



DATA SHEET

VL18-4P3140V

V18
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

VL18-4P3140V

ORDERING INFORMATION

Type	part no.
VL18-4P3140V	6035495

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 83 mm
Housing design (light emission)	Cylindrical
Housing length	83 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0.1 m ... 5 m ¹⁾
Sensing range	0.1 m ... 4.5 m ¹⁾
Focus	2.5°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 200 mm (4.5 m)
Angle of dispersion	2.5°
Wave length	660 nm
Adjustment	None
Special applications	Hygienic and washdown zones

¹⁾ Reflector PL80A.

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

MECHANICS/ELECTRONICS

Supply voltage U_s	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Current consumption	35 mA ³⁾
Switching output	PNP ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Switching mode selector	Selectable via L/D control cable
Signal voltage PNP HIGH/LOW	Approx. VS – 2.0 V / 0 V
Output current I_{max}	≤ 100 mA
Response time	≤ 1 ms ⁵⁾
Switching frequency	500 Hz ⁶⁾
Connection type	Male connector M12, 4-pin ⁷⁾
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾ D ¹¹⁾
Protection class	III
Weight	120 g
Polarizing filter	✓
Housing material	Metal, Stainless steel V4A (1.4404, 316L)
Optics material	Plastic, Plan, PMMA, surface hardened and tempered
Enclosure rating	IP67 IP68 IP69K ¹²⁾
Ambient operating temperature	–25 °C ... +80 °C
Ambient temperature, storage	–40 °C ... +80 °C
UL File No.	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

¹⁾ Limit values.²⁾ May not fall below or exceed U_s tolerances.³⁾ Without load, at VS 30 V DC.⁴⁾ Control wire open: dark switching D.ON.⁵⁾ Signal transit time with resistive load.⁶⁾ With light/dark ratio 1:1.⁷⁾ With gold plated contact pins, PPS with FDA certificate.⁸⁾ A = V_s connections reverse-polarity protected.⁹⁾ B = interference suppression.¹⁰⁾ D = outputs overcurrent and short-circuit protected.¹¹⁾ D = inputs and output reverse-polarity protected.¹²⁾ With correct mounted IP69K connector.**SAFETY-RELATED PARAMETERS**

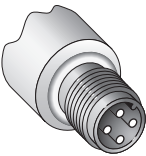
MTTF _D	370 years
DC _{avg}	0 %

CERTIFICATES

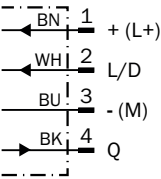
EU declaration of conformity	✓
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UK declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓

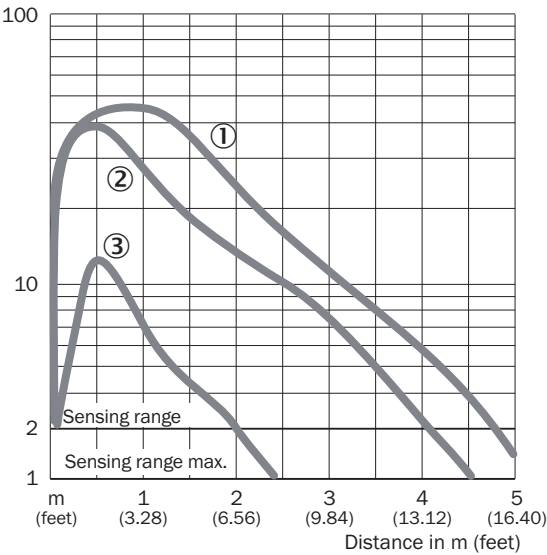
CONNECTION TYPE



CONNECTION DIAGRAM CD-087

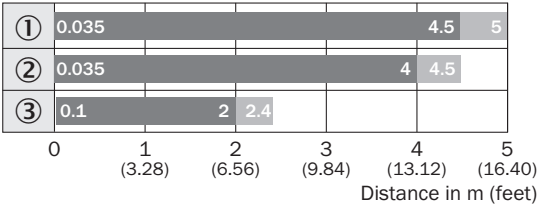


CHARACTERISTIC CURVE VL18V



- ① Reflector PL80A
- ② Reflector C110A
- ⑤ Reflector P250 CHEM

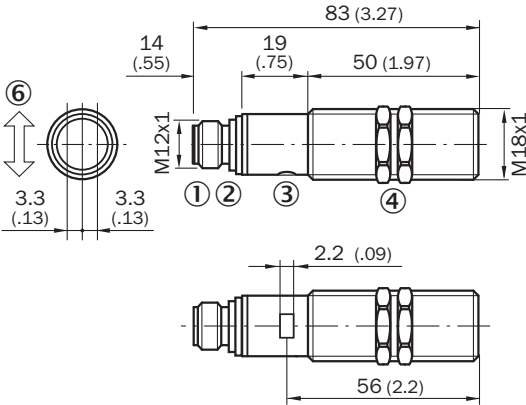
SENSING RANGE DIAGRAM VL18V



■ Sensing range ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflective tape Diamond Grade

DIMENSIONAL DRAWING VL18V, VSE18V



Dimensions in mm (inch)

- ① M12 male device connector, 4-pin
- ② Yellow LED indicator:
 - ② - lights continuously:
 - ② reception signal > reserve factor 2
 - ② - blinks: Reception signal < reserve factor 2 but > switching threshold 1
- ③ fastening nuts (2 x); width across 24, stainless steel

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/6035495



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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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