



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

VTE180-2P42442

im0036730

Model Name > [VTE180-2P42442](#)
Part No. > [6041807](#)

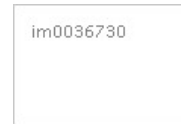


Illustration may differ

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 ¹⁾
Sensing range:	1 mm ... 350 mm ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	645 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer, 270°
Light spot size (distance):	Ø 20 mm (400 mm)

^{1) 2)} Object with 90 % reflectance (referred to standard white DIN 5033) ³⁾ Average service life of 100,000 h at T_A = +25 °C

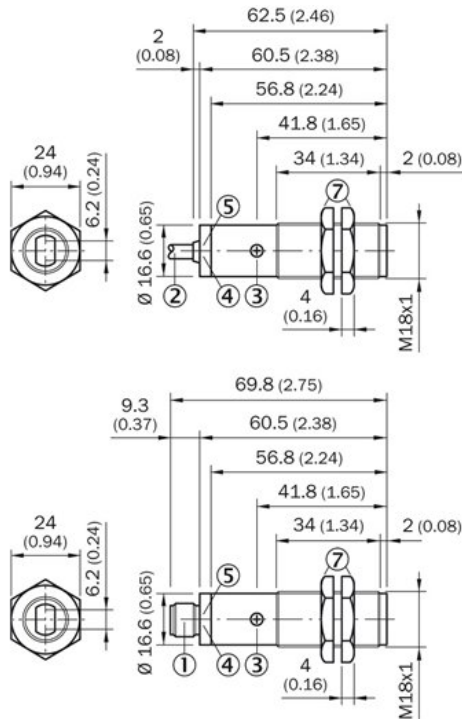
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 %

Power consumption:	≤ 30 mA ²⁾
Output type:	PNP, open collector ³⁾
Switching mode:	Light/dark-switching ⁴⁾
Switching mode selector:	Selectable via L/D control wire
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V/0 V
Output current I _{max} ·:	≤ 100 mA ⁵⁾
Response time:	≤ 0.5 ms ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, D ^{7) 8) 9)}
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 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 70 °C

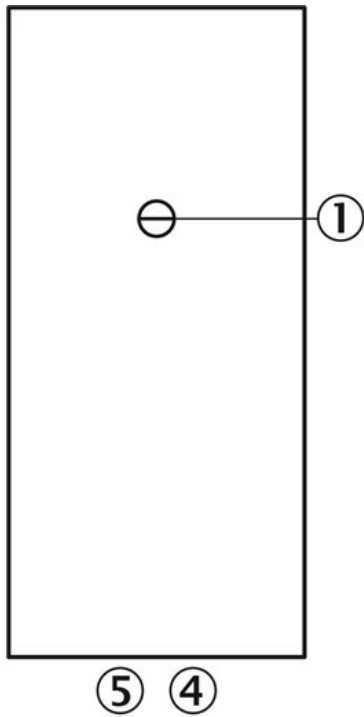
1) Limit values, operation in short-circuit protected network max. 8 A ²⁾ Without load ^{3) 4)} Control wire open: dark-switching D.ON ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected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

Dimensional drawing



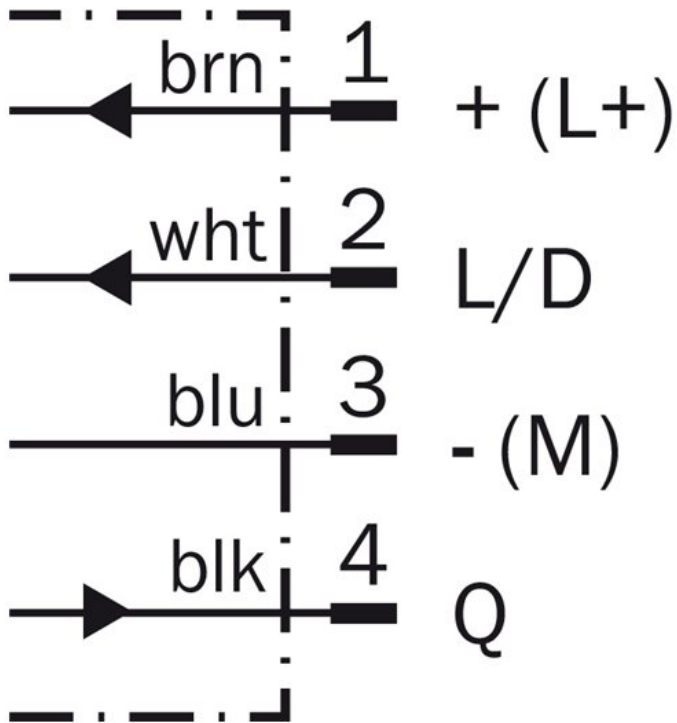
- [1] Connector M12, 4-pin
- [2] Connection cable 2 m
- [3] Sensitivity adjustment 270°
- [4] LED indicator orange: switching output active
- [5] LED indicator green: strength indicator
- [7] fastening nuts (2 x); 24 mm hex, metal

Adjustments possible

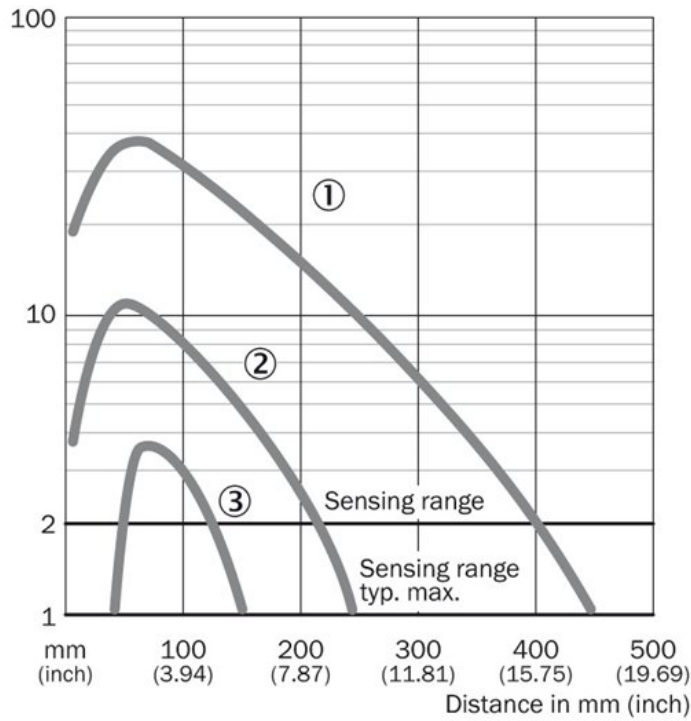


- |3| Sensitivity adjustment 270°
- |4| LED indicator orange: switching output active
- |5| LED indicator green

Connection diagram

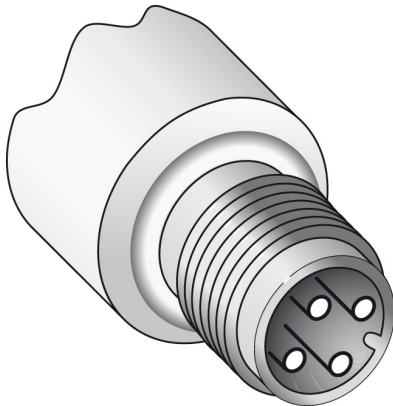


Characteristic curve

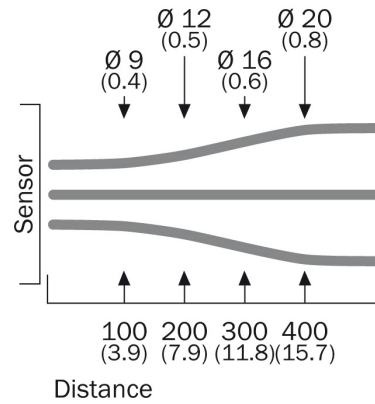


- |1| Sensing range on white, 90 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on black, 6 % remission

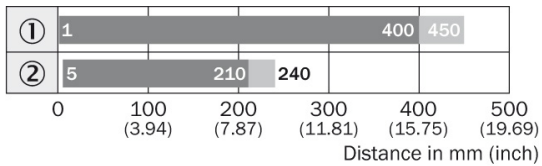
Connection type



Light spot size



Sensing range diagram



■ Sensing range ■ Sensing range max.

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