



VL18-4P3740 V18

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
VL18-4P3740	6013623

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Dimensions (W x H x D)	18 mm x 18 mm x 78 mm
Housing design (light emission)	Cylindrical
Housing length	78 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0.05 m 3.7 m ¹⁾
Sensing range	0.05 m 3 m $^{1)}$
Focus	Approx. 2.8°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 150 mm (3 m)
Angle of dispersion	Approx. 2.8°
Adjustment	Potentiometer, 270° (Sensitivity)

¹⁾ Reflector C110A.

 $^{^{2)}}$ Average service life: 100,000 h at TU = +25 °C.

Mechanics/electronics

Supply voltage U _B	10 V DC 30 V DC ¹⁾
Ripple	± 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
Polarizing filter	✓
Housing material	Plastic, PBT/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C +70 °C
UL File No.	NMFT2.E175606

¹⁾ Limit values.

Safety-related parameters

MTTF _D	68 years
DC _{avg}	0 %

Certificates

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

 $^{^{2)}}$ 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.

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Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments

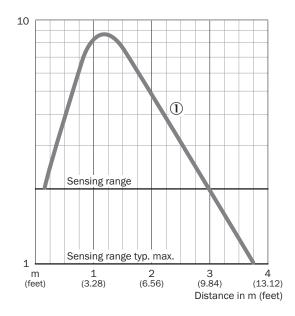
 Θ

Connection type

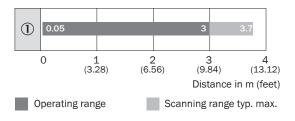


Connection diagram Cd-087

Characteristic curve

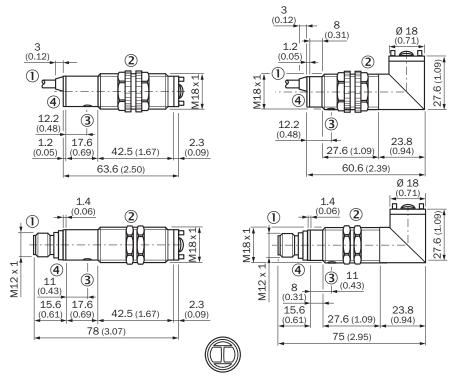


Sensing range diagram



① Reflector type C110

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	Туре	part no.	
Mounting systems				
40	 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	
2 A C C	 Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A 	BEF-WN-REFX	2064574	
6	 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	
connectors a	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	
No.	 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	
reflectors and optics				
	 Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C +65 °C 	P250	5304812	

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

