



## Photoelectric sensors V18, Through-beam photoelectric sensor

VS/VE18-3F3412



**Model Name** > [VS/VE18-3F3412](#)  
**Part No.** > [6013726](#)



*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, angled, angled 90°   |
| Housing length:                  | 60.6 mm                           |
| Thread diameter (housing):       | M18 x 1                           |
| Optical axis:                    | radial                            |
| 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)                     |
| Sensitivity adjustment:          | Potentiometer, 270°               |
| Angle of dispersion:             | 2.8 °                             |

<sup>1)</sup> Average service life of 100,000 h at  $T_A = +25\text{ °C}$

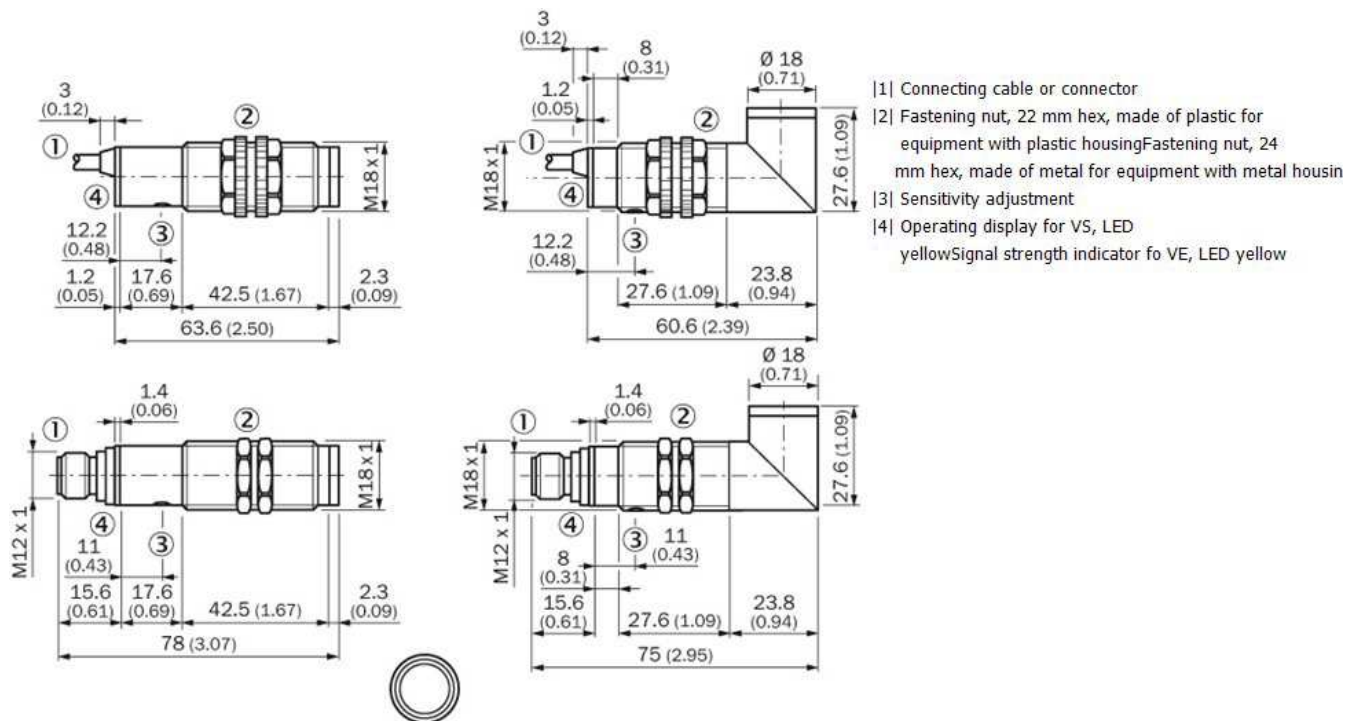
#### Mechanics/electronics

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>    |
| Residual ripple:                   | $\leq 10\%$ <sup>2)</sup>            |
| Power consumption:                 | $\leq 30\text{ mA}$ <sup>3)</sup>    |
| Output type:                       | PNP, Light-switching, open collector |
| Output current I <sub>max.</sub> : | 100 mA                               |
| Response time:                     | $\leq 2\text{ ms}$ <sup>4)</sup>     |
| Switching frequency:               | 250 Hz <sup>5)</sup>                 |
| Electrical connection:             | Cable, 3-wire, 2 m <sup>6)</sup>     |
| Cable material:                    | PVC                                  |

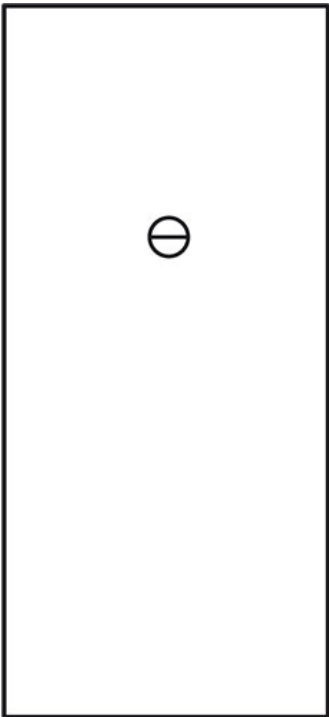
|                                |                                    |
|--------------------------------|------------------------------------|
| Conductor cross-section:       | 0.14 mm <sup>2</sup>               |
| Cable diameter:                | 3.1 mm                             |
| Circuit protection:::          | A, B, C, D <sup>7) 8) 9) 10)</sup> |
| Protection class:              | III                                |
| Weight:                        | 240 g                              |
| Housing material:              | Nickel-plated brass                |
| Enclosure rating:              | IP 67                              |
| Test input sender off:         | TE to 0 V                          |
| Ambient temperature operation: | -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

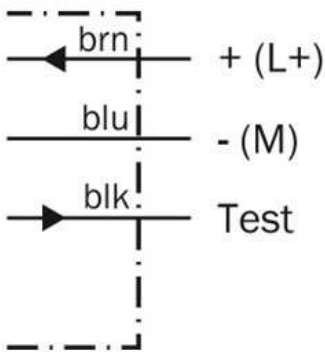


Adjustments possible

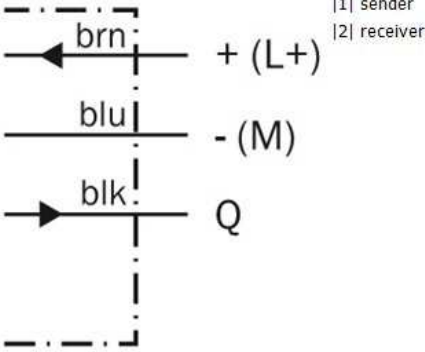


Connection diagram

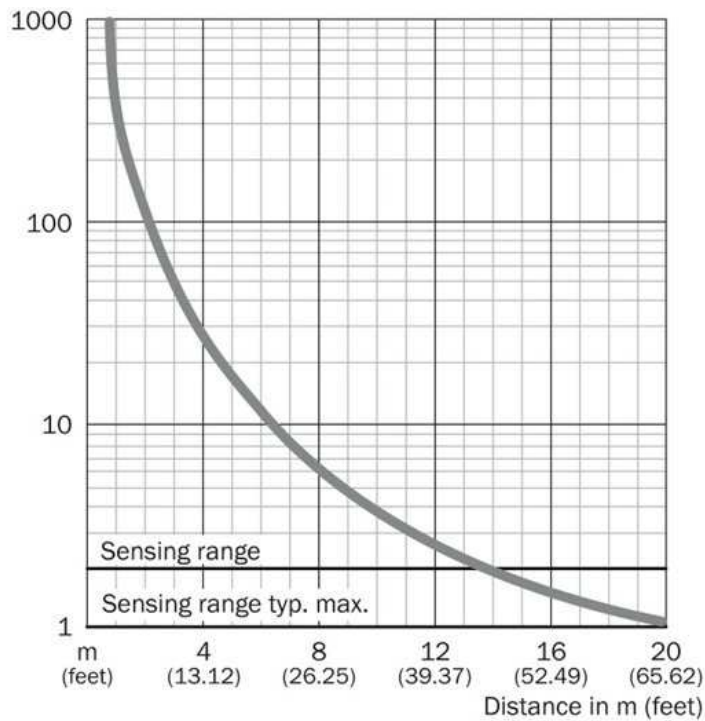
①



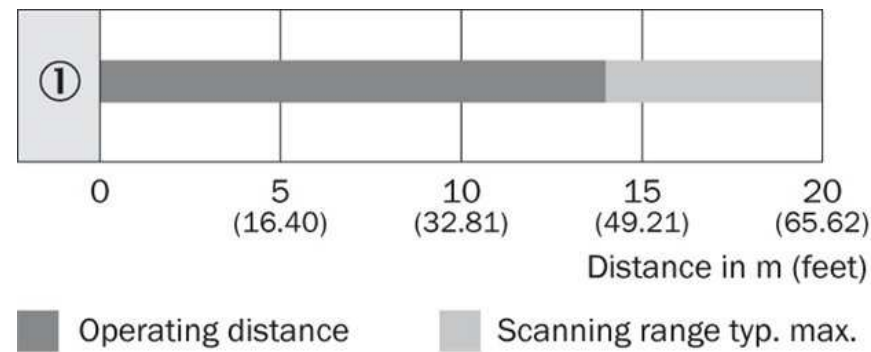
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Characteristic curve



Sensing range diagram



## Connection type

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**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)