

VL180-P430

V180

CYLINDRICAL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
VL180-P430	6008781

Included in delivery: P250 (1)

Other models and accessories → www.sick.com/V180



Detailed technical data

Features

Sensor/ detection principle	Photoelectric retro-reflective sensor
Housing design (light emission)	Cylindrical
Housing length	69 mm
Thread diameter (housing)	M18 x 1
Optical axis	Axial
Sensing range max.	0.05 m ... 3 m ¹⁾
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Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 150 mm (3 m)
Wave length	920 nm
Adjustment	Potentiometer, 270 ° (Sensitivity)

¹⁾ Reflector P250.

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	± 5 V _{pp} ²⁾
Power consumption	30 ³⁾
Switching output	PNP ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Switching mode selector	Selectable via L/D control cable

¹⁾ Limit values.

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Control wire open: dark switching D.ON.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ C = interference suppression.

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

Signal voltage PNP HIGH/LOW	Approx. $V_S - 1.0\text{ V} / 0\text{ V}$
Output current I_{\max}	$\leq 100\text{ mA}$
Response time	$\leq 1.5\text{ ms}$ ⁵⁾
Switching frequency	333 Hz ⁶⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁷⁾ C ⁸⁾ D ⁹⁾
Protection class	III
Weight	65 g
Housing material	Metal, Nickel-plated brass, PBT/PC
Optics material	Plastic, PMMA
Enclosure rating	IP66
Items supplied	Reflector P250, fastening nuts (2 x)
Ambient operating temperature	$-25\text{ °C} \dots +55\text{ °C}$
Ambient storage temperature	$-40\text{ °C} \dots +70\text{ °C}$
UL File No.	NRNT2.E128350 & NRNT8.E128350

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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

Recommended accessories

Other models and accessories → www.sick.com/V180

	Brief description	Type	Part no.
Mounting brackets and plates			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812

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