



VTF18-4P1612

V18

CYLINDRICAL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
VTF18-4P1612	6012883

Other models and accessories → www.sick.com/V18

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background blanking
Dimensions (W x H x D)	18 mm x 18 mm x 63.6 mm
Housing design (light emission)	Cylindrical
Housing length	63.6 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	3 mm ... 100 mm ¹⁾
Sensing range	3 mm ... 90 mm
Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 3 mm (50 mm)
Adjustment	None
Special feature	Focused optics

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Current consumption	30 mA ³⁾
Switching output	PNP ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Switching mode selector	Selectable via L/D control cable
Output current I_{max}	≤ 100 mA
Response time	≤ 2 ms ⁵⁾
Switching frequency	250 Hz ⁶⁾
Connection type	Cable, 4-wire, 2 m ⁷⁾
Cable material	PVC
Conductor cross section	0.14 mm ²
Cable diameter	$\varnothing 5$ mm
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾ D ¹¹⁾
Protection class	III
Weight	100 g
Housing material	Plastic, PBT/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Special feature	Focused optics
Ambient operating temperature	-25 °C ... +70 °C
UL File No.	NMFT2.E175606

¹⁾ Limit values.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Control wire open: dark switching D.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.

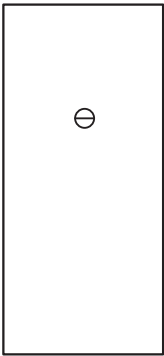
¹¹⁾ D = outputs overcurrent and short-circuit protected.

Classifications

eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904

eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments

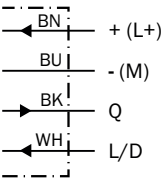


Connection type

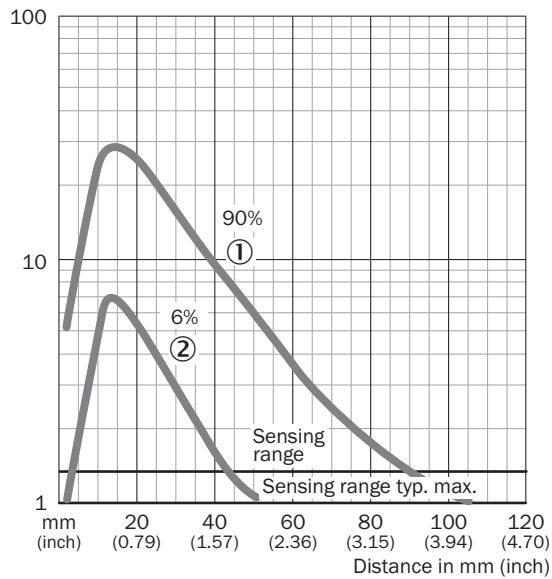


Connection diagram

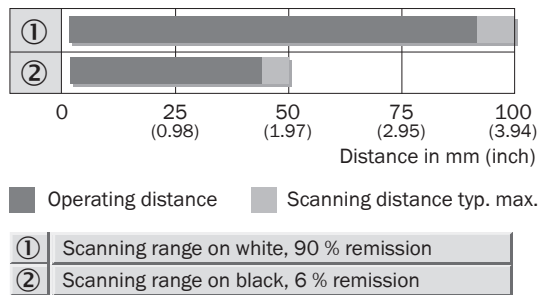
Cd-089



Characteristic curve



Sensing range diagram



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

Technical Drawing of Hydraulic Cylinders

Type 1 (Left):

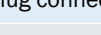
- Side View (Top):**
 - Stroke: 42.5 (1.67)
 - Mounting dimension: 63.6 (2.50)
 - Port dimension: 12.2 (0.48)
 - Port dimension: 1.2 (0.05)
 - Port dimension: 17.6 (0.69)
 - Port dimension: 2.3 (0.09)
- Cross-sectional View (Bottom):**
 - Stroke: 78 (3.07)
 - Mounting dimension: 15.6 (0.61)
 - Mounting dimension: 17.6 (0.69)
 - Port dimension: 1.4 (0.06)
 - Port dimension: 11 (0.43)
 - Port dimension: 2.3 (0.09)

Type 2 (Right):

- Side View (Top):**
 - Stroke: 27.6 (1.09)
 - Mounting dimension: 60.6 (2.39)
 - Port dimension: 12.2 (0.48)
 - Port dimension: 1.2 (0.05)
 - Port dimension: 17.6 (0.69)
 - Port dimension: 2.3 (0.09)
- Cross-sectional View (Bottom):**
 - Stroke: 75 (2.95)
 - Mounting dimension: 15.6 (0.61)
 - Mounting dimension: 17.6 (0.69)
 - Port dimension: 1.4 (0.06)
 - Port dimension: 11 (0.43)
 - Port dimension: 2.3 (0.09)

Legend:

- ①: Piston rod
- ②: Piston
- ③: Piston rod seal
- ④: Piston seal

- | | 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, M12, 4-pin, straight
Cable: unshielded | STE-1204-G | 6009932 |

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