



V180

Lowest-cost cylindrical photoelectric sensor on the market!

SICK
Sensor Intelligence.



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 18 mm x 18 mm x 63.3 mm 18 mm x 18 mm x 69 mm 18 mm x 18 mm x 70 mm
Functional principle detail	Energetic With minimum distance to reflector (dual lens system) Background blanking Background suppression (depending on type)
Light source	LED
Type of light	Visible red light / Infrared light (depending on type)
Enclosure rating	IP67 / IP66 (depending on type)
Housing material	Metal / plastic (depending on type)
Adjustment	Potentiometer / none (depending on type)

Product description

The V180 sensors were developed to be able to offer a maximum scanning range. The cost-effective cylindrical sensors are easy to operate and simple to install and maintain. This minimizes the installation time and maintenance costs. The V180 sensors are available both in a plastic and metal housing. The bright red light LED with easily visible light spot simplifies installation. In addition, the highly visible status indicator makes troubleshooting quick and easy.

The V180 therefore provides an economical solution for many universal applications such as product detection, positioning in packaging machines, manufacturing automation, and material and conveying technology.

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

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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
				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
	PNP	Potentiometer	Male connector M12, 4-pin	VTE180-2N42442	6041805
				VTE180-2N42447	6037482
			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.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **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
				VL180-2N42436P01	1052191
	PNP	Potentiometer	Cable, 4-wire, 2 m ¹⁾	VL180-2P41131	6041818
				VL180-2P41136	6037495
			Male connector M12, 4-pin	VL180-2P42431	6041819
				VL180-2P42436P02	1053299

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- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **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 ... 5.5 m	PNP	Potentiometer	Male connector M12, 4-pin	VL180-2P42464	6043846
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

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- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **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

- **Functional principle:** Photoelectric retro-reflective sensor
- **Functional principle detail:** With minimum distance to reflector (dual lens system)
- **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

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Background blanking
- **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.
1 mm ... 140 mm	PNP	Potentiometer	Cable, 4-wire, 2 m ¹⁾	VTF180-2P41112S03	6054579

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 140 mm	PNP	Potentiometer	Connector M12, 3-pin	VTF180-2F32412	6044021
				VTF180-2F32417	6044022

- **Functional 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.

- **Functional 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

- **Functional 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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 28 m	PNP	Potentiometer	Connector M12, 3-pin	VSE180-2P32437	6044035
			Male connector M12, 4-pin	VSE180-2P32432	6044034

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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.

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** 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

- **Functional principle:** Photoelectric proximity sensor
- **Functional principle detail:** Energetic
- **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 mm ... 130 mm	NPN	Potentiometer	Cable, 4-wire, 2 m ^{1) 2)}	VT180-N112S03	6020905
			Cable, 4-wire, 2 m ²⁾	VT180-N112	6008788
			Male connector M12, 4-pin	VT180-N410	6008790
	PNP	Potentiometer	Cable, 4-wire, 2 m ²⁾	VT180-P112	6008787
			Male connector M12, 4-pin	VT180-P410	6008789
0 mm ... 450 mm	NPN	Potentiometer	Cable, 4-wire, 2 m ²⁾	VT180-N142	6008792
			Male connector M12, 4-pin	VT180-N440	6008794
	PNP	Potentiometer	Cable, 4-wire, 2 m ²⁾	VT180-P142	6008791
			Male connector M12, 4-pin	VT180-P440	6008793

¹⁾ Connecting cable in black.

²⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective sensor
- **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 ... 3 m	NPN	Potentiometer	Cable, 4-wire, 2 m ¹⁾	VL180-N132	6008780
			Male connector M12, 4-pin	VL180-N430	6008782
	PNP	Potentiometer	Cable, 4-wire, 2 m ¹⁾	VL180-P132	6008779
			Male connector M12, 4-pin	VL180-P430	6008781

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Photoelectric retro-reflective 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.
0.05 m ... 1 m	NPN	None	Cable, 4-wire, 2 m ¹⁾	VL180-N162	6008784
			Male connector M12, 4-pin	VL180-N460	6008786
	PNP	None	Cable, 4-wire, 2 m ¹⁾	VL180-P162	6008783
			Male connector M12, 4-pin	VL180-P460	6008785
				VL180-P460P03	1054326

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Through-beam photoelectric sensor
- **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 m ... 15 m	NPN	Potentiometer	Cable, 4-wire, 2 m ¹⁾	VS/VE180-N132	6008865
			Male connector M12, 4-pin	VS/VE180-N430	6008867
	PNP	Potentiometer	Cable, 4-wire, 2 m ¹⁾	VS/VE180-P132	6008864
			Male connector M12, 4-pin	VS/VE180-P430	6008866

¹⁾ Do not bend below 0 °C.

- **Functional principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Type of light:** Infrared light

Sensing range max.	Adjustment	Connection type	Type	Part no.
0 m ... 25 m	None	Cable with connector MOLEX MINI-FIT, 2-pin, 340 mm	VS180-D132S01	6035022

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 25 m	NPN	None	Cable with connector MOLEX MINI-FIT, 3-pin, 340 mm	VE180-N132S01	6035023

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