



VL18L-3F324

V18 Laser

CYLINDRICAL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
VL18L-3F324	6034330

Other models and accessories → www.sick.com/V18_Laser

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
Dimensions (W x H x D)	18 mm x 18 mm x 97.7 mm
Housing design (light emission)	Cylindrical
Housing length	97.7 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0.1 m ... 35 m ¹⁾
Sensing range	0.1 m ... 30 m ¹⁾
Focus	0.04°
Type of light	Visible red light
Light source	Laser ²⁾
Light spot size (distance)	Ø 9 mm (35 m)
Angle of dispersion	0.04°
Wave length	650 nm
Laser class	1 (IEC 60825-1)
Laser power output	0.4 mW
Adjustment	Single teach-in button (Sensitivity) ³⁾
Special applications	Detecting small objects

¹⁾ Reflector P250F.
²⁾ Average service life: 100,000 h at T_U = +25 °C.
³⁾ Manual, via teach-in button.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	± 10 % ²⁾
Current consumption	20 mA ³⁾
Switching output	PNP
Switching mode	Light switching
Output current I_{max}	≤ 100 mA
Response time	≤ 0.625 ms ⁴⁾
Switching frequency	800 Hz ⁵⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾ D ⁹⁾
Protection class	III
Weight	60 g
Polarisation filter	✓
Housing material	Metal, Nickel-plated brass/PC
Optics material	Plastic, PC with protective glass pane
Enclosure rating	IP67
Ambient operating temperature	-15 °C ... +55 °C
Ambient temperature, storage	-25 °C ... +70 °C
UL File No.	NRKH.E181493, CDRH-conform (0312012-00)

¹⁾ Limit values.

²⁾ May not exceed or fall below U_y 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.

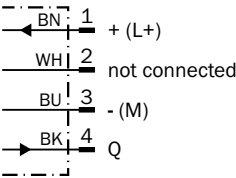
Classifications

eCl@ss 5.0	27270902
eCl@ss 5.1.4	27270902
eCl@ss 6.0	27270902
eCl@ss 6.2	27270902
eCl@ss 7.0	27270902
eCl@ss 8.0	27270902
eCl@ss 8.1	27270902
eCl@ss 9.0	27270902
eCl@ss 10.0	27270902
eCl@ss 11.0	27270902

eCl@ss 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

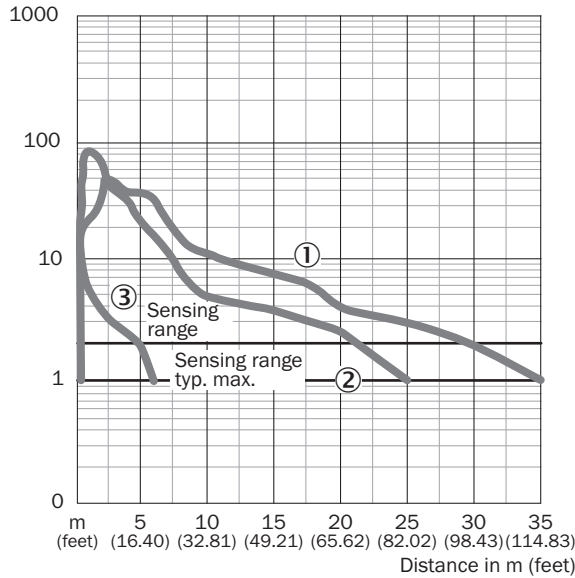
Connection diagram

Cd-066



Characteristic curve

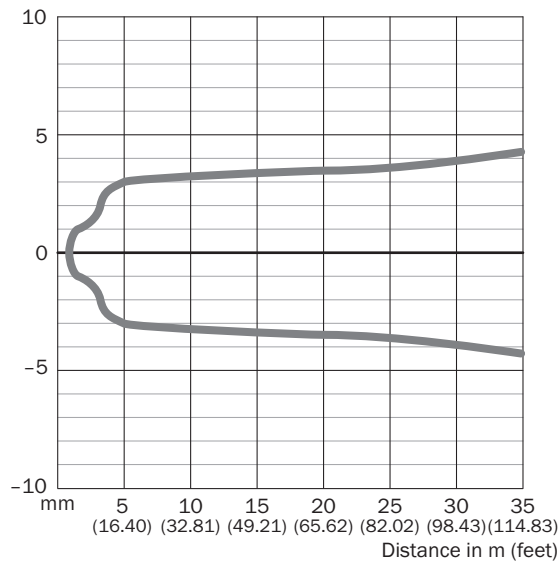
Operating reserve



- ① Reflector P250F
- ② Reflector PL80A, P250
- ③ Reflective tape Diamond Grade

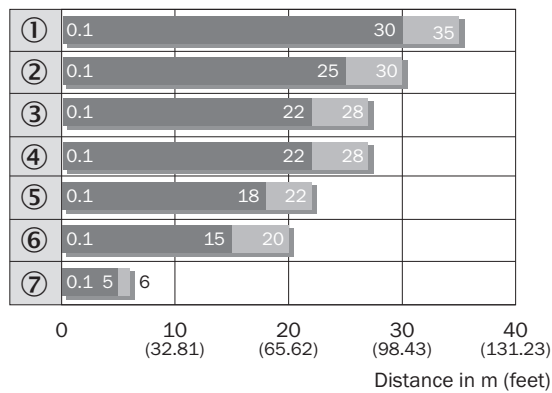
Light spot size

VL18L



Sensing range diagram

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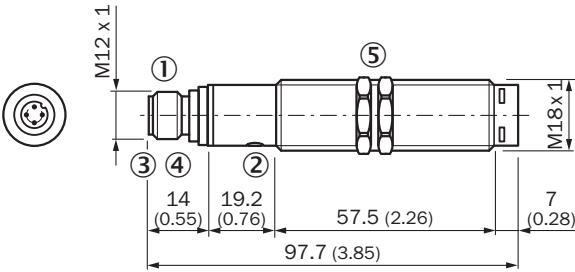


■ Sensing range ■ Sensing range max.

- ① Reflector P250F
- ② PL10F reflector
- ③ Reflector PL80A
- ④ Reflector P250
- ⑤ Reflector C110A
- ⑥ Reflector PL20F
- ⑦ Reflective tape Diamond Grade

Dimensional drawing (Dimensions in mm (inch))

Axial



- ① M12 male device connector, 4-pin
- ② Sensitivity setting: single teach-in button
- ③ Green LED indicator: V_S Supply voltage feed
- ④ Yellow LED indicator: - lights continuously: Reception signal > reserve factor 2 - blinks: Reception signal < reserve factor 2 but > switching threshold 1
- ⑤ Fastening nuts (2 x); width across 24, metal (included with delivery)

Recommended accessories

Other models and accessories → www.sick.com/V18_Laser

	Brief description	Type	Part no.
Reflectors			
	Fine triple reflector, screw connection, suitable for laser sensors, 52 mm x 62 mm, PM-MA/ABS, Screw-on, 2 hole mounting	P250F	5308843

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