



## Photoelectric sensors V18, Photoelectric proximity sensor, Background blanking

VTF18-4N1212



**Model Name** > [VTF18-4N1212](#)  
**Part No.** > [6012820](#)



Illustration may differ

#### At a glance

- Cylindrical M18 housing
- Sensing distance up to 50 mm or 100 mm
- Precise background blanking
- 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:      | Photoelectric proximity sensor, Background blanking |
| Housing design (light emission): | Cylindrical, straight, straight                     |
| Housing length:                  | 63.6 mm                                             |
| Thread diameter (housing):       | M18 x 1                                             |
| Optical axis:                    | Axial                                               |
| Sensing range max.:              | 3 mm ... 100 mm <sup>1)</sup>                       |
| Sensing range:                   | 3 mm ... 90 mm                                      |
| Type of light:                   | Infrared light                                      |
| Light source:                    | LED <sup>2)</sup>                                   |
| Light spot (distance):           | 3 mm (50 mm)                                        |
| Sensitivity adjustment:          | Potentiometer, 270°                                 |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

#### Mechanics/electronics

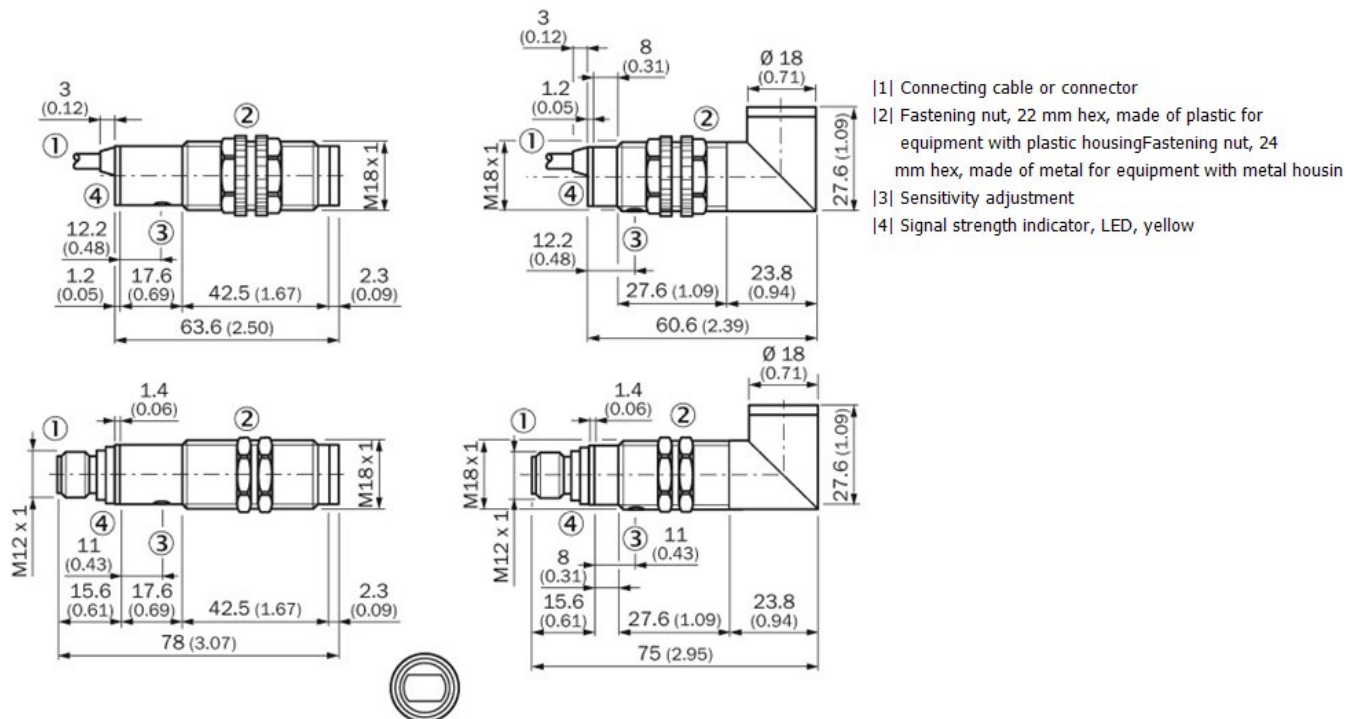
|                                   |                                                                            |
|-----------------------------------|----------------------------------------------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>                                          |
| Ripple:                           | ≤ 10 % <sup>2)</sup>                                                       |
| Power consumption:                | ≤ 30 mA <sup>3)</sup>                                                      |
| Output type:                      | 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>                                                       |
| Connection type:                  | 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                               |
| Housing material:              | Nickel-plated brass                 |
| Optics material:               | PMMA                                |
| Enclosure rating:              | IP 67                               |
| Special feature:               | Focused optics                      |
| Ambient operating temperature: | -25 °C ... 70 °C                    |
| UL File-No.:                   | UL No. NMFT2.E175606                |

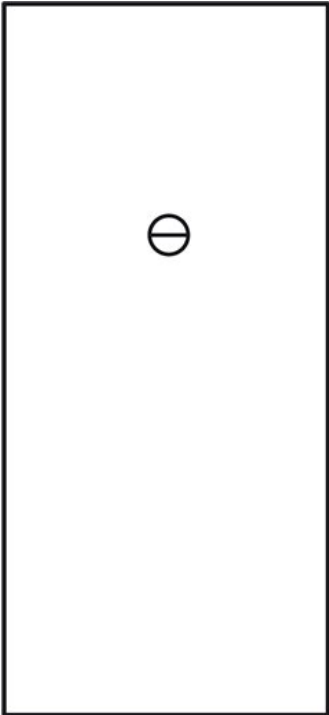
Control wire open: light-switching L.ON;

1) Limit values 2) May not exceed or fall short of  $V_{S8}$  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 =  $V_S$  connections reverse-polarity protected 9) B = inputs and output reverse-polarity protected 10) C =  
 interference suppression 11) D = outputs overcurrent and short-circuit protected

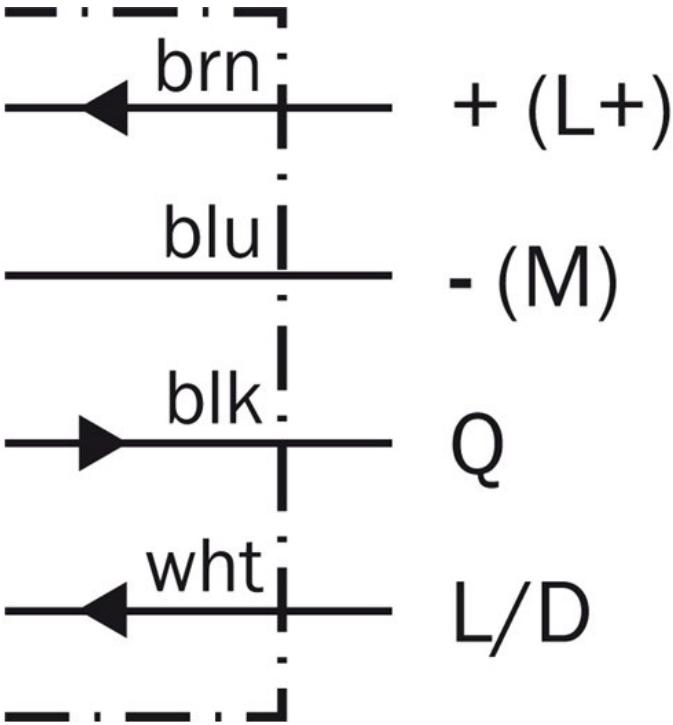
## Dimensional drawing



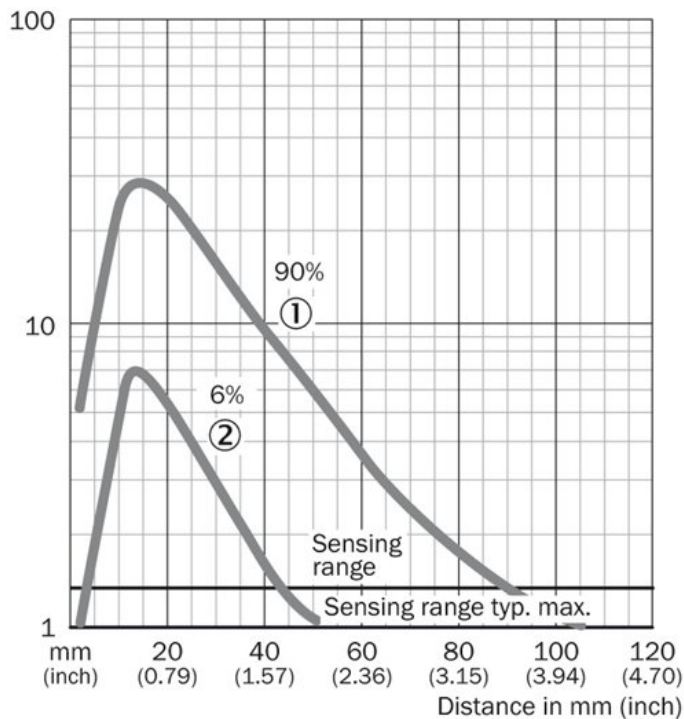
Adjustments possible



Connection diagram



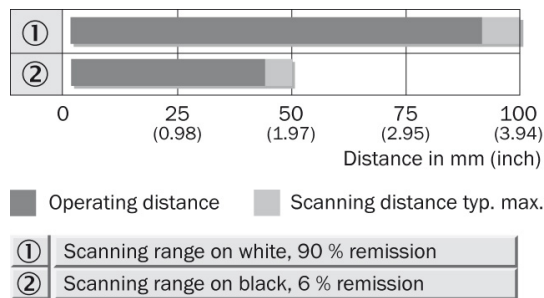
Characteristic curve



Connection type



Sensing range diagram



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