Online data sheet



VL18-4N2240V

V18V

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
VL18-4N2240V	6035498

Other models and accessories → www.sick.com/V18V

Detailed technical data

Features

Sensor/ detection principle	Photoelectric retro-reflective sensor, Dual lens
Housing design (light emission)	Cylindrical, straight
Housing length	83 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0.035 m ... 4.5 m [1]
Sensing range	0.035 m ... 4 m [1]
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 60 mm (1 m)
Angle of dispersion	3 °
Wave length	660 nm
Adjustment	Single teach-in button (Sensing range)Manual, via Touch-Teach-in

[1] Reflector PL80A.
[2] Average service life: 100,000 h at T_U = +25 °C.

Communication interface

Communication interface	-

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	≤ 10 % [2]
Power consumption	≤ 35 mA [3]
Output type	NPN
Switching mode	Light/dark switching
Switching mode selector	Selectable via L/D control cable
Signal voltage NPN HIGH/LOW	Approx. VS / < 2.0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 1 ms [4]
Switching frequency	500 Hz [5]
Attenuation along light beam	≥ 20 %
Connection type	Male connector M12, 4-pin [6]
Circuit protection	A [7] B [8] C [9] D [10]
Protection class	III
Weight	120 g
Housing material	Stainless steel, Stainless steel V4A (1.4404, 316L)
Optics material	Plastic, Plan, PPS (Grilamid)
Enclosure rating	IP67, IP68, IP69K [11]
Special feature	Detecting transparent objects
Ambient operating temperature	–25 °C ... +80 °C [12]
Ambient storage temperature	–40 °C ... +80 °C
UL File No.	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

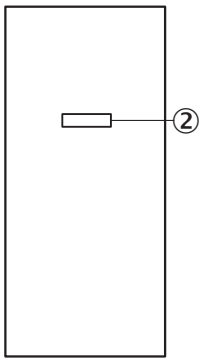
[1] Limit values.
[2] May not exceed or fall below U_V tolerances.
[3] Without load, at VS 30 V DC.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] With gold plated contact pins, PPS with FDA certificate.
[7] A = V_S connections reverse-polarity protected.
[8] B = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.
[10] D = inputs and output reverse-polarity protected.
[11] With correct mounted IP69K connector.
[12] +100 °C at max 15 minutes.

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

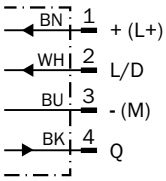
Adjustments possible



② Sensing range adjustment: Touch-Teach-In

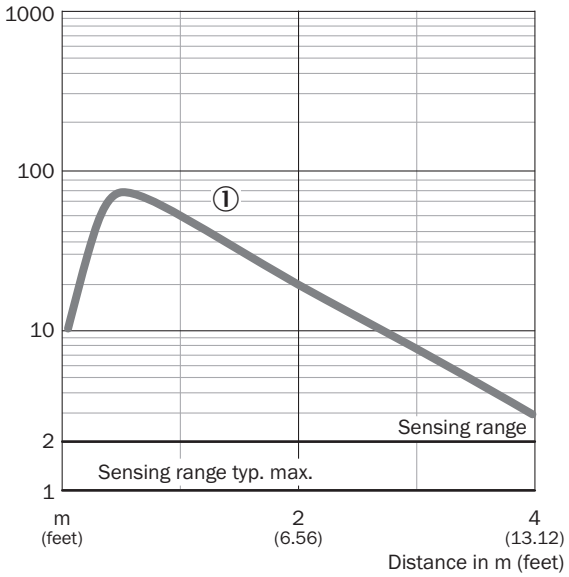
Connection diagram

Cd-087



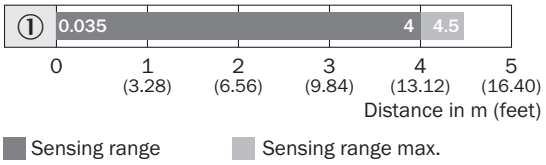
Characteristic curve

VL18V, clear material detection



① Reflector PL80A

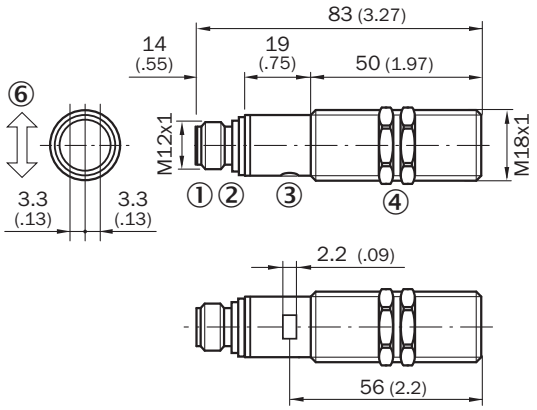
Sensing range diagram



|1| PL80A

Dimensional drawing (Dimensions in mm (inch))

VTF18V, VTE18V



① M12 male device connector, 4-pin
② Sensing range adjustment: Touch-Teach-In
③ Status indicator LED, green: signalizing Touch-Teach-in
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, stainless steel

Recommended accessories

Other models and accessories ➜ www.sick.com/V18V

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N06N for universal clamp bracket, M18, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware	BEF-KHS-N06N	2051622
Mounting brackets and plates			
	Mounting plate for M18 sensors, Stainless steel, without mounting hardware	BEF-WG-M18N	5320948
	Mounting bracket for M18 sensors, Stainless steel, without mounting hardware	BEF-WN-M18N	5320947
Terminal and alignment brackets			
	Mounting bracket with ball-and-socket, Plastic, mounting hardware included	BEF-WN-M18-ST02	5312973
	Clamping block for round sensors M18, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KH-M18	2051481
	Clamping block for round sensors M18, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M18	2051482
	Mounting ring, Stainless steel, without mounting hardware	BEF-WN-MH15-2V	4053358

	Brief description	Type	Part no.
Reflectors			
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Self-adhesive	REF-IRF-56	5314244
	Chemically resistant, screw connection, 47 mm x 47 mm, Plastic, Screw-on, 2 hole mounting	P250 CHEM	5321097
	Fine triple reflector, chemically resistant, screw connection, 18 mm x 18 mm, Plastic, Screw-on, 2 hole mounting	PL10F CHEM	5321636
	Chemically resistant, screw connection, suitable for laser sensors, 16 mm x 38 mm, Plastic, Screw-on, 2 hole mounting	PL20F-CHEM	5326089
	Anti-fog to prevent moisture condensation on the reflective surface, screw connection, 56 mm x 37 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL40A Antifog	5322011
	Rectangular, M3 screw connection, countersunk screw head, chemically resistant, 56 mm x 37 mm, Plastic, Screw-on, 2 hole mounting	PL40B-CHEM	5326088
	Stainless steel reflector, hygienic design, chemically resistant, enclosure rating IP69K, D12 adapter shaft, 25 mm x 25 mm, Stainless steel V4A (1.4404, 316L), D12-adapter shaft	PLH25-D12	2063404
	Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adapter thread, 25 mm x 25 mm, Stainless steel V4A (1.4404, 316L), M12-adapter thread	PLH25-M12	2063403
	Stainless steel reflector, washdown design, chemically resistant, IP 69K enclosure rating, screw connection, 14 mm x 14 mm, Stainless steel V4A (1.4404, 316L), Screw-on, 2 hole mounting	PLV14-A	2063405

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