Online data sheet



VL18L-3F324

V18 Laser

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

Sensor/ detection principle	Photoelectric retro-reflective sensor, Dual lens
Housing design (light emission)	Cylindrical, straight
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]
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	Cable (Sensitivity) [3] Single teach-in button (Sensitivity) [4]

[1] Reflector P250F.

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

[3] Electronically via control input C (0 V).

[4] Manual, via teach-in button.

Communication interface

Communication interface	-

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	≤ 10 % [2]
Power consumption	≤ 20 mA [3]
Output type	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 storage temperature	–25 °C ... +70 °C
UL File No.	NRKH.E181493, CDRH-conform (0312012-00)

[1] Limit values.
[2] May not exceed or fall below U_V 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.

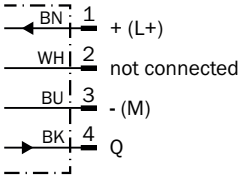
Classifications

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
ETIM 5.0	EC002717
ETIM 6.0	EC002717

UNSPSC 16.0901	39121528

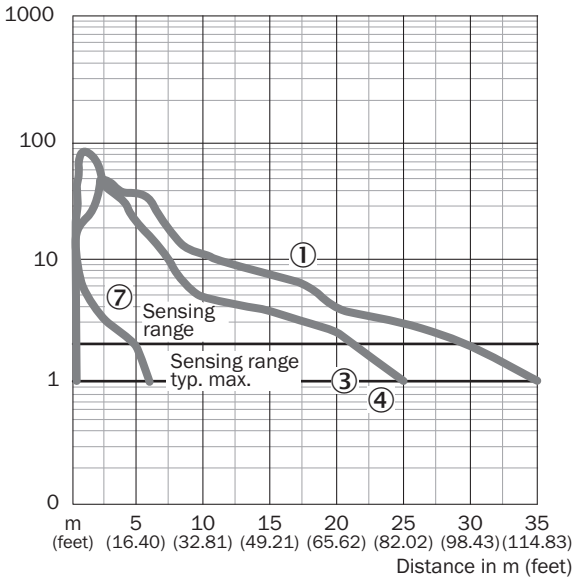
Connection diagram

Cd-066



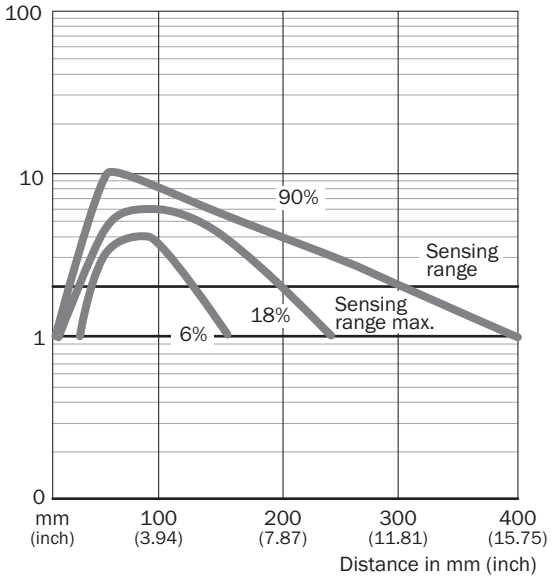
Characteristic curve

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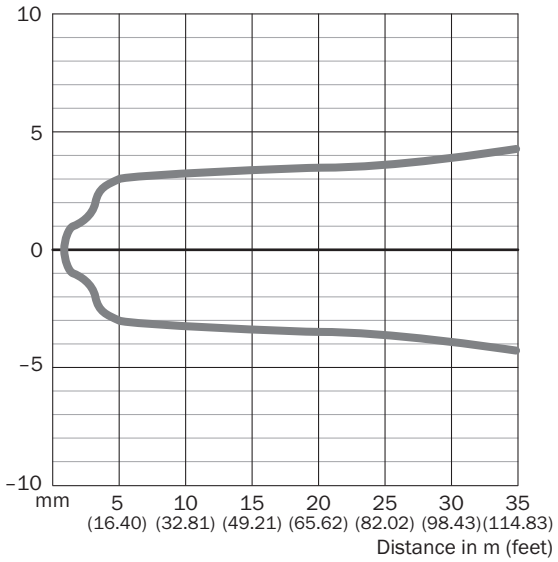
① Reflector P250F
③ Reflector PL80A
④ Reflector P250
⑦ Reflective tape Diamond Grade

VTE18L, axial



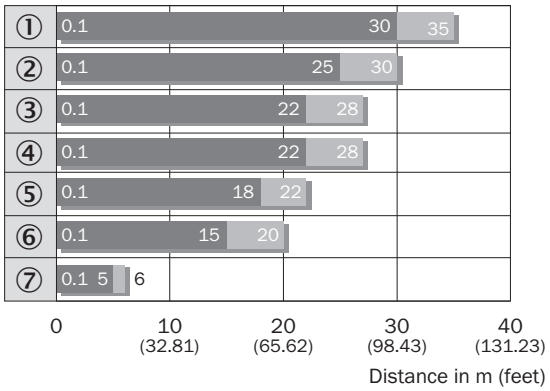
Light spot size

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Sensing range diagram

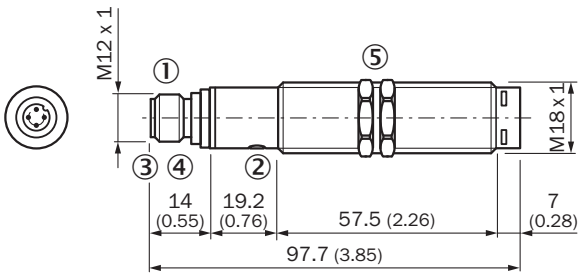
VL18L



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.
Universal bar clamp systems			
	Plate N06 for universal clamp bracket, M18, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N06	2051612

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Fine triple reflector, screw connection, suitable for laser sensors, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250F	5308843
	Fine triple reflector, screw connection, suitable for laser sensors, 18 mm x 18 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL10F	5311210
	Fine triple reflector, screw connection, suitable for laser sensors, 38 mm x 16 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20F	5308844
	Fine triple reflector, screw connection, suitable for laser sensors, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL30F	5326523
	Round, screw connection, PMMA/ABS, Center hole mounting, screw-on	C110A	5304549

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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:

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