



VTF18-4P1940

V18

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
VTF18-4P1940	6012939

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 75 mm
Housing design (light emission)	Cylindrical
Housing length	75 mm
Thread diameter (housing)	M18 x 1
Optical axis	Radial
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	Potentiometer, 270° (Sensing range)
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	Male connector M12, 4-pin
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾ D ¹⁰⁾
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 fall below or exceed 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⁾ A = V_S connections reverse-polarity protected.

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

⁹⁾ C = interference suppression.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

Certificates

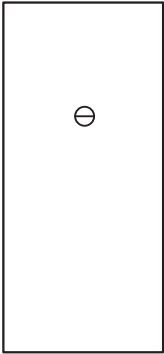
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904

ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

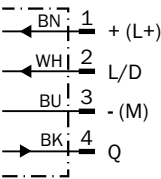
Adjustments



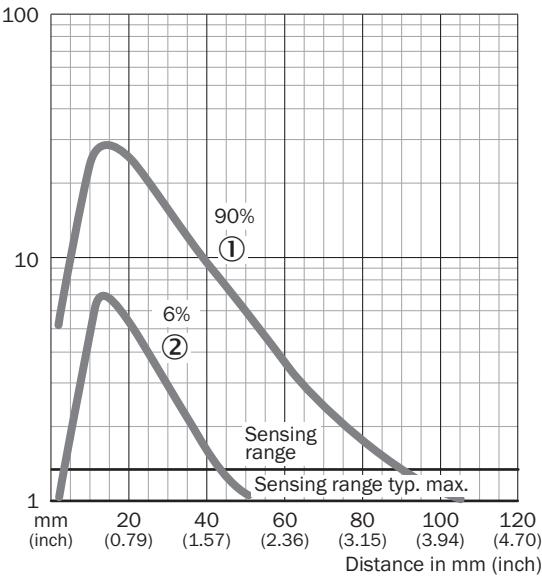
Connection type



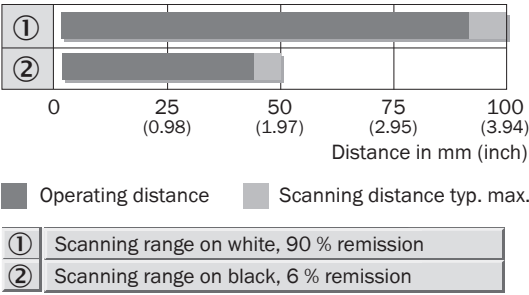
Connection diagram Cd-087



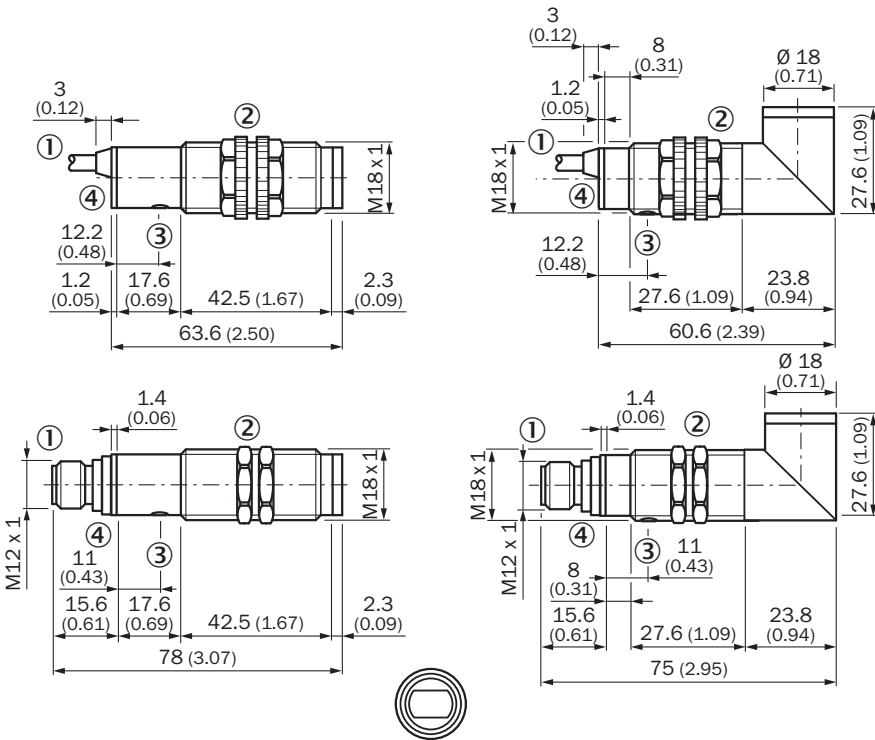
Characteristic curve



Sensing range diagram



Dimensional drawing



Dimensions in mm (inch)

- ① Connecting cable or connector
- ② Fastening nut, 22 mm hex, made of plastic for equipment with plastic housing
- ② Fastening nut, 24 mm hex, made of metal for equipment with metal housing
- ③ sensitivity control
- ④ Signal strength indicator, LED, yellow

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	Description: Mounting bracket for M18 sensors Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: GR18, V180-2, V18, W15, Z1, Z2	BEF-WN-M18	5308446
	Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932
	• Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608

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