



Photoelectric sensors  
V18, Photoelectric proximity sensor, Background  
blanking

VTF18-3F1140



**Model Name** > [VTF18-3F1140](#)  
**Part No.** > [6012810](#)



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:                  | 78 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)  |

<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

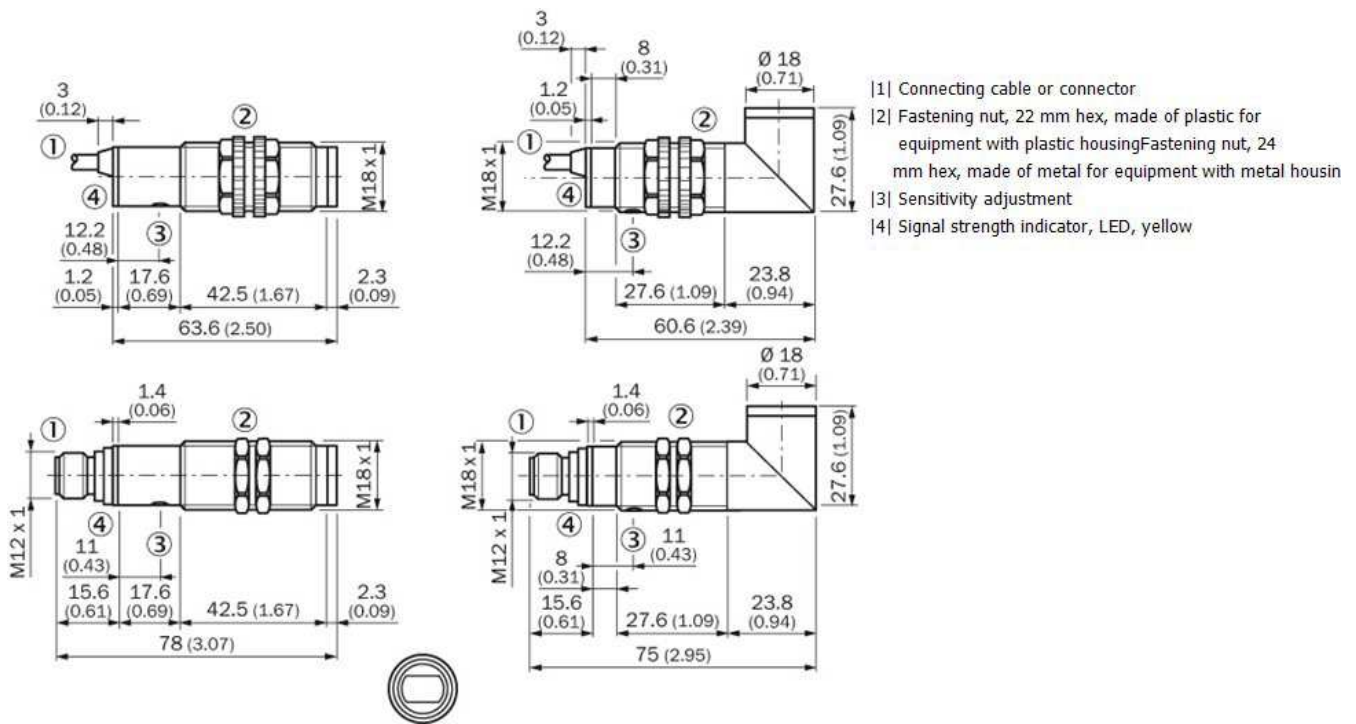
**Mechanics/electronics**

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>    |
| Residual ripple:                   | ≤ 10 % <sup>2)</sup>                 |
| Power consumption:                 | ≤ 30 mA <sup>3)</sup>                |
| Output type:                       | PNP, Light-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>                 |
| Electrical connection:             | Connector M12, 4-pin                 |
| Circuit protection:::              | A, B, C, D <sup>6) 7) 8) 9)</sup>    |
| Protection class:                  | III                                  |

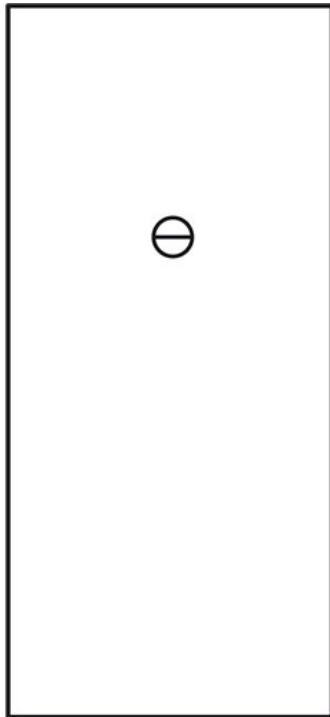
Weight: 120 g  
 Housing material: Nickel-plated brass  
 Optics material: PMMA  
 Enclosure rating: IP 67  
 Special feature: Focused optics  
 Ambient temperature operation: -25 °C ... 70 °C  
 UL File-No.: UL No. NMFT2.E175606

1) Limit values 2) May not exceed or fall short of  $V_S$  tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6)  $A = V_S$   
 connections reverse-polarity protected 7) B = inputs and output reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

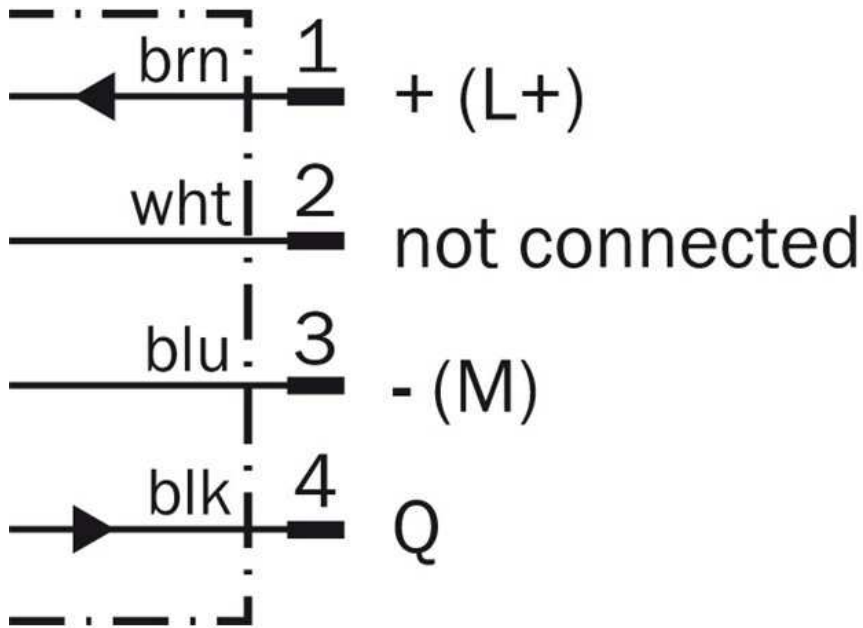
### Dimensional drawing



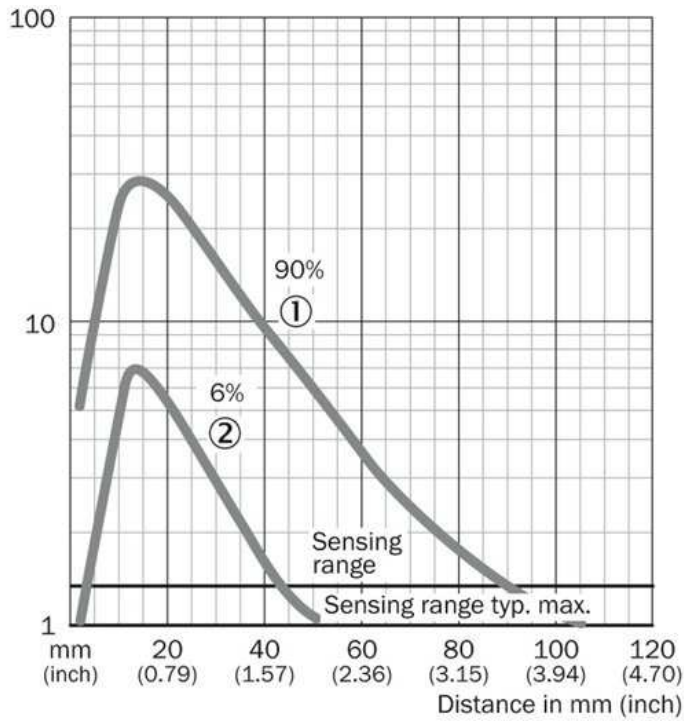
Adjustments possible



Connection diagram



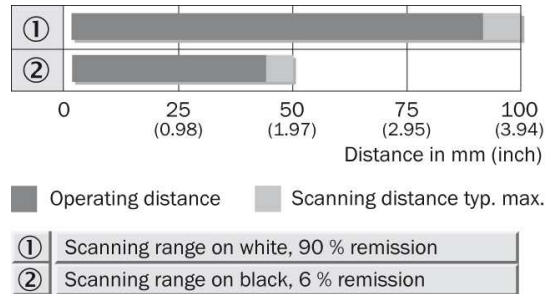
**Characteristic curve**



**Connection type**



**Sensing range diagram**



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