



## Photoelectric sensors V18, Through-beam photoelectric sensor

VS/VE18-3F3612



**Model Name** > [VS/VE18-3F3612](#)  
**Part No.** > [6013744](#)



*Illustration may differ*

#### At a glance

- Cylindrical M18 housing
- Sensing distance up to 20 m
- 3- or 4-wire
- Straight or right-angle housing
- Metal or plastic housing

#### Your benefits

- Simple, standardized design ensures easy mounting, alignment and replacement
- Compact, space-saving design easily fits in tight application spaces



#### Features

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor |
| Housing design (light emission): | Cylindrical, straight, straight   |
| Housing length:                  | 63.6 mm                           |
| Thread diameter (housing):       | M18 x 1                           |
| Optical axis:                    | Axial                             |
| Sensing range max.:              | 0 m ... 20 m                      |
| Sensing range:                   | 0 m ... 14 m                      |
| Type of light:                   | Infrared light                    |
| Light source:                    | LED <sup>1)</sup>                 |
| Light spot diameter (distance):  | 700 mm (14 m)                     |
| Angle of dispersion:             | 2.8 °                             |

<sup>1)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

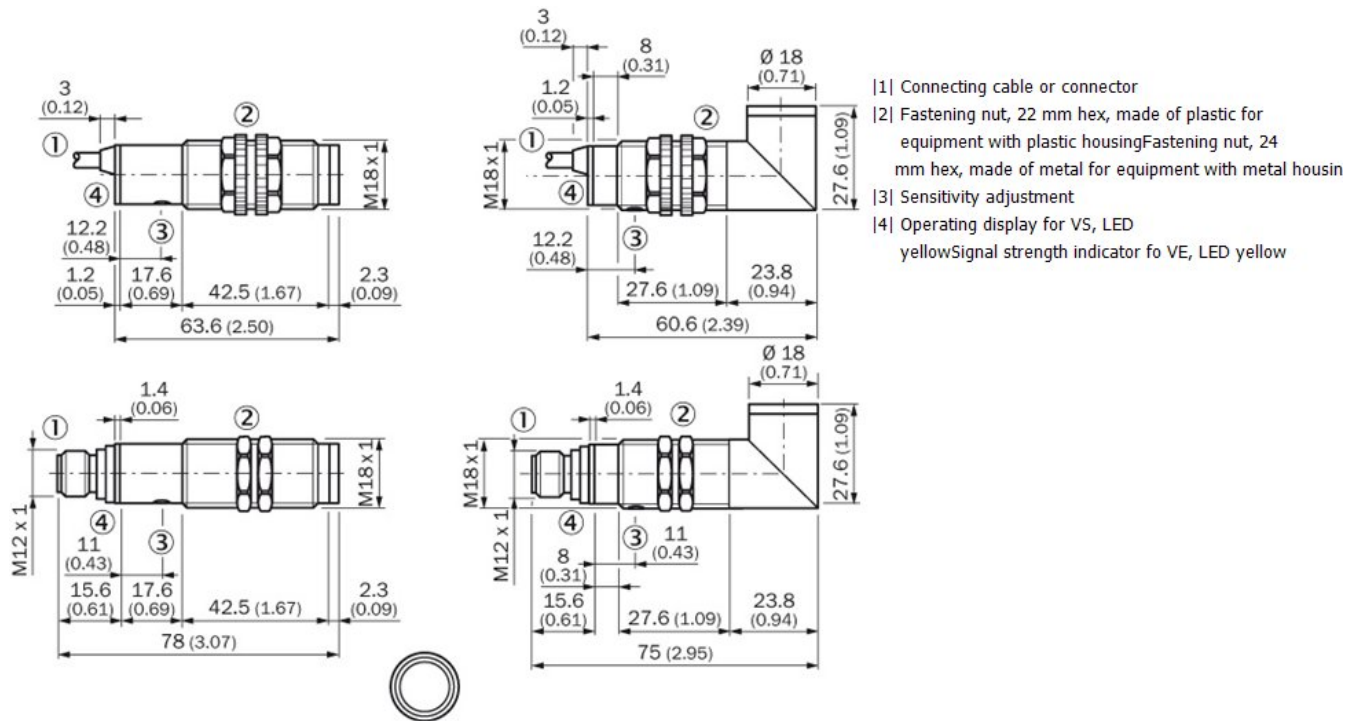
#### Mechanics/electronics

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>    |
| Ripple:                           | ≤ 10 % <sup>2)</sup>                 |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>                |
| Output type:                      | PNP, Light-switching, open collector |
| Output current I <sub>max</sub> : | 100 mA                               |
| Response time:                    | ≤ 2 ms <sup>4)</sup>                 |
| Switching frequency:              | 250 Hz <sup>5)</sup>                 |
| Connection type:                  | Cable, 3-wire, 2 m <sup>6)</sup>     |
| Cable material:                   | PVC                                  |
| Conductor cross-section:          | 0.14 mm <sup>2</sup>                 |

|                                |                                    |
|--------------------------------|------------------------------------|
| Cable diameter:                | 3.1 mm                             |
| Circuit protection:::          | A, B, C, D <sup>7) 8) 9) 10)</sup> |
| Protection class:              | III                                |
| Weight:                        | 200 g                              |
| Housing material:              | PBT/PC                             |
| Enclosure rating:              | IP 67                              |
| Test input sender off:         | TE to 0 V                          |
| Ambient operating temperature: | -25 °C ... 70 °C                   |
| UL File-No.:                   | UL No. NMFT2.E175606               |
| Switching mode characteristic: | Open collector                     |

<sup>1)</sup> Limit values <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> C = interference suppression <sup>10)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing

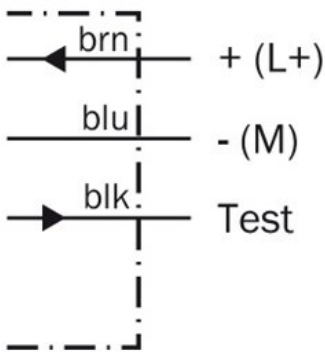


Adjustments possible

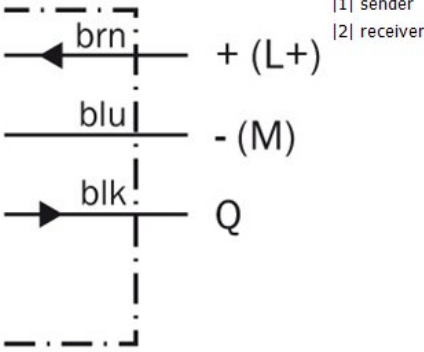


Connection diagram

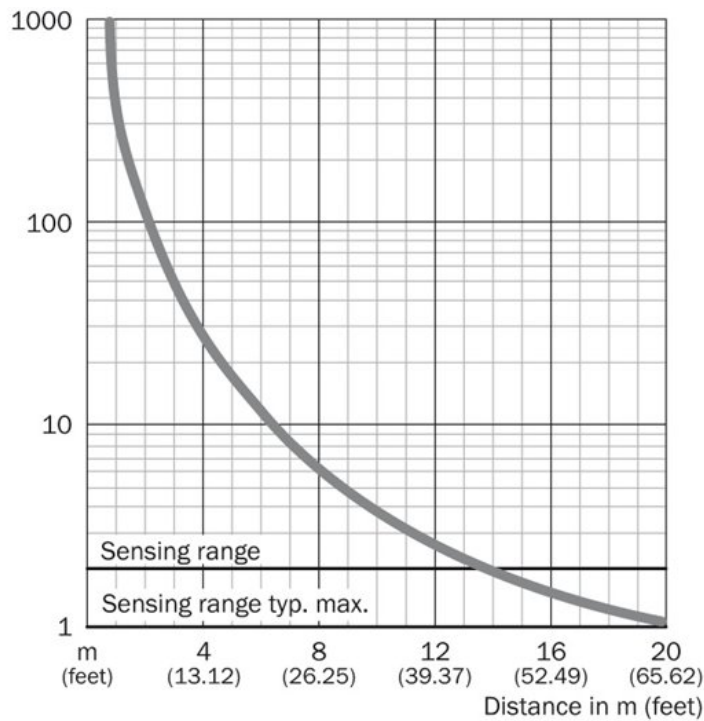
①



②



Characteristic curve



Sensing range diagram



## Connection type

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