>4)</sup>       |
| Switching frequency:              | 700 Hz <sup>5)</sup>         |
| Connection type:                  | Connector M12, 4-pin         |
| Circuit protection:::             | A, C, D <sup>6)</sup> 7) 8)  |
| Weight:                           | 40 g                         |
| IO-Link:                          | -                            |
| Special device:                   | ✓                            |
| 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

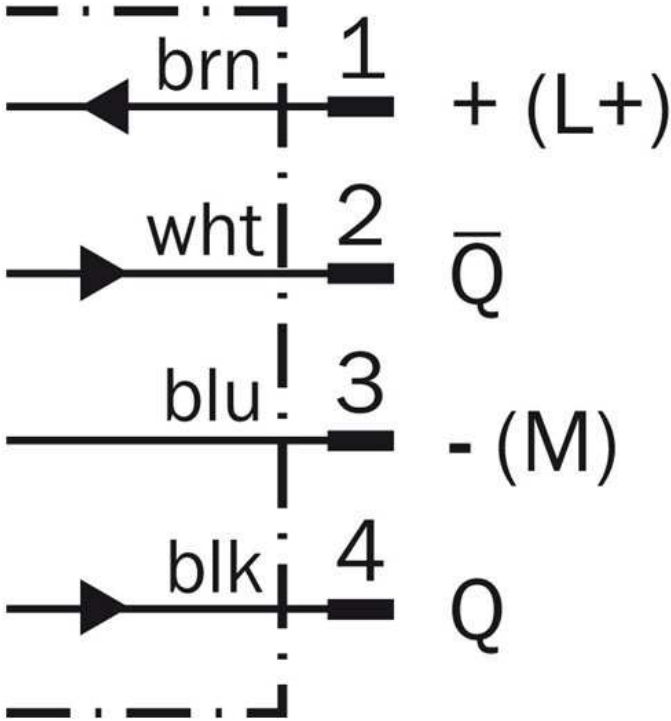


Adjustments possible



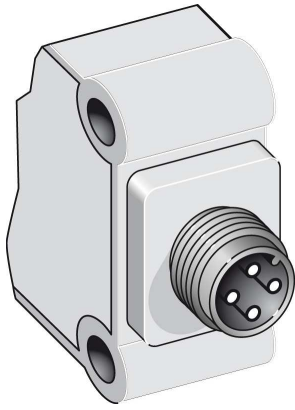
[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram



## Connection type

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