



DATA SHEET

VL18L-3P324

V18
Photoelectric sensors



Illustration may differ

PHOTOELECTRIC SENSORS

VL18L-3P324

ORDERING INFORMATION

Type	part no.
VL18L-3P324	6027596

Further device versions and accessories at www.sick.com/V18



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
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) ³⁾
Laser power output	0.4 mW

¹⁾ Reflector P250F.

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

³⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

⁴⁾ Manual, via teach-in button.

Adjustment	Single teach-in button (Sensitivity) ⁴⁾
Special applications	Detecting small objects

¹⁾ Reflector P250F.

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

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MECHANICS/ELECTRONICS

Supply voltage U_s	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Current consumption	20 mA ³⁾
Switching output	PNP
Switching mode	Dark switching
Output current $I_{\max}$	$\leq 100\text{ mA}$
Response time	$\leq 0.625\text{ ms}$ 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
Polarizing 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 fall below or exceed 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.

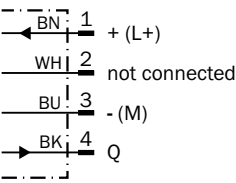
⁸⁾ C = interference suppression.

⁹⁾ D = outputs overcurrent and short-circuit protected.

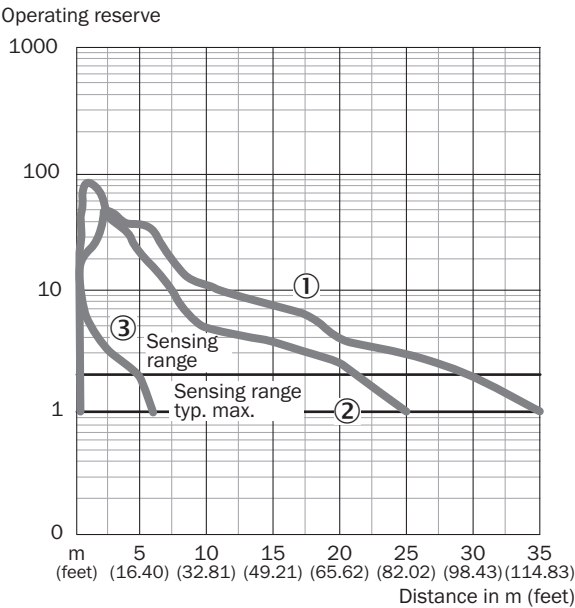
CERTIFICATES

EU declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓

CONNECTION DIAGRAM CD-066

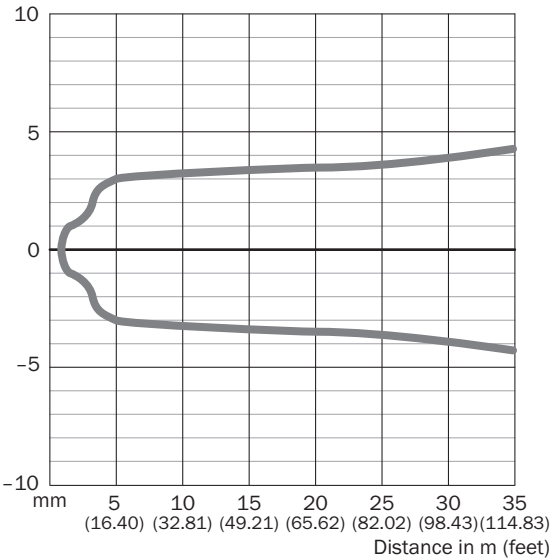


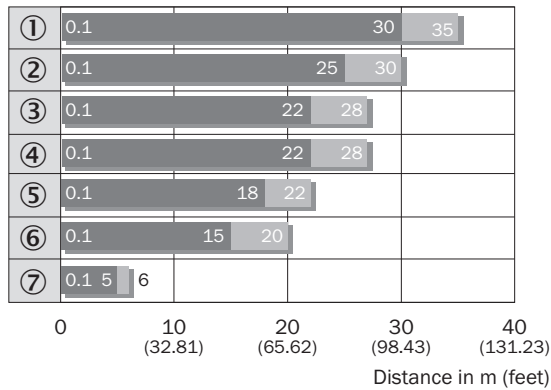
CHARACTERISTIC CURVE



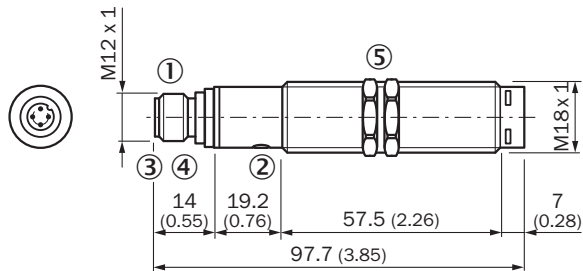
- ① Reflector P250F
- ② Reflector PL80A, P250
- ③ Reflective tape Diamond Grade

LIGHT SPOT SIZE VL18L



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 AXIAL

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6027596



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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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Sensor Intelligence