



## Photoelectric sensors V180-2, Photoelectric proximity sensor, energetic

VTE180-2N42484



**Model Name** > [VTE180-2N42484](#)  
**Part No.** > [6043821](#)



*Illustration may differ*

#### At a glance

- Lowest-cost M18 housing sensor on the market
- Long sensing distances: 100 mm, 400 mm, 800 mm (max. 1,100 mm)
- Bright power and signal LEDs with 360° visibility
- Wide product portfolio solves a broad range of applications
- High switching frequencies up to 1000 Hz
- Available in a metal housing for applications in harsh environments
- Optical axis selectively axial or radial (90°)

#### Your benefits

- Lowest-cost M18 cylindrical sensor on the market reduces installation costs
- Bright red sender LED simplifies alignment and saves installation time
- Bright power and signal LEDs with 360° visibility offer quick and simple troubleshooting, reducing installation and maintenance costs
- The flat and smooth lens reduces the collection of dust and dirt, ensuring safe operation with less maintenance and fewer costs



#### Features

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, energetic |
| Housing design (light emission): | Cylindrical, angled                       |
| Housing length:                  | 83.8 mm                                   |
| Optical axis:                    | Radial                                    |
| Sensing range max.:              | 1 mm ... 900 mm <sup>1)</sup>             |
| Sensing range:                   | 1 mm ... 650 mm <sup>2)</sup>             |
| Type of light:                   | Visible red light                         |
| Light source:                    | LED <sup>3)</sup>                         |
| Wave length:                     | 645 nm                                    |
| Angle of dispersion:             | Ca. 1.2 °                                 |
| Adjustment:                      | Potentiometer, 270°                       |
| Light spot size (distance):      | Ø 30 mm (800 mm)                          |

<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

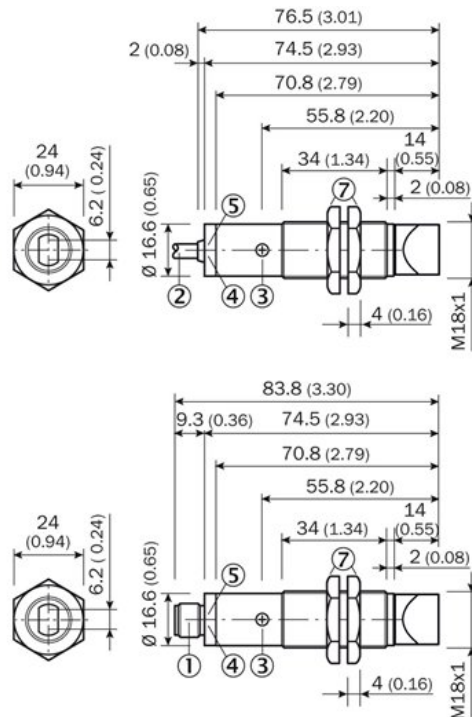
#### Mechanics/electronics

|                    |                                   |
|--------------------|-----------------------------------|
| Supply voltage:    | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:            | ± 10 %                            |
| Power consumption: | ≤ 30 mA <sup>2)</sup>             |

|                                |                                     |
|--------------------------------|-------------------------------------|
| Output type:                   | NPN <sup>3)</sup>                   |
| Switching mode:                | Light/dark-switching <sup>4)</sup>  |
| Signal voltage NPN HIGH/LOW:   | Approx. $V_S / < 1.8 \text{ V}$     |
| Output current $I_{max}$ :     | $\leq 100 \text{ mA}$               |
| Response time:                 | $\leq 0.5 \text{ ms}$ <sup>5)</sup> |
| Switching frequency:           | 1,000 Hz <sup>6)</sup>              |
| Connection type:               | Connector M12, 4-pin                |
| Circuit protection:::          | A, B, D <sup>7) 8) 9)</sup>         |
| Protection class:              | III                                 |
| Weight:                        | 47 g                                |
| Housing material:              | Nickel-plated brass and PC, Metal   |
| Optics material:               | PMMA                                |
| Enclosure rating:              | IP 67                               |
| Ambient operating temperature: | -25 °C ... 55 °C                    |
| Ambient storage temperature:   | -40 °C ... 70 °C                    |

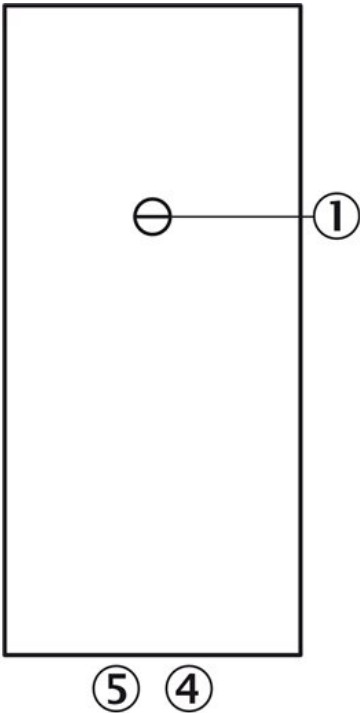
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A    <sup>2)</sup> Without load    <sup>3) 4)</sup> Control wire open: light-switching L.ON    <sup>5)</sup> Signal transit time with resistive load  
<sup>6)</sup> With light/dark ratio 1:1    <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected    <sup>8)</sup> B = inputs and output reverse-polarity protected    <sup>9)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing



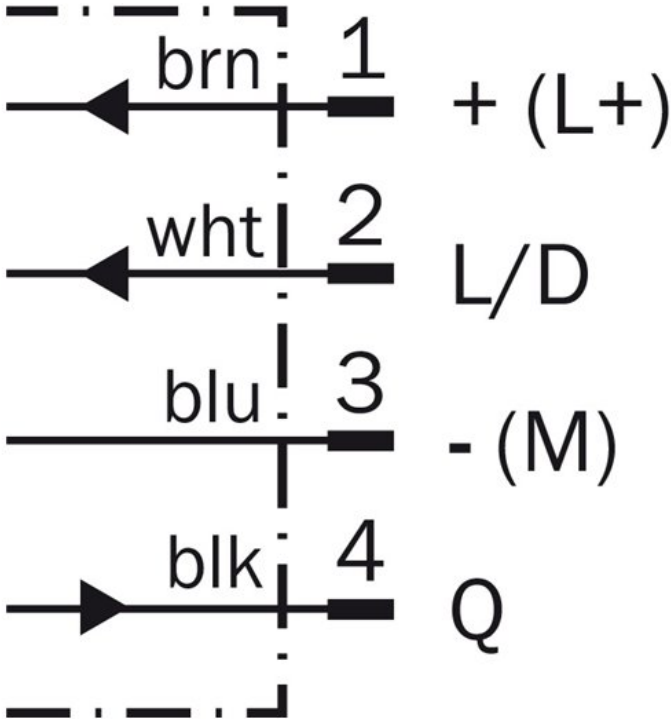
- [1] Connector M12, 3-pin / Connector M12, 3-pin
- [2] Connection cable 2 m
- [3] Sensitivity control; Potentiometer 270°
- [4] LED indicator orange: switching output active
- [5] LED indicator green, stability indicator:  
LED lights continuously = light reception < 0.9 / > 1.1; LED off = light reception > 0.9 / < 1.1
- [7] Metal housing, fastening nuts (2 x); width across 24

Adjustments possible

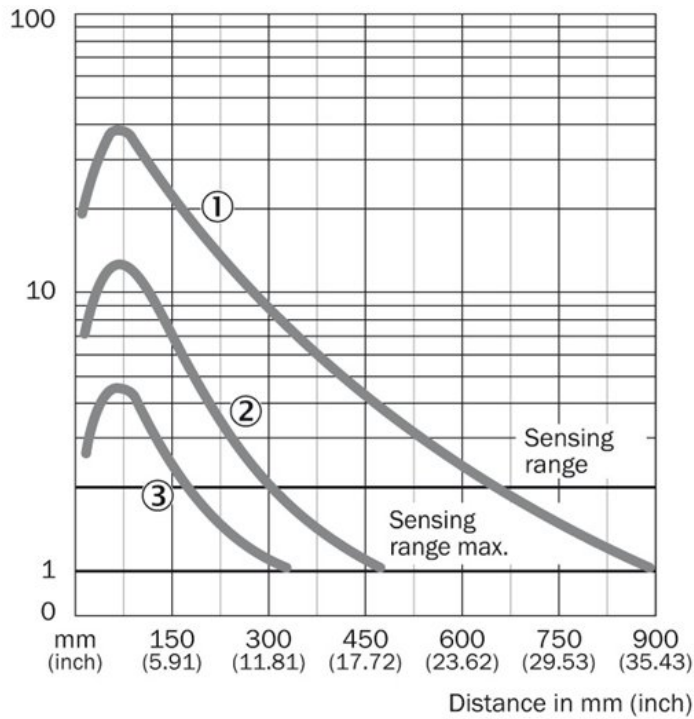


- |3| Sensitivity adjustment 270°
- |4| LED indicator orange: switching output active
- |5| LED indicator green

Connection diagram

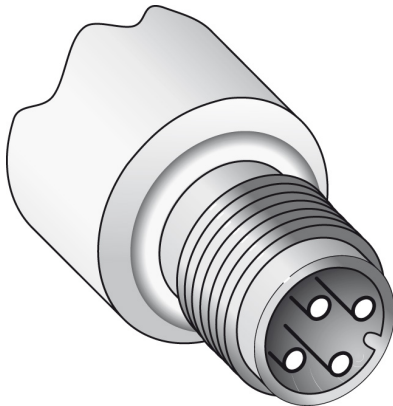


## Characteristic curve

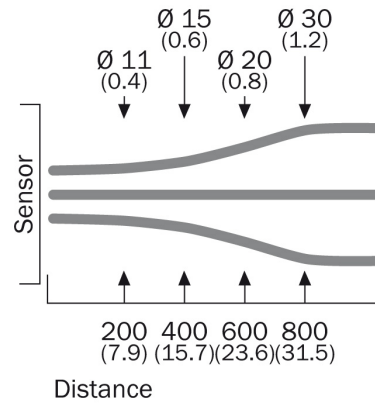


- |1| Sensing range on white, 90 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on black, 6 % remission

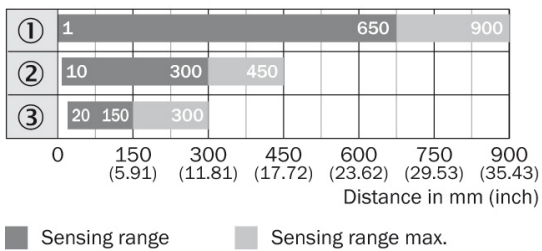
## Connection type



## Light spot size



## Sensing range diagram



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