



Photoelectric sensors  
VL18, Photoelectric retro-reflective sensor

VL18-4N3412



**Model Name** > [VL18-4N3412](#)  
**Part No.** > [6013576](#)



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)
Sensitivity adjustment:	Potentiometer, 270°
Angle of dispersion:	2.8 °

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

**Mechanics/electronics**

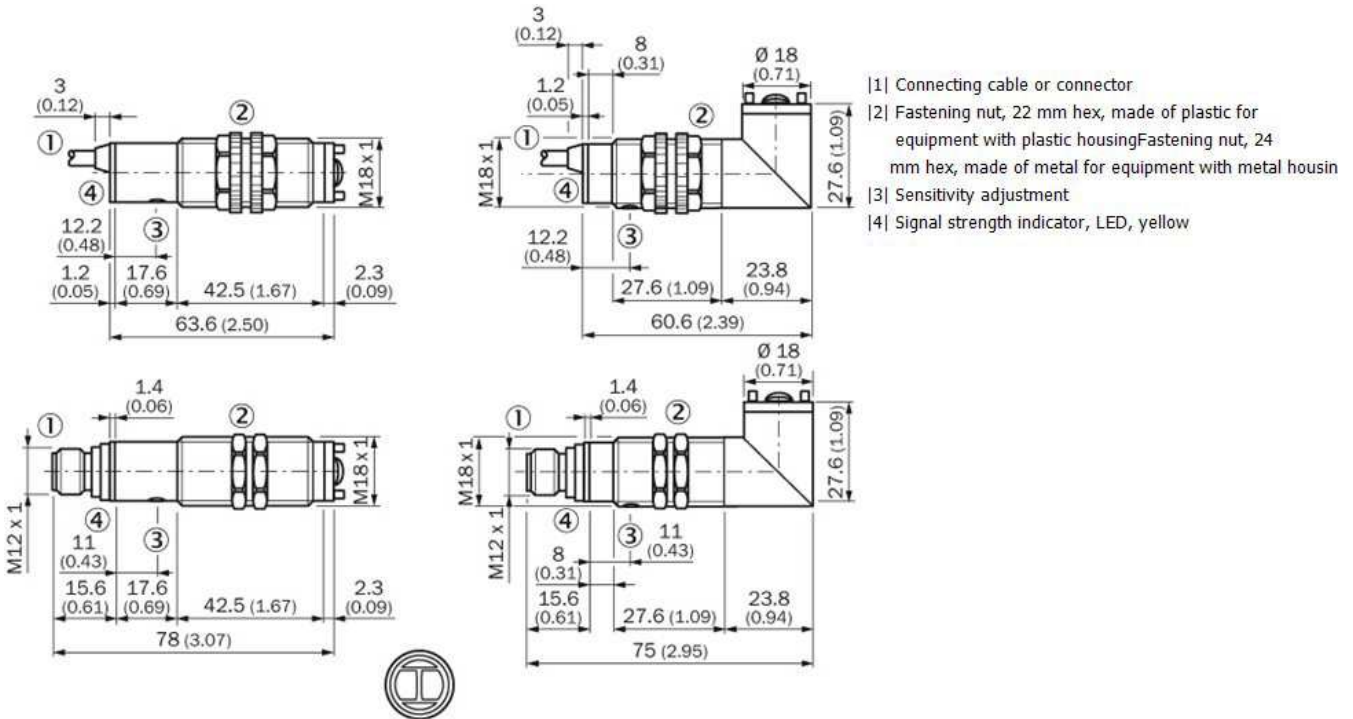
Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	≤ 10 % <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	NPN, Light/dark-switching, Selectable via L/D control wire, open collector
Output current I <sub>max.</sub> :	100 mA
Response time:	≤ 2 ms <sup>5)</sup>
Switching 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:	120 g
Polarisation filter:	✓
Housing material:	Nickel-plated brass
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient temperature operation:	-25 °C ... 70 °C
UL File-No.:	UL No. NMFT2.E175606

Control wire open: light-switching L.ON;

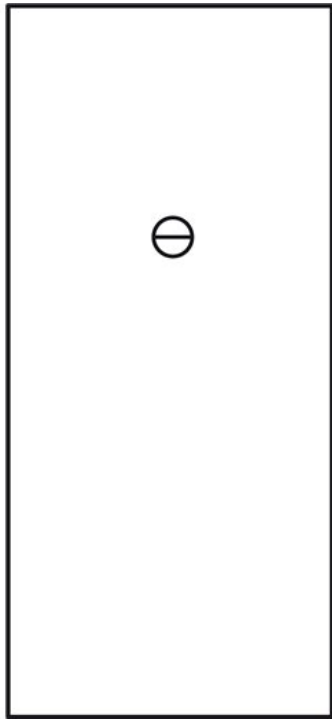
1) Limit values 2) May not exceed or fall short of V<sub>S</sub> tolerances 3) Without load 4) Control wire open: light-switching L.ON 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) Do not bend below 0 °C 8) A = V<sub>S</sub> connections reverse-polarity protected 9) B = inputs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

### Dimensional drawing



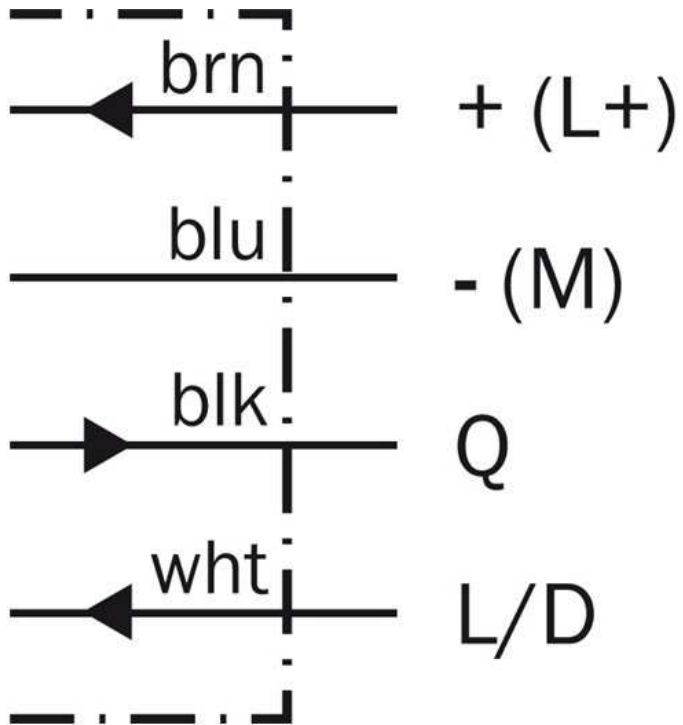
Adjustments possible

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Connection diagram

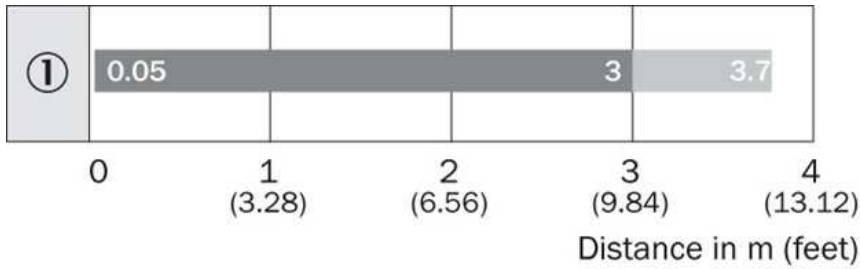
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**Characteristic curve**



**Sensing range diagram**



■ Operating range      ■ Scanning range typ. max.

① Reflector type C110

Connection type

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