



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

WT18-3P421



Type > [WT18-3P421](#)  
Part No. > [1026383](#)



*Illustration may differ*

#### At a glance

- Sender LED with infrared light
- Precise background suppression
- Sensing range can be set via double teach-in pushbutton
- Immune to ambient light
- Rugged plastic housing

#### Your benefits

- Very long sensing distances due to high-performance infrared light
- Reliable object detection with high-precision background suppression due to second sender LED
- Quick, easy and accurate sensing distance adjustment via double teach-in pushbutton
- 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 ... 1,000 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>                                      |
| Teach-in:                        | Double teach-in button                                 |
| Adjustment:                      | Double teach-in button                                 |
| 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

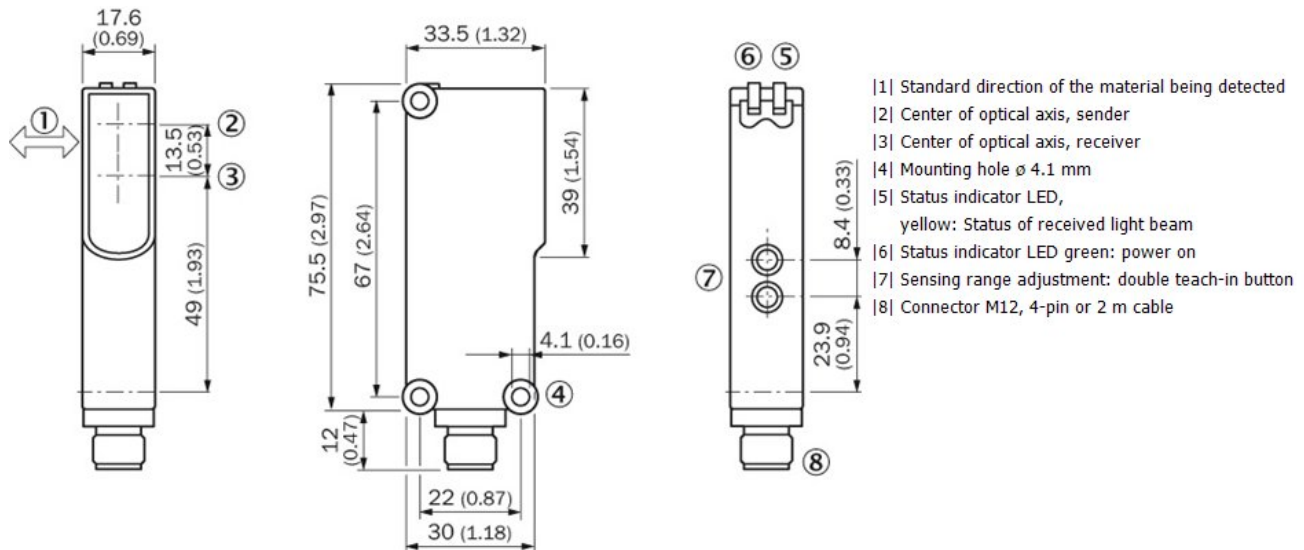
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| 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                     |

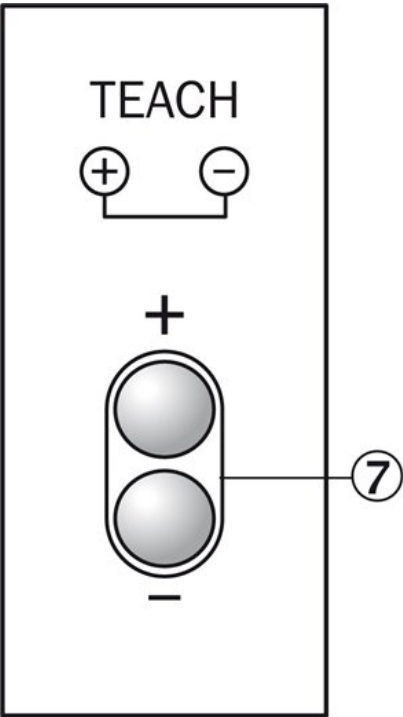
|                                    |                              |
|------------------------------------|------------------------------|
| Switching mode:                    | Light/dark switching         |
| Output current I <sub>max</sub> :: | 100 mA                       |
| Response time:                     | < 700 µs <sup>4)</sup>       |
| Switching frequency:               | 700 Hz <sup>5)</sup>         |
| Connection type:                   | 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

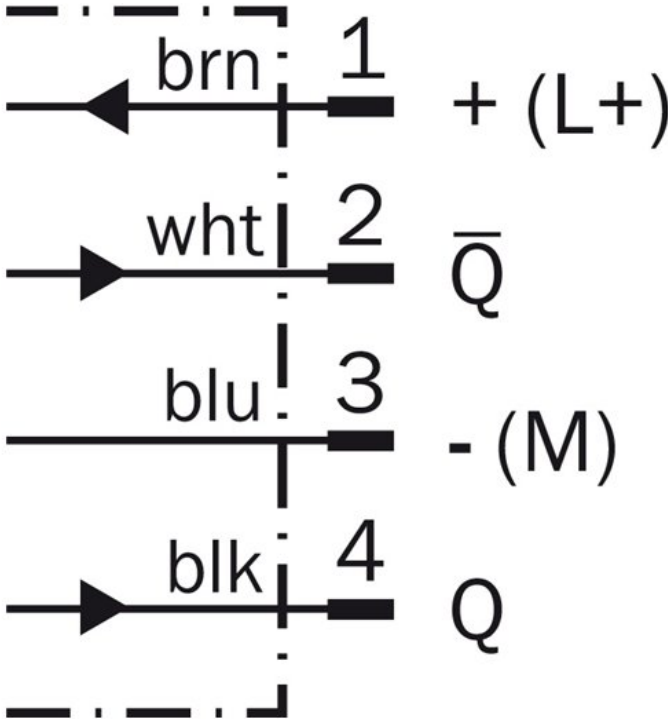


Adjustments possible

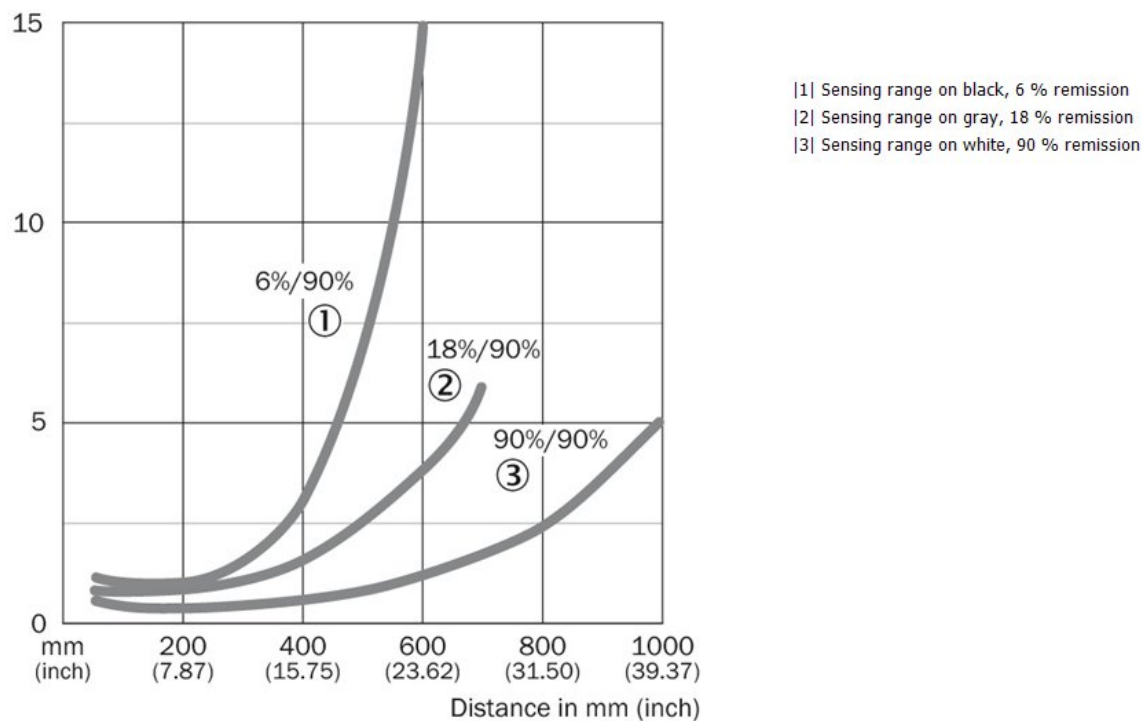


[1] Sensing range adjustment: double teach-in button

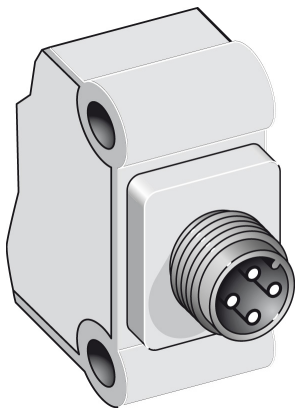
Connection diagram



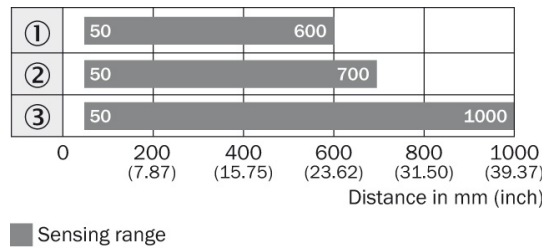
Characteristic curve



Connection type



Sensing range diagram



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)