



Photoelectric sensors  
V18, Photoelectric proximity sensor, Background  
suppression

VTB18-4N1240



**Model Name** > [VTB18-4N1240](#)  
**Part No.** > [6030191](#)



*Illustration may differ*

**At a glance**

- Cylindrical M18 housing
- Background suppression
- Sensing distance up to 140 mm
- 3- or 4-wire
- Metal or plastic housing

**Your benefits**

- Simple, standardized design ensures easy mounting, alignment and replacement
- Precise background suppression ensures reliable detection and increases throughput
- Compact, space-saving design easily fits in tight application spaces



**Features**

|                                   |  |
|-----------------------------------|--|
| Sensor/detection principle:       | Photoelectric proximity sensor, Background suppression |
| Housing design (light emission):  | Cylindrical, straight, straight                        |
| Housing length:                   | 79.4 mm  |
| Thread diameter (housing):        | M18 x 1  |
| Optical axis:                     | axial  |
| Sensing range max.:               | 25 mm ... 140 mm <sup>1)</sup>                         |
| Sensing range:                    | 30 mm ... 130 mm                                       |
| Type of light:                    | Visible red light                                      |
| Light source:                     | LED <sup>2)</sup>                                      |
| Light spot (distance):            | 12 mm (130 mm)   |
| Wave length:                      | 660 nm   |
| Adjustment of operating distance: | Potentiometer, 270°                                    |
| Angle of dispersion:              | 5 °  |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

**Mechanics/electronics**

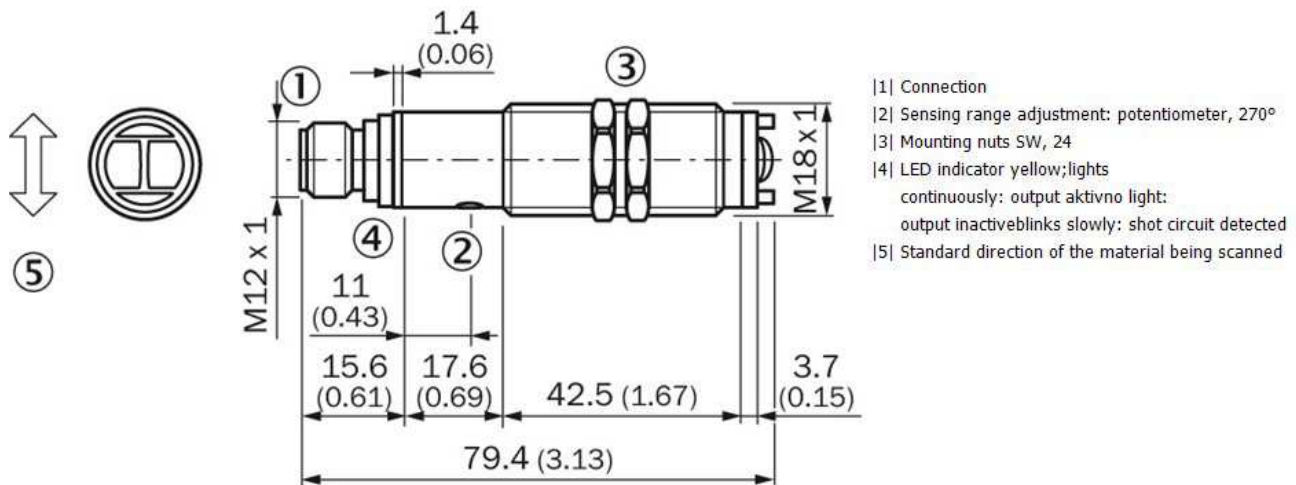
|                                    |  |
|------------------------------------|--|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>  |
| Residual ripple:                   | ≤ 10 % <sup>2)</sup>   |
| Power consumption:                 | ≤ 30 mA <sup>3)</sup>  |
| Output type:                       | NPN, Light/dark-switching, Selectable via L/D control wire, open collector |
| Output current I <sub>max.</sub> : | 100 mA   |

|                                |                                    |
|--------------------------------|------------------------------------|
| Response time:                 | ≤ 0.5 ms <sup>5)</sup>             |
| Switching frequency:           | 1,000 Hz <sup>6)</sup>             |
| Electrical connection:         | Connector M12, 4-pin               |
| Circuit protection:::          | A, B, C, D <sup>7) 8) 9) 10)</sup> |
| Protection class:              | III                                |
| Weight:                        | 200 g                              |
| Housing material:              | Nickel-plated brass                |
| Optics material:               | PMMA                               |
| Enclosure rating:              | IP 67                              |
| Ambient temperature operation: | -25 °C ... 70 °C                   |
| Ambient storage temperature:   | -55 °C ... 80 °C                   |

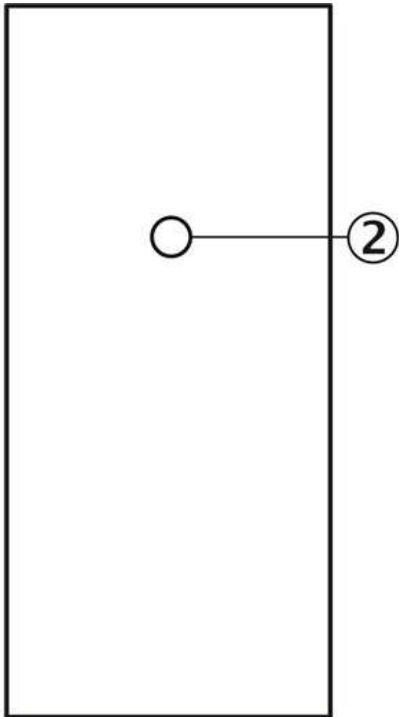
Control wire open: light-switching L.ON;

1) Limit values 2) May not exceed or fall short of  $V_S$  tolerances 3) Without load 4) Control wire open: light-switching L.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) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

## Dimensional drawing

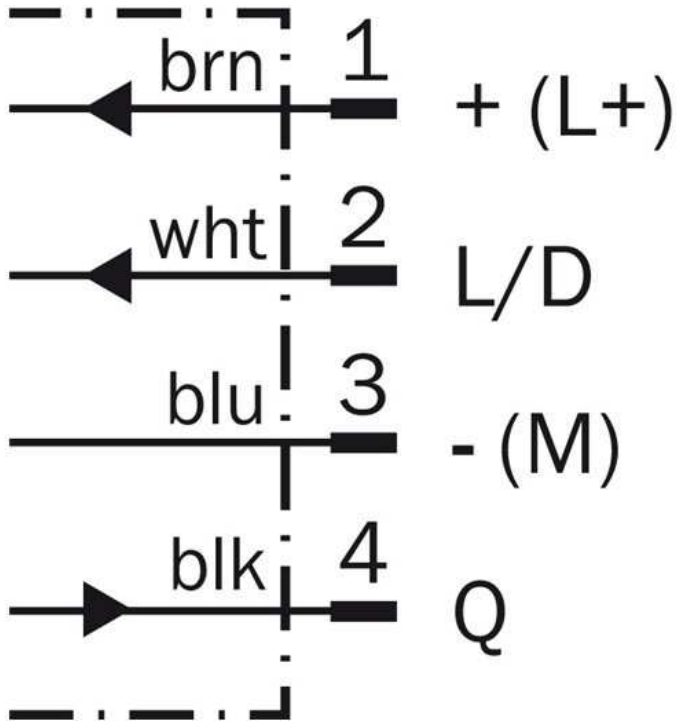


Adjustments possible

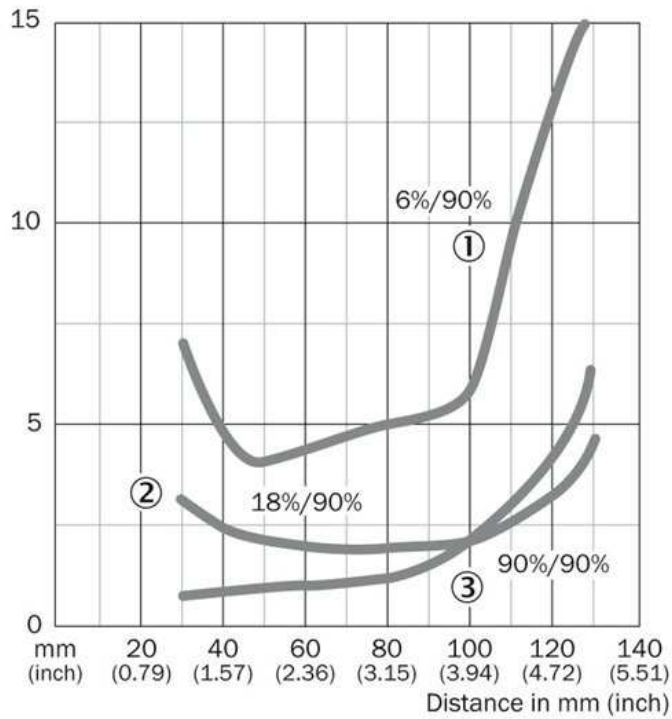


[2] Sensing range adjustment: potentiometer, 270°

Connection diagram



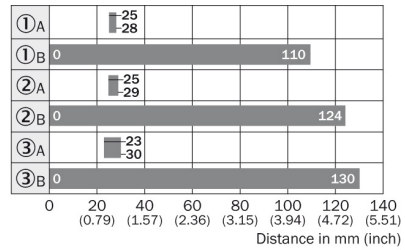
## Characteristic curve



## Connection type



## Sensing range diagram



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission
- A Sensing range adjuster on MIN
- B Sensing range adjuster on MAX

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