V180-2

Lowest-cost cylindrical photoelectric sensor on the market!

CYLINDRICAL PHOTOELECTRIC SENSORS

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Sensor Intelligence.

V180-2 | V180
CYLINDRICAL PHOTOELECTRIC SENSORS

Technical data overview

Dimensions (W x H x D)	18 mm x 18 mm x 62.5 mm 18 mm x 18 mm x 76.5 mm 18 mm x 18 mm x 69.8 mm 18 mm x 18 mm x 83.8 mm 18 mm x 18 mm x 62.9 mm 18 mm x 18 mm x 76.9 mm 18 mm x 18 mm x 70.2 mm 18 mm x 18 mm x 84.2 mm 18 mm x 18 mm
Sensing range max.	1 mm ... 500 mm [1] 1 mm ... 1,100 mm [1] 1 mm ... 450 mm [1] 1 mm ... 900 mm [1] 0.05 m ... 7 m [2] 0.05 m ... 5.5 m [2] 0.05 m ... 7 m 1 mm ... 140 mm [1] 1 mm ... 130 mm [1] 0 m ... 28 m 0 m ... 25 m 10 mm ... 350 mm [1]
Light source	LED
Type of light	Visible red light / Infrared light (depending on type)
Enclosure rating	IP67
Housing material	Metal Nickel-plated brass and PC Plastic PBT/PC
Adjustment	Potentiometer, 270° Sensing range Potentiometer, 270° Sensitivity Potentiometer, 270° Sensitivity [3] Potentiometer, 4 turns Sensing range Potentiometer, 4 turns

[1] Object with 90 % reflectance (referred to standard white, DIN 5033).
[2] Reflector PL80A.
[3] Receiver.

Product description

The V180-2 sensors are designed to provide the longest sensing range for proximity sensors. These low-cost cylindrical sensors are easy to use, easy to install and maintain saving installation time and maintenance costs. The V180-2 is available in either a plastic or metal housing. The bright red LED makes these sensors easy to align and set up, offering time-saving installation. Plus, the indication LEDs provide continuous signal strength information for quick and simple troubleshooting.

The V180-2 provides an economical solution for universal applications, such as product detection and machine positioning in packaging, general manufacturing automation, material handling and warehousing systems.

At a glance

- Low-cost M18 housing sensor on the market
- Long sensing distances: 100 mm, 400 mm, 800 mm (proximity sensor), 300 mm (proximity sensor with BGS), 6 m (retro-reflective sensor) and 20 m (through-beam sensor)
- Bright power and signal LEDs with 360° visibility
- Wide product portfolio solves a broad range of applications
- High switching frequencies up to 1000 Hz
- Available in a metal housing for applications in harsh environments
- Optical axis selectively axial or radial (90°)

Your benefits

- Cost-effective cylindrical M18 sensor lowers installation costs
- Brightly lit red emitter LED simplifies alignment and saves mounting time
- Bright status display with 360° visibility enables quick and easy troubleshooting and thus reduces maintenance costs and time
- The flat, smooth front screen reduces the accumulation of dust and dirt. This ensures reliable operation and reduces both maintenance and costs

Ordering information

Other models and accessories ➜ www.sick.com/V180-2

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Energetic
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm … 1,100 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2N41182	6041808
				VTE180-2N41187	6037485
			Male connector M12, 4-pin	VTE180-2N42482	6041809
				VTE180-2N42487	6037486
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2P41182	6041810
				VTE180-2P41187	6037487
			Male connector M12, 4-pin	VTE180-2P42482	6041811
				VTE180-2P42487	6037488
1 mm … 450 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2N41144	6043812
		Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2N41149	6043816
			Male connector M12, 4-pin	VTE180-2N42444	6043813
				VTE180-2N42449	6043817
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2P41144	6043814
				VTE180-2P41149	6043818
			Male connector M12, 4-pin	VTE180-2P42444	6043815
				VTE180-2P42449	6043819
1 mm … 500 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2N41142	6041804
				VTE180-2N41147	6037481
			Cable, 4-wire, 3 m [1]	VTE180-2N41042S01	6047904
			Cable, 4-wire, 5 m [1]	VTE180-2N41242	6069667
			Male connector M12, 4-pin	VTE180-2N42442	6041805
				VTE180-2N42447	6037482
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2P41142	6041806
				VTE180-2P41147	6037483
			Male connector M12, 4-pin	VTE180-2P42442	6041807
				VTE180-2P42447	6037484

[1] Do not bend below 0 °C.

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm … 900 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2N41184	6043820
				VTE180-2N41189	6043824
			Male connector M12, 4-pin	VTE180-2N42484	6043821
				VTE180-2N42489	6043825
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTE180-2P41184	6043822
				VTE180-2P41189	6043826
			Male connector M12, 4-pin	VTE180-2P42484	6043823
				VTE180-2P42489	6043827

[1] Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Energetic
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 1,100 mm	PNP	Potentiometer	Connector M12, 3-pin	VTE180-2F32482	6043945
				VTE180-2F32487	6044027
1 mm ... 450 mm	PNP	Potentiometer	Connector M12, 3-pin	VTE180-2F32444	6044025
				VTE180-2F32449	6044026
1 mm ... 500 mm	PNP	Potentiometer	Connector M12, 3-pin	VTE180-2F32342	6042576
				VTE180-2F32447	6043946
1 mm ... 900 mm	PNP	Potentiometer	Connector M12, 3-pin	VTE180-2F32484	6044028
				VTE180-2F32489	6044029

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.05 m ... 5.5 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VL180-2N41133	6043828
				VL180-2N41138	6043835
			Male connector M12, 4-pin	VL180-2N42433	6043830
				VL180-2N42438	6043836
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VL180-2P41133	6043832
				VL180-2P41138	6043837
			Male connector M12, 4-pin	VL180-2P42433	6043834
				VL180-2P42438	6043838
0.05 m ... 7 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VL180-2N41131	6041816
				VL180-2N41131S02	6052349
				VL180-2N41136	6037493
			Male connector M12, 4-pin	VL180-2N42431	6041817
				VL180-2N42436	6037494
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VL180-2P41131	6041818
				VL180-2P41136	6037495
			Male connector M12, 4-pin	VL180-2P42431	6041819
				VL180-2P42436	6037496
				VL180-2P42436P01	1052191
				VL180-2P42436P02	1053299

[1] Do not bend below 0 °C.

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.05 m ... 7 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VL180-2N41162	6041812
			Male connector M12, 4-pin	VL180-2N42462	6041813
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VL180-2P41162	6041814
			Male connector M12, 4-pin	VL180-2P42462	6041815

[1] Do not bend below 0 °C.

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.05 m ... 7 m	PNP	Potentiometer	Male connector M12, 4-pin	VL180-2F32331	6043458
				VL180-2F32331P06	1107317

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.05 m ... 5.5 m	PNP	Potentiometer	Connector M12, 3-pin	VL180-2P32433	6044032
				VL180-2P32438	6044033
0.05 m ... 7 m	PNP	Potentiometer	Connector M12, 3-pin	VL180-2P32436	6044031
			Male connector M12, 4-pin	VL180-2P32431	6044030

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background blanking
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 130 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTF180-2N41114	6043803
				VTF180-2N41119	6043807
			Male connector M12, 4-pin	VTF180-2N42414	6043804
				VTF180-2N42419	6043808
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTF180-2P41114	6043805
				VTF180-2P41119	6043810
			Male connector M12, 4-pin	VTF180-2P42414	6043806
				VTF180-2P42419	6043811
1 mm ... 140 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTF180-2N41112	6041799
				VTF180-2N41117	6037477
			Male connector M12, 4-pin	VTF180-2N42412	6041801
				VTF180-2N42417	6037478
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTF180-2P41112	6041802
				VTF180-2P41117	6037479
			Male connector M12, 4-pin	VTF180-2P42412	6041803
				VTF180-2P42417	6037480

[1] Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background blanking
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 130 mm	PNP	Potentiometer	Connector M12, 3-pin	VTF180-2F32414	6044023
			Male connector M12, 4-pin	VTF180-2F32419	6044024
1 mm ... 140 mm	PNP	Potentiometer	Connector M12, 3-pin	VTF180-2F32412	6044021
				VTF180-2F32417	6044022

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m … 25 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VSE180-2N41134	6043847
				VSE180-2N41139	6043851
			Male connector M12, 4-pin	VSE180-2N42434	6043848
				VSE180-2N42439	6043852
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VSE180-2P41134	6043849
				VSE180-2P41139	6043853
			Male connector M12, 4-pin	VSE180-2P42434	6043850
				VSE180-2P42439	6043854
0 m … 28 m	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VSE180-2N41132	6041820
				VSE180-2N41137	6037497
			Male connector M12, 4-pin	VSE180-2N42432	6041821
				VSE180-2N42437	6037498
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VSE180-2P41132	6041822
				VSE180-2P41137	6037499
			Male connector M12, 4-pin	VSE180-2P42432	6041823
				VSE180-2P42437	6037500

[1] Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m … 28 m	PNP	Potentiometer	Male connector M12, 4-pin	VSE180-2F32432	6047921

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m … 25 m	PNP	Potentiometer	Connector M12, 3-pin	VSE180-2P32434	6044036
				VSE180-2P32439	6044037
0 m … 28 m	PNP	Potentiometer	Connector M12, 3-pin	VSE180-2P32432	6044034
				VSE180-2P32437	6044035

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 350 mm	NPN	Potentiometer	Cable, 4-wire, 2 m [1]	VTB180-2N41112	6043867
				VTB180-2N41117	6043871
			Male connector M12, 4-pin	VTB180-2N42412	6043868
				VTB180-2N42417	6043872
	PNP	Potentiometer	Cable, 4-wire, 2 m [1]	VTB180-2P41112	6043869
				VTB180-2P41117	6043873
			Male connector M12, 4-pin	VTB180-2P42412	6043870
				VTB180-2P42417	6043874

[1] Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
10 mm ... 350 mm	NPN	Potentiometer	Male connector M12, 4-pin	VTB180-2E32412	6058128
	PNP	Potentiometer	Male connector M12, 4-pin	VTB180-2F32412	6044019
				VTB180-2F32417	6044020

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."

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