



## Photoelectric sensors V18, Photoelectric retro-reflective sensor

VL18-3P3312



**Model Name** > [VL18-3P3312](#)  
**Part No.** > [6013561](#)



*Illustration may differ*

#### At a glance

- Cylindrical M18 housing
- Sensing distance up to 3.7 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
- Polarizing filter prevents false readings on reflective surfaces, reducing downtime



#### Features

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Sensor/detection principle:      | Photoelectric retro-reflective sensor |
| Housing design (light emission): | Cylindrical, angled, angled 90°       |
| Housing length:                  | 60.6 mm                               |
| Thread diameter (housing):       | M18 x 1                               |
| Optical axis:                    | Radial                                |
| Sensing range max.:              | 0.05 m ... 3.7 m <sup>1)</sup>        |
| Sensing range:                   | 0.05 m ... 3 m <sup>2)</sup>          |
| Type of light:                   | Visible red light                     |
| Light source:                    | LED <sup>3)</sup>                     |
| Light spot (distance):           | 150 mm (3 m)                          |
| Angle of dispersion:             | 2.8 °                                 |

<sup>1) 2)</sup> C110A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

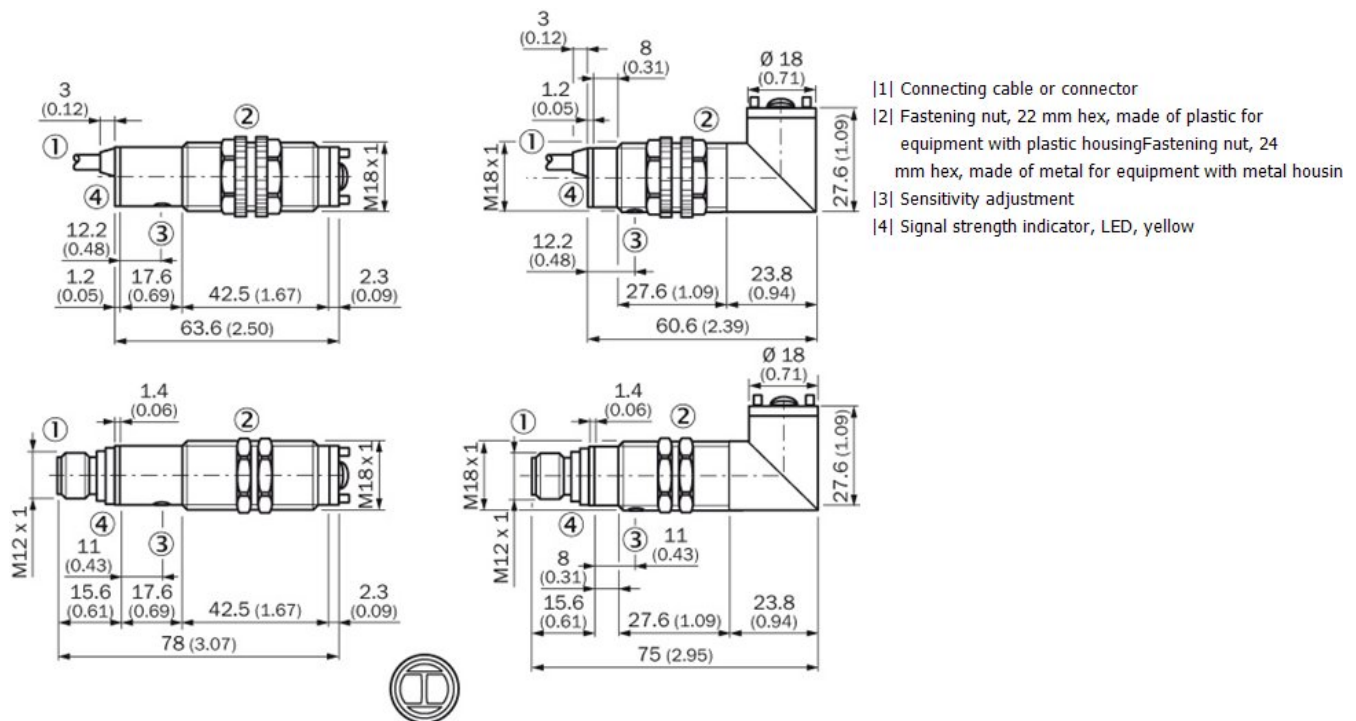
#### Mechanics/electronics

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>   |
| Ripple:                           | ≤ 10 % <sup>2)</sup>                |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>               |
| Output type:                      | PNP, Dark-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                                 |

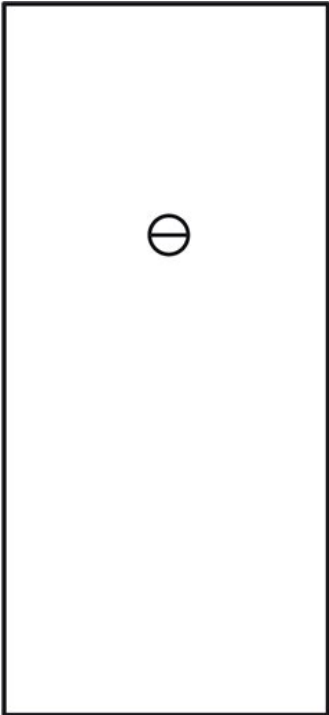
|                                |                                    |
|--------------------------------|------------------------------------|
| Conductor cross-section:       | 0.14 mm <sup>2</sup>               |
| Cable diameter:                | 3.1 mm                             |
| Circuit protection:::          | A, B, C, D <sup>7)</sup> 8) 9) 10) |
| Protection class:              | III                                |
| Weight:                        | 120 g                              |
| Polarisation filter:           | ✓                                  |
| Housing material:              | Nickel-plated brass                |
| Optics material:               | PMMA                               |
| Enclosure rating:              | IP 67                              |
| Ambient operating temperature: | -25 °C ... 70 °C                   |
| UL File-No.:                   | UL No. NMFT2.E175606               |

<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

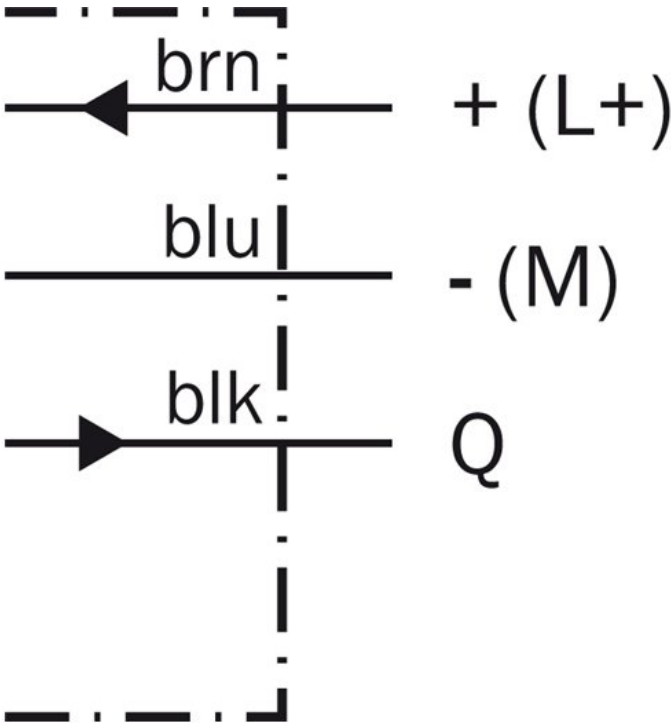
## Dimensional drawing



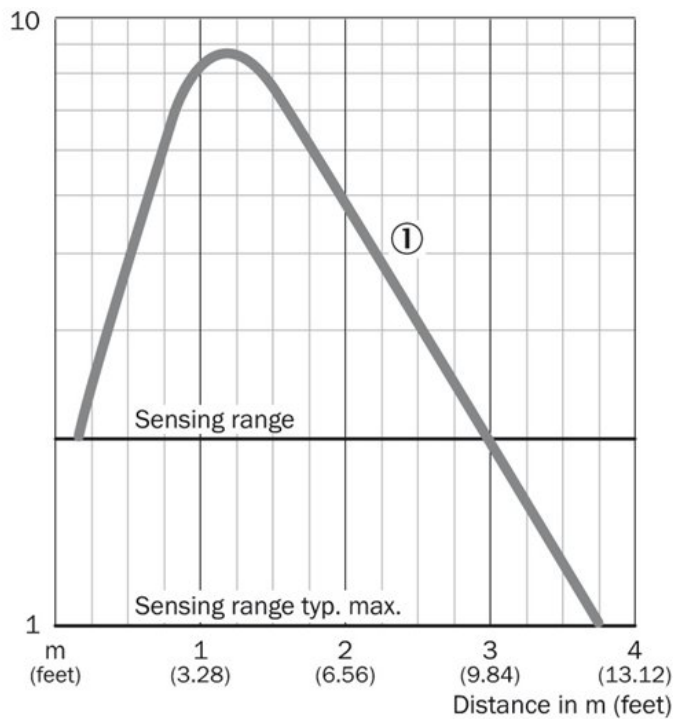
Adjustments possible



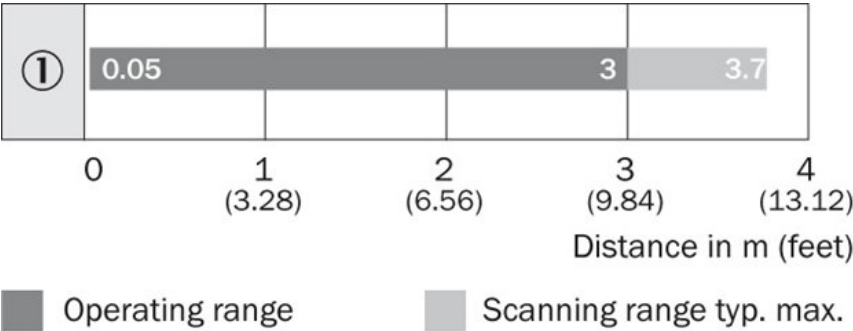
Connection diagram



Characteristic curve



Sensing range diagram



① Reflector type C110

## Connection type

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