



Photoelectric sensors  
V18, Photoelectric retro-reflective sensor

VL18-4P3612



**Model Name** > [VL18-4P3612](#)  
**Part No.** > [6013603](#)



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, straight, straight       |
| Housing length:                  | 63.6 mm                               |
| Thread diameter (housing):       | M18 x 1                               |
| Optical axis:                    | axial                                 |
| 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**

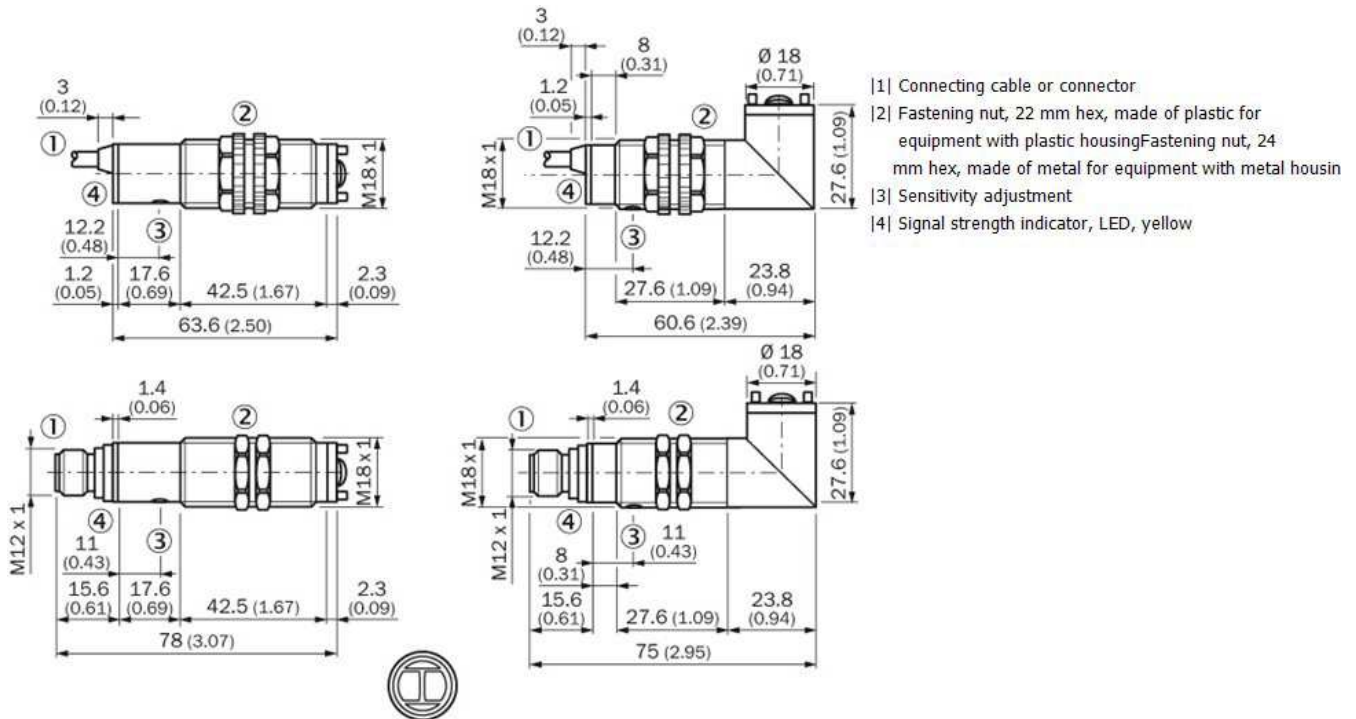
|                                    |  |
|------------------------------------|--|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>  |
| Residual ripple:                   | ≤ 10 % <sup>2)</sup>   |
| Power consumption:                 | ≤ 30 mA <sup>3)</sup>  |
| Output type:                       | PNP, Light/dark-switching, Selectable via L/D control wire, open collector |
| Output current I <sub>max.</sub> : | 100 mA   |
| Response time:                     | ≤ 2 ms <sup>5)</sup>   |
| Switching frequency:               | 250 Hz <sup>6)</sup>   |
| Electrical connection:             | Cable, 4-wire, 2 m <sup>7)</sup>   |

|                                |                                     |
|--------------------------------|-------------------------------------|
| Cable material:                | PVC                                 |
| Conductor cross-section:       | 0.14 mm <sup>2</sup>                |
| Cable diameter:                | 5 mm                                |
| Circuit protection:::          | A, B, C, D <sup>8) 9) 10) 11)</sup> |
| Protection class:              | III                                 |
| Weight:                        | 100 g                               |
| Polarisation filter:           | ✓                                   |
| Housing material:              | PBT/PC                              |
| Optics material:               | PMMA                                |
| Enclosure rating:              | IP 67                               |
| Ambient temperature operation: | -25 °C ... 70 °C                    |
| UL File-No.:                   | UL No. NMFT2.E175606                |

Control wire open: dark-switching D.ON;

1) Limit values 2) May not exceed or fall short of  $V_{S8}$  tolerances 3) Without load 4) Control wire open: dark-switching D.ON 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) Do not bend below 0 °C 8) A =  $V_S$  connections reverse-polarity protected 9) B = inputs and output reverse-polarity protected 10) C = interference suppression 11) D = outputs overcurrent and short-circuit protected

### Dimensional drawing



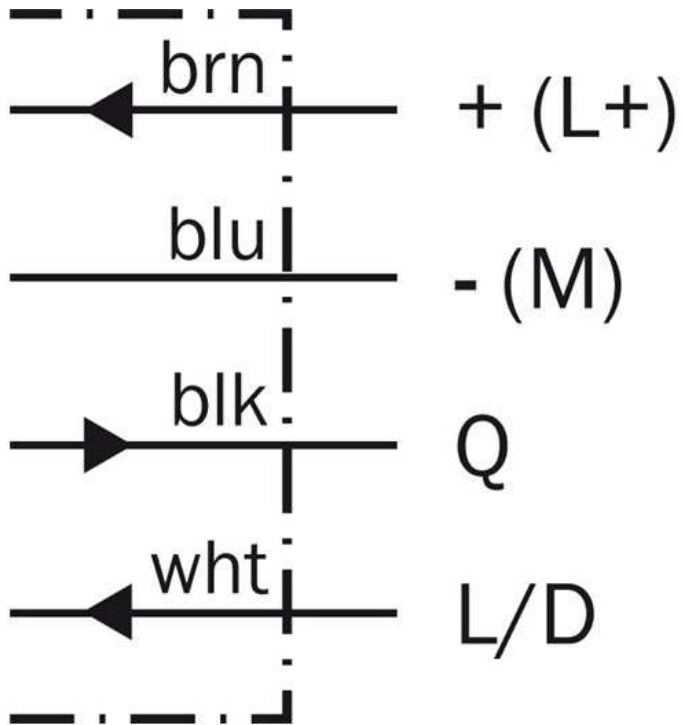
Adjustments possible

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Connection diagram

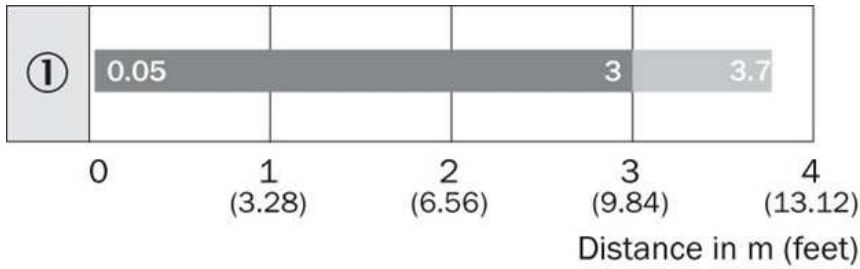
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**Characteristic curve**



**Sensing range diagram**



Operating range
  Scanning range typ. max.

① Reflector type C110

Connection type

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