



Photoelectric sensors  
V180-2, Photoelectric proximity sensor,  
Background blanking

VTE180-2N42442

im0036730

**Model Name** > [VTE180-2N42442](#)  
**Part No.** > [6041805](#)



*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, Background blanking
Housing design (light emission):	Cylindrical, straight
Housing length:	69.8 mm
Thread diameter (housing):	M18 x 1
Optical axis:	Axial
Sensing range max.:	1 mm ... 500 mm <sup>1)</sup>
Sensing range:	1 mm ... 350 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	645 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer, 270°
Light spot size (distance):	Ø 20 mm (400 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

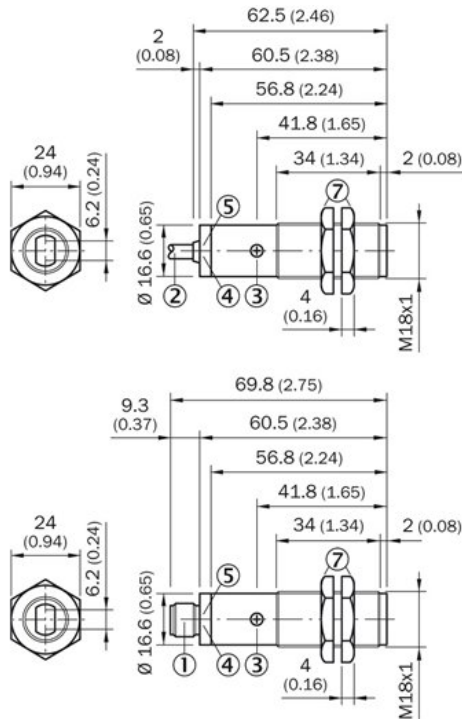
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 10 %

Power consumption:	$\leq 30 \text{ mA}$ <sup>2)</sup>
Output type:	NPN, open collector <sup>3)</sup>
Switching mode:	Light/dark-switching <sup>4)</sup>
Switching mode selector:	Selectable via L/D control wire
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current $I_{\text{max}}$ :	$\leq 100 \text{ mA}$ <sup>5)</sup>
Response time:	$\leq 0.5 \text{ ms}$ <sup>5)</sup>
Switching frequency:	$1,000 \text{ Hz}$ <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
Items supplied:	Fastening nuts (2 x)
Ambient operating temperature:	$-25 \text{ }^\circ\text{C} \dots 55 \text{ }^\circ\text{C}$
Ambient storage temperature:	$-40 \text{ }^\circ\text{C} \dots 70 \text{ }^\circ\text{C}$

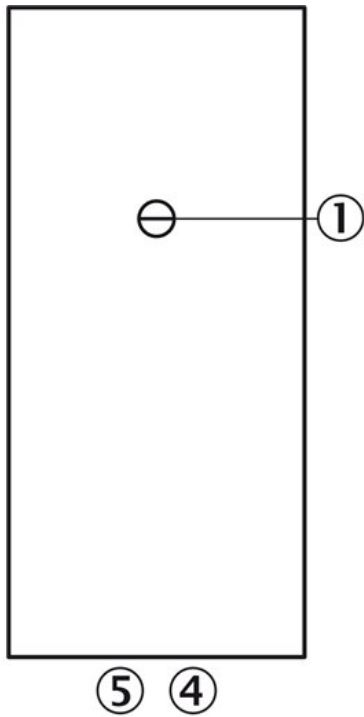
1) Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> Without load <sup>3) 4)</sup> Control wire open: light-switching L.ON <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup>  $A = V_S$  connections reverse-polarity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

## Dimensional drawing



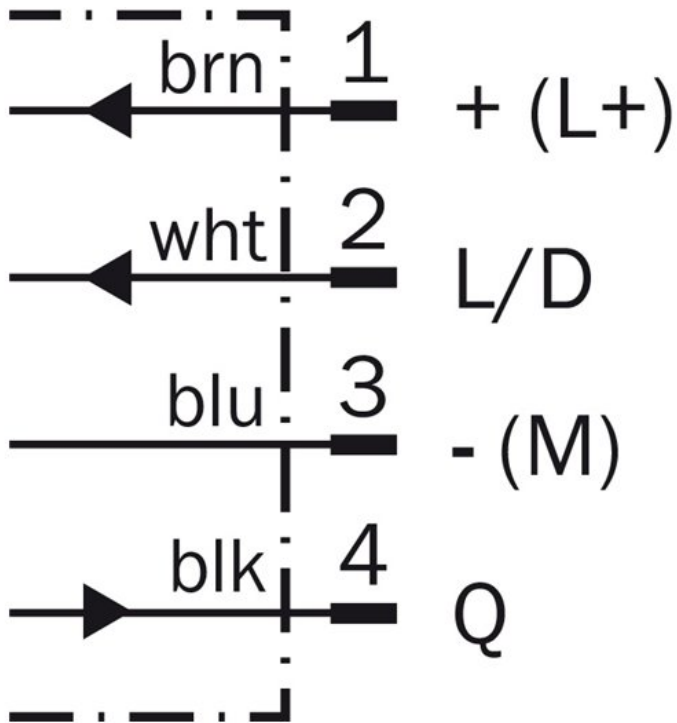
- [1] Connector M12, 4-pin
- [2] Connection cable 2 m
- [3] Sensitivity adjustment  $270^\circ$
- [4] LED indicator orange: switching output active
- [5] LED indicator green: strength indicator
- [7] fastening nuts (2 x); 24 mm hex, metal

Adjustments possible

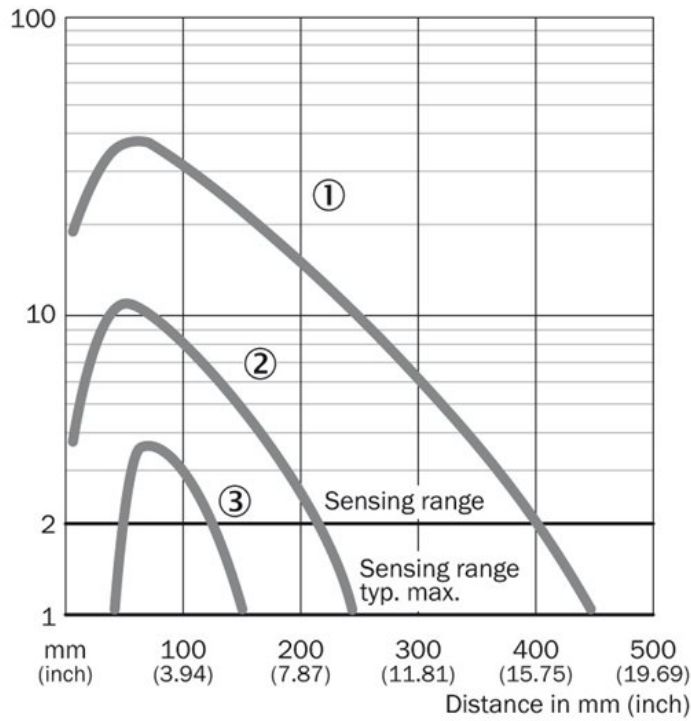


- |3| Sensitivity adjustment 270°
- |4| LED indicator orange: switching output active
- |5| LED indicator green

Connection diagram

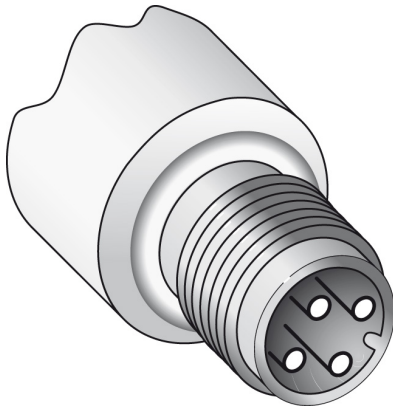


## Characteristic curve

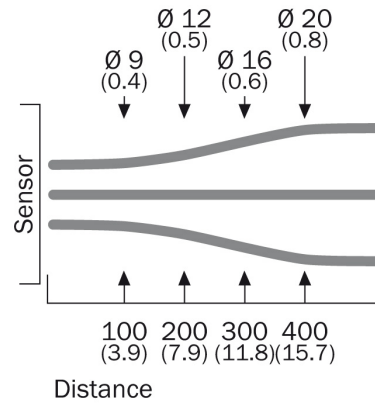


- |1| Sensing range on white, 90 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on black, 6 % remission

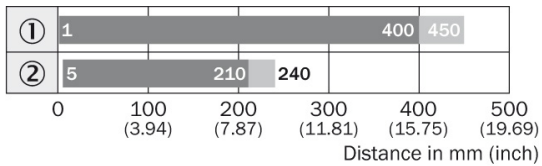
## Connection type



## Light spot size



## Sensing range diagram



■ Sensing range      ■ Sensing range max.

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