



# VL180-N430

V180

CYLINDRICAL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
VL180-N430	6008782

Included in delivery: P250 (1)

Other models and accessories → [www.sick.com/V180](http://www.sick.com/V180)

## Detailed technical data

### Features

<b>Functional principle</b>	Photoelectric retro-reflective sensor
<b>Dimensions (W x H x D)</b>	18 mm x 18 mm x 69 mm
<b>Housing design (light emission)</b>	Cylindrical
<b>Housing length</b>	69 mm
<b>Thread diameter (housing)</b>	M18 x 1
<b>Optical axis</b>	Axial
<b>Sensing range max.</b>	0.05 m ... 3 m <sup>1)</sup>
<b>Sensing range</b>	0.05 m ... 3 m <sup>1) 2)</sup>
<b>Type of light</b>	Infrared light
<b>Light source</b>	LED <sup>3)</sup>
<b>Light spot size (distance)</b>	Ø 150 mm (3 m)
<b>Wave length</b>	920 nm
<b>Adjustment</b>	Potentiometer, 270 ° (Sensitivity)

<sup>1)</sup> Reflector P250.

<sup>2)</sup> The sensing range distance is reduced to 2.5 m with right-angle adapter.

<sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	30 mA <sup>3)</sup>
<b>Switching output</b>	NPN <sup>4)</sup>

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Control wire open: light switching L.ON.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> With light/dark ratio 1:1.

<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

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

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed  $U_T$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Control wire open: light switching L.ON.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> With light/dark ratio 1:1.

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.





## Classifications

<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902
<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717

<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

### Recommended accessories

Other models and accessories → [www.sick.com/V180](http://www.sick.com/V180)

	Brief description	Type	Part no.
Others			
	<ul style="list-style-type: none"> <li><b>Product family:</b> Brackets</li> <li><b>Description:</b> Universal mounting bracket for reflectors</li> <li><b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574
	<ul style="list-style-type: none"> <li><b>Description:</b> Rectangular, screw connection</li> <li><b>Dimensions:</b> 51 mm 61 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>	P250	5304812
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm²</li> </ul>	STE-1204-G	6009932

## 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](http://www.sick.com)