



VTF18-3F1712

V18

CYLINDRICAL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
VTF18-3F1712	6012898

Other models and accessories → [www.sick.com/V18](http://www.sick.com/V18)

Illustration may differ



### Detailed technical data

#### Features

<b>Device type</b>	Photoelectric sensors
<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background blanking
<b>Dimensions (W x H x D)</b>	18 mm x 18 mm x 63.6 mm
<b>Housing design (light emission)</b>	Cylindrical
<b>Housing length</b>	63.6 mm
<b>Thread diameter (housing)</b>	M18 x 1
<b>Optical axis</b>	Axial
<b>Sensing range max.</b>	3 mm ... 100 mm <sup>1)</sup>
<b>Sensing range</b>	3 mm ... 90 mm
<b>Type of light</b>	Infrared light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 3 mm (50 mm)
<b>Adjustment</b>	Potentiometer, 270° (Sensing range)

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 10 % <sup>2)</sup>

<sup>1)</sup> Limit values.

<sup>2)</sup> May not exceed or fall below U<sub>V</sub> 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<sub>S</sub> 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.

<b>Current consumption</b>	30 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light switching
<b>Output current I<sub>max.</sub></b>	≤ 100 mA
<b>Response time</b>	≤ 2 ms <sup>4)</sup>
<b>Switching frequency</b>	250 Hz <sup>5)</sup>
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>6)</sup>
<b>Cable material</b>	PVC
<b>Conductor cross-section</b>	0.14 mm <sup>2</sup>
<b>Cable diameter</b>	Ø 3.1 mm
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	III
<b>Weight</b>	100 g
<b>Housing material</b>	Plastic, PBT/PC
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Special feature</b>	Focused optics
<b>Ambient operating temperature</b>	-25 °C ... +70 °C
<b>UL File No.</b>	NMFT2.E175606

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7) A = V<sub>S</sub> connections reverse-polarity protected.

8) B = inputs and output reverse-polarity protected.

9) C = interference suppression.

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## Classifications

<b>ECl@ss 5.0</b>	27270904
<b>ECl@ss 5.1.4</b>	27270904
<b>ECl@ss 6.0</b>	27270904
<b>ECl@ss 6.2</b>	27270904
<b>ECl@ss 7.0</b>	27270904
<b>ECl@ss 8.0</b>	27270904
<b>ECl@ss 8.1</b>	27270904
<b>ECl@ss 9.0</b>	27270904
<b>ECl@ss 10.0</b>	27270904
<b>ECl@ss 11.0</b>	27270904

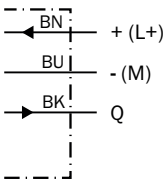
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>ETIM 8.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

### Connection type

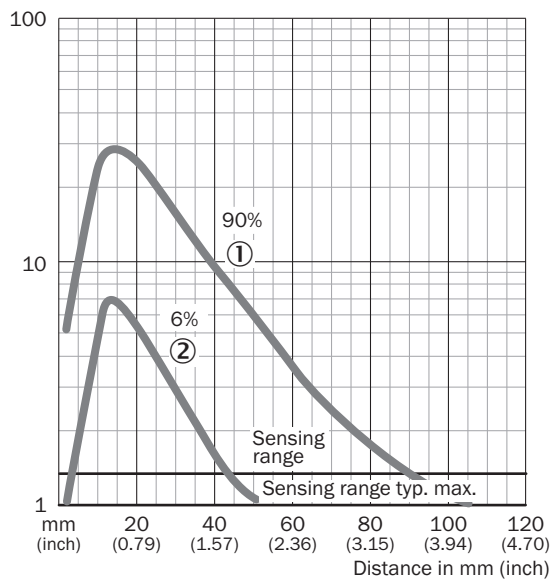


### Connection diagram

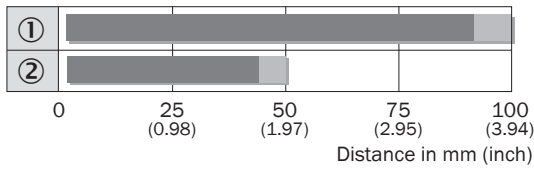
Cd-043



### Characteristic curve



Sensing range diagram



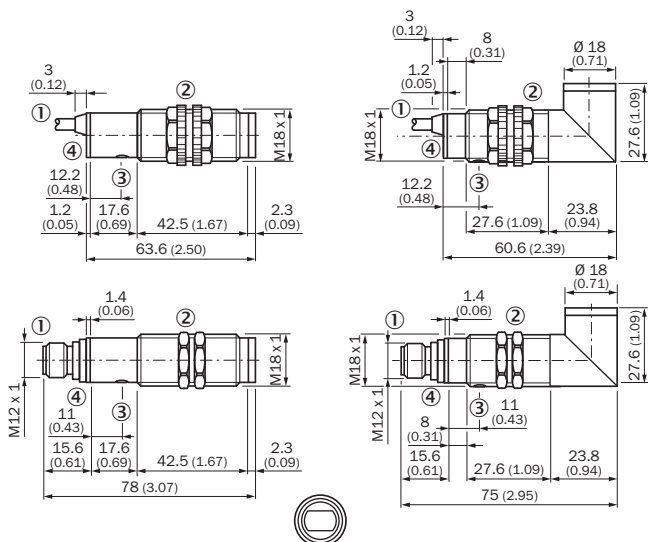
■ Operating distance    ■ Scanning distance typ. max.

①	Scanning range on white, 90 % remission
②	Scanning range on black, 6 % remission

Adjustments





Dimensional drawing (Dimensions in mm (inch))



Recommended accessories

Other models and accessories → [www.sick.com/V18](http://www.sick.com/V18)

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Plug connectors and cables			
	Head A: male connector, M8, 3-pin, straight Head B: - Cable: unshielded	STE-0803-G	6037322

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)