

# VT180-P142

V180

**CYLINDRICAL PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.

Illustration may differ

### Ordering information

Type	Part no.
VT180-P142	6008791

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



### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Energetic
<b>Housing design (light emission)</b>	Cylindrical
<b>Housing length</b>	63.3 mm
<b>Thread diameter (housing)</b>	M18 x 1
<b>Optical axis</b>	Axial
<b>Sensing range max.</b>	0 mm ... 450 mm <sup>1)</sup>
<b>Sensing range</b>	0 mm ... 400 mm <sup>2)</sup>
<b>Type of light</b>	Infrared light
<b>Light source</b>	LED <sup>3)</sup>
<b>Light spot size (distance)</b>	Ø 30 mm (400 mm)
<b>Wave length</b>	920 nm
<b>Adjustment</b>	Potentiometer, 270° (Sensing range)

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> With right-angle adapter, the sensing range is reduced from 400 mm to 280 mm.

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

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 5 V <sub>pp</sub> <sup>2)</sup>
<b>Power consumption</b>	30 <sup>3)</sup>
<b>Switching output</b>	PNP <sup>4)</sup>
<b>Switching mode</b>	Light/dark switching <sup>4)</sup>

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

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

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

<sup>4)</sup> Control wire open: dark switching D.ON.

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

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

<sup>7)</sup> Do not bend below 0 °C.

<sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

<b>Switching mode selector</b>	Selectable via L/D control cable
<b>Signal voltage PNP HIGH/LOW</b>	Approx. $V_S - 1.0\text{ V} / 0\text{ V}$
<b>Output current <math>I_{\max}</math></b>	$\leq 100\text{ mA}$
<b>Response time</b>	$\leq 1.5\text{ ms}$ <sup>5)</sup>
<b>Switching frequency</b>	333 Hz <sup>6)</sup>
<b>Connection type</b>	Cable, 4-wire, 2 m <sup>7)</sup>
<b>Cable material</b>	PVC
<b>Conductor cross-section</b>	0.34 mm <sup>2</sup>
<b>Cable diameter</b>	Ø 5 mm
<b>Circuit protection</b>	A <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	III
<b>Weight</b>	125 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>	Fastening nuts (2 x)
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Ambient storage temperature</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRNT2.E128350 & NRNT8.E128350

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

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

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

<sup>4)</sup> Control wire open: dark switching D.ON.

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

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

<sup>7)</sup> Do not bend below 0 °C.

<sup>8)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>9)</sup> C = interference suppression.


<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

## Classifications

<b>ECI@ss 5.0</b>	27270904
<b>ECI@ss 5.1.4</b>	27270904
<b>ECI@ss 6.0</b>	27270904
<b>ECI@ss 6.2</b>	27270904
<b>ECI@ss 7.0</b>	27270904
<b>ECI@ss 8.0</b>	27270904
<b>ECI@ss 8.1</b>	27270904
<b>ECI@ss 9.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<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.
Plug connectors and cables			
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	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)