

V180-2 M18 Cylindrical Photoelectric Sensor Series

A rounded concept, not only economically

Cylindrical photoelectric sensors offer the benefits of very fast commissioning and compact design. Moreover, the V180-2 series is the answer to all commercial challenges requiring the use of cylindrical photoelectric sensors.

Quick selection of the appropriate version: the product range is adapted to essential market requirements. Different versions are available: photoelectric proximity sensors in three different scanning distance ranges, as well as photoelectric reflex sensors and through-beam photoelectric sensors. M18 housing, material optionally made of plastic or metal. The matching product range allows fast and accurate selection of the correct version for the problem.

Top performance in a universal application environment: the scanning ranges and associated operating reserves provide reliable solutions for many applications. A fast response time also enables accurate detection

in dynamic processes and for objects at high speeds.

Red light and visible light spot: the innovative red light sender diode assists with fast adjustment and commissioning, even in bright ambient conditions. The light spot is homogeneous and extremely bright, making alignment of the sensors to different objects very easy and comfortable in any situation.

360° display: operational performance can be visualized using the two LEDs on the sensor, enabling fast and direct feedback even when mounted in a restricted space.



Benefits at a glance

Convenient and fast operation start-up thanks to:

- Red light LED
- 360° LED indication
- Sensitivity adjustment

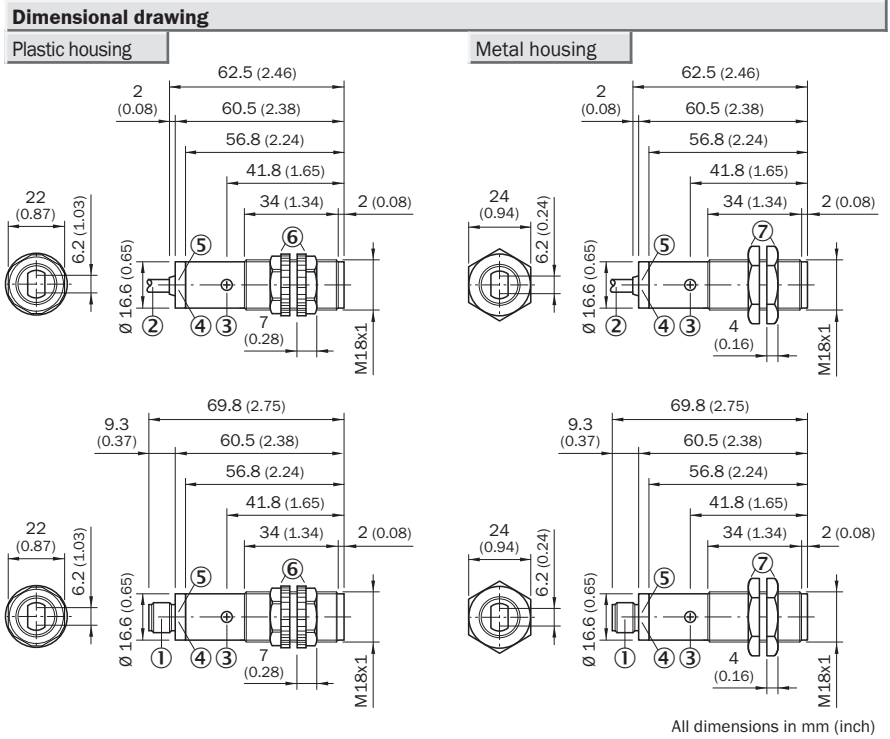
Reliable detection thanks to:

- Large ranges
- Fast response time

Scanning distance
1 ... 140 mm

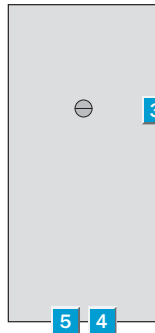
Photoelectric proximity sensor BGB

- Photoelectric proximity sensors with focussed optics and background blanking (BGB)
- Red light as alignment aid
- Adjustable sensitivity
- LED indicator: switching output active and operation reserve
- Material optionally made of plastic or metal



Adjustments

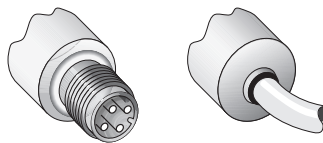
All types



- ① M12 plug, 4-pin
- ② Connector cable 2 m
- ③ Sensitivity control 270°
- ④ Orange LED indicator: switching output active
- ⑤ Green LED indicator, stability indicator:
 - LED lights continuously: light reception < 0.9 / > 1.1
 - LED off: light reception > 0.9 ... < 1.1
- ⑥ Plastic housing, mounting nuts (2x); SW22, PC
- ⑦ Metal housing, mounting nuts (2x); SW24

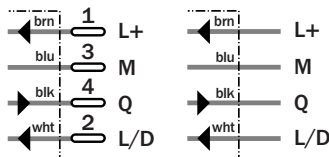
Connection types

VTF180-2N42417	VTF180-2N41117
VTF180-2P42417	VTF180-2P41117
VTF180-2N42412	VTF180-2N41112
VTF180-2P42412	VTF180-2P41112



4-pin, M12

4 x 0.18 mm²



Accessories

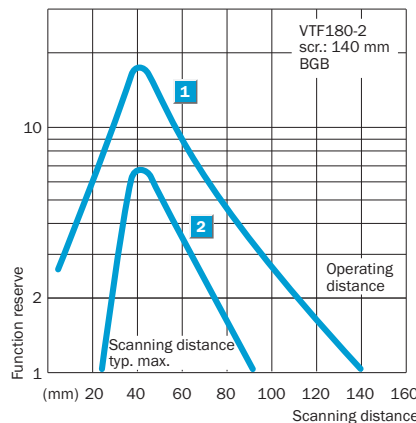
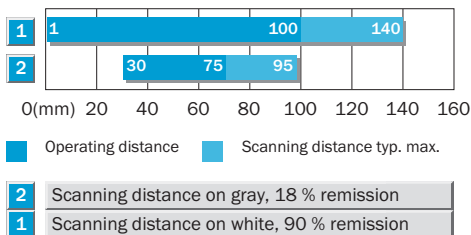
Cables and connectors
Mounting systems



Technical data		VTF180-2	P41117	P42417	N41117	N42417	P41112	P42412	N41112	N42412		
Scanning distance SD , typ. max. ¹⁾	1 ... 140 mm											
Operating distance SD ⁴⁾	1 ... 100 mm											
Light spot diameter	Approx. 8 mm at 100 mm											
Angle of dispersion sender	Focussed approx. 7 mm at 60 mm											
Light source ²⁾ , light type	LED, red light, 645 nm											
Sensitivity adjustable	Potentiometer 270°											
Orange LED indicator	Switching output active											
Green LED indicator	Stability indicator light reception											
	LED lights continuously:											
	light reception < 0.9/> 1.1											
	LED off: light reception > 0.9 ... < 1.1											
Supply voltage V_S	10 ... 30 V DC ³⁾											
Residual ripple ⁴⁾	± 10 %											
Current consumption ⁵⁾	≤ 30 mA											
Switching outputs	Q: PNP, open collector											
Signal voltage PNP HIGH/LOW	V _S - 1.8 V _{max} /approx. 0 V											
	Q: NPN, open collector											
Signal voltage NPN HIGH/LOW	Approx. V _S / < 1.8 V											
Switching mode	Light-/dark-switching, selectable ⁶⁾											
Output current I_A max.	≤ 100 mA											
Response time ⁷⁾	≤ 0.5 ms											
Max. switching frequency ⁸⁾	1,000/s											
Connection type	Plug, M12, 4-pin											
	Cable ⁹⁾ , PVC, 2 m, 4 x 0.18 mm ² , Ø 3.8 mm											
VDE protection class	◆◆											
Enclosure rating	IP 67											
Circuit protection ¹⁰⁾	A, B, C											
Ambient temperature T_A	Operation -25 °C ... +55 °C											
	Storage -40 °C ... +70 °C											
Weight plastic housing	With plug M12, approx. 18 g											
	With cable 2 m, approx. 62 g											
Weight metal housing	With plug M12, approx. 47 g											
	With cable 2 m, approx. 95 g											
Housing material	Housing: PBT and PC											
	Housing: brass nickel-pated and PC											
	Optic: PMMA											

- 1) Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
- 2) Average service life 100,000 h at T_A = +25 °C
- 3) Limit values
- 4) May not exceed or fall short of V_S tolerances
- 5) Without load
- 6) L/D-switching type control line: L/D = + V_S: light-switching L.ON
L/D = 0 V: dark-switching D.ON
- 7) Signal transit time with resistive load
- 8) With light/dark ratio 1:1
- 9) Do not bend below 0 °C
- 10) A = V_S connections reverse-polarity protected
B = Inputs and outputs reverse-polarity protected
C = Outputs overcurrent and short-circuit protected

Scanning distance



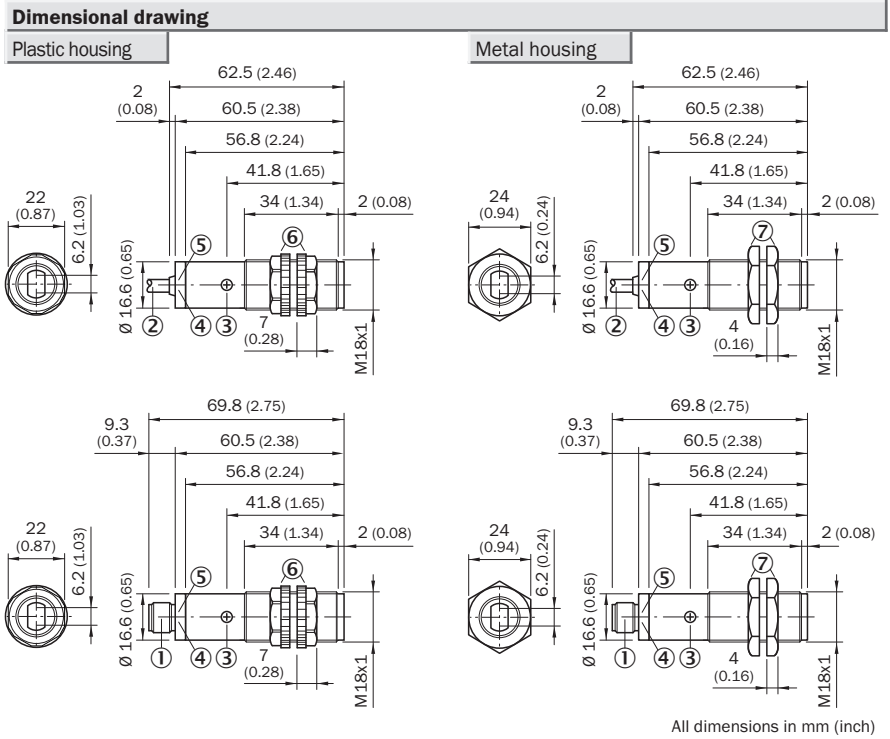
Ordering information

Model name	Part No.
VTF180-2N41117	6037477
VTF180-2N42417	6037478
VTF180-2P41117	6037479
VTF180-2P42417	6037480
VTF180-2N41112	6041799
VTF180-2N42412	6041801
VTF180-2P41112	6041802
VTF180-2P42412	6041803

Scanning distance
1 ... 450 mm

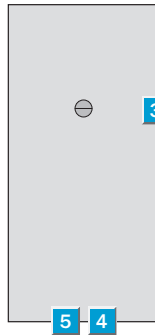
Photoelectric proximity sensor BGB

- Photoelectric proximity sensors with focussed optics and background blanking (BGB)
- Red light as alignment aid
- Adjustable sensitivity
- LED indicator: switching output active and operation reserve
- Material optionally made of plastic or metal



Adjustments

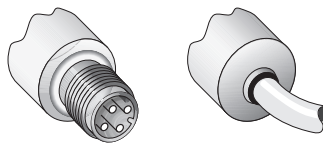
All types



- ① M12 plug, 4-pin
- ② Connector cable 2 m
- ③ Sensitivity control 270°
- ④ Orange LED indicator: switching output active
- ⑤ Green LED indicator, stability indicator:
 - LED lights continuously: light reception < 0.9 / > 1.1
 - LED off: light reception > 0.9 ... < 1.1
- ⑥ Plastic housing, mounting nuts (2x); SW22, PC
- ⑦ Metal housing, mounting nuts (2x); SW24

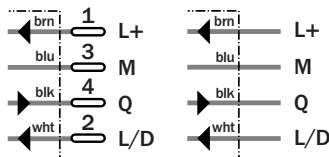
Connection types

VTE180-2N42447	VTE180-2N41147
VTE180-2P42447	VTE180-2P41147
VTE180-2N42442	VTE180-2N41142
VTE180-2P42442	VTE180-2P41142



4-pin, M12

4 x 0.18 mm²



Accessories

Cables and connectors
Mounting systems



Technical data		VTE180-2	P41147	P42447	N41147	N42447	P41142	P42442	N41142	N42442		
Scanning distance SD , typ. max. ¹⁾	1 ... 450 mm											
Operating distance SD ⁴⁾	1 ... 400 mm											
Light spot diameter	Approx. 20 mm at 400 mm											
Angle of dispersion sender	Approx. 1.5°											
Light source ²⁾ , light type	LED, red light, 645 nm											
Sensitivity adjustable	Potentiometer 270°											
Orange LED indicator	Switching output active											
Green LED indicator	Stability indicator light reception											
	LED lights continuously:											
	light reception < 0.9/> 1.1											
	LED off: light reception > 0.9 ... < 1.1											
Supply voltage V_S	10 ... 30 V DC ³⁾											
Residual ripple ⁴⁾	± 10 %											
Current consumption ⁵⁾	≤ 30 mA											
Switching outputs	Q: PNP, open collector											
Signal voltage PNP HIGH/LOW	V _S - 1.8 V _{max} /approx. 0 V											
	Q: NPN, open collector											
Signal voltage NPN HIGH/LOW	Approx. V _S / < 1.8 V											
Switching mode	Light-/dark-switching, selectable ⁶⁾											
Output current I_A max.	≤ 100 mA											
Response time ⁷⁾	≤ 0.5 ms											
Max. switching frequency ⁸⁾	1,000/s											
Connection type	Plug, M12, 4-pin											
	Cable ⁹⁾ , PVC, 2 m, 4 x 0.18 mm ² , Ø 3.8 mm											
VDE protection class	⚡											
Enclosure rating	IP 67											
Circuit protection ¹⁰⁾	A, B, C											
Ambient temperature T_A	Operation -25 °C ... +55 °C											
	Storage -40 °C ... +70 °C											
Weight plastic housing	With plug M12, approx. 18 g											
	With cable 2 m, approx. 62 g											
Weight metal housing	With plug M12, approx. 47 g											
	With cable 2 m, approx. 95 g											
Housing material	Housing: PBT and PC											
	Housing: brass nickel-pated and PC											
	Optic: PMMA											

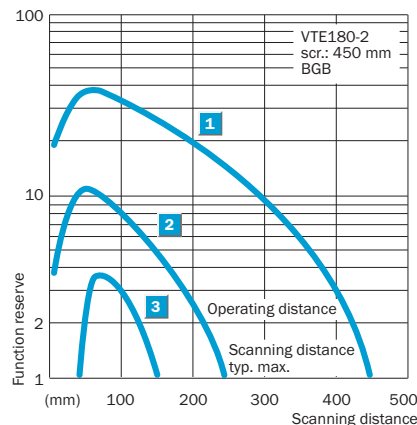
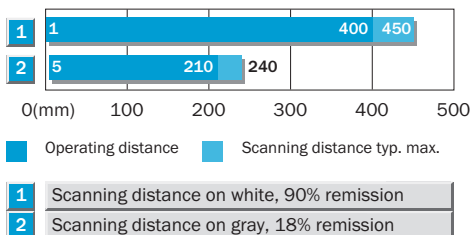
- 1) Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
- 2) Average service life 100,000 h at T_A = +25 °C
- 3) Limit values

- 4) May not exceed or fall short of V_S tolerances
- 5) Without load
- 6) L/D-switching type control line: L/D = + V_S: light-switching L.ON
L/D = 0 V: dark-switching D.ON

- Control line open
- NPN: light-switching L.ON
- PNP: dark-switching D.ON
- 7) Signal transit time with resistive load
- 8) With light/dark ratio 1:1
- 9) Do not bend below 0 °C

- 10) A = V_S connections reverse-polarity protected
- B = Inputs and outputs reverse-polarity protected
- C = Outputs overcurrent and short-circuit protected

Scanning distance



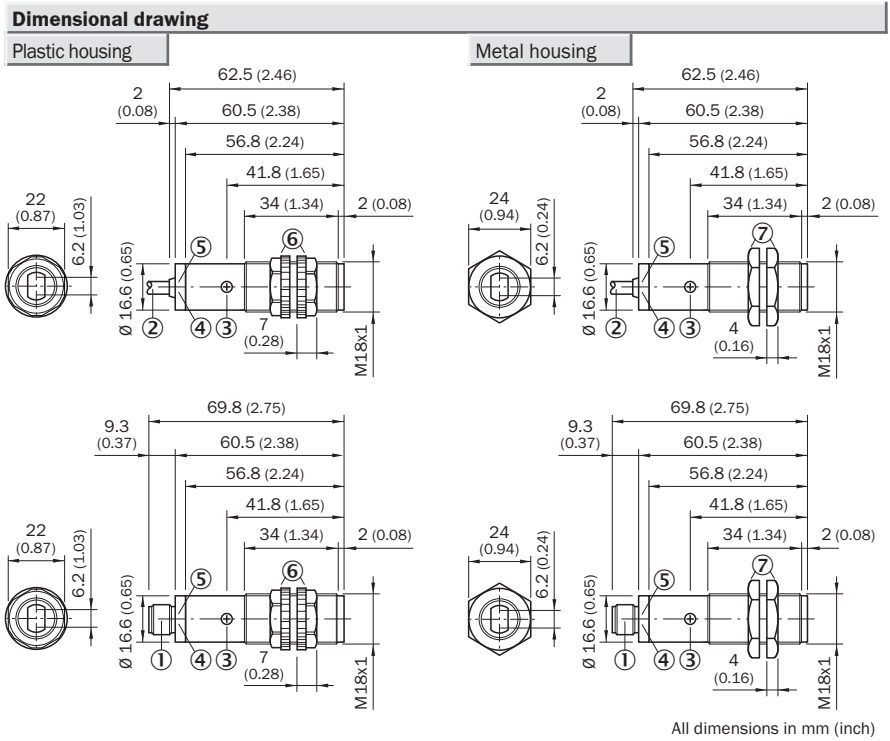
Ordering information

Model name	Part No.
VTE180-2N41147	6037481
VTE180-2N42447	6037482
VTE180-2P41147	6037483
VTE180-2P42447	6037484
VTE180-2N41142	6041804
VTE180-2N42442	6041805
VTE180-2P41142	6041806
VTE180-2P42442	6041807

Scanning distance
1 ... 1,100 mm

Photoelectric proximity sensors, energetic

- Photoelectric proximity sensors, energetic
- Large scanning distance
- Red light as alignment aid
- Adjustable sensitivity
- LED indicator: switching output active and operation reserve
- Material optionally made of plastic or metal



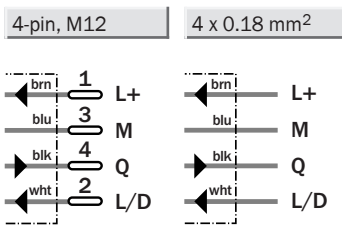
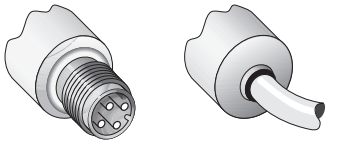
Adjustments

All types

- ① M12 plug, 4-pin
- ② Connector cable 2 m
- ③ Sensitivity control 270°
- ④ Orange LED indicator: switching output active
- ⑤ Green LED indicator, stability indicator:
 - LED lights continuously: light reception < 0.9 / > 1.1
 - LED off: light reception > 0.9 ... < 1.1
- ⑥ Plastic housing, mounting nuts (2x); SW22, PC
- ⑦ Metal housing, mounting nuts (2x); SW24

Connection types

VTE180-2N42487	VTE180-2N41187
VTE180-2P42487	VTE180-2P41187
VTE180-2N42482	VTE180-2N41182
VTE180-2P42482	VTE180-2P41182



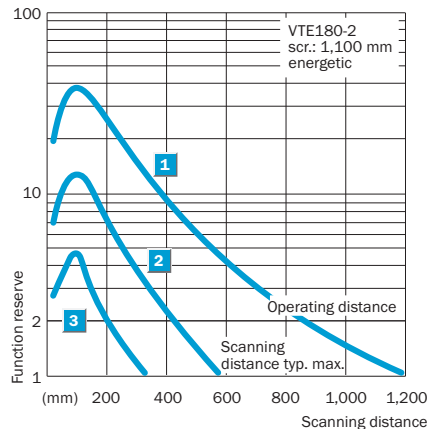
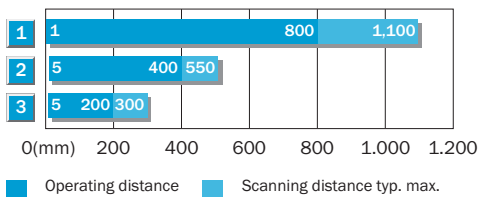
Accessories

Cables and connectors
Mounting systems

Technical data		VTE180-2	P41187	P42487	N41187	N42487	P41182	P42482	N41182	N42482		
Scanning distance SD , typ. max. ¹⁾	1 ... 1,100 mm											
Operating distance SD ⁴⁾	1 ... 800 mm											
Light spot diameter	Approx. 30 mm at 800 mm											
Angle of dispersion sender	Approx. 1.2°											
Light source ²⁾ , light type	LED, red light, 645 nm											
Sensitivity adjustable	Potentiometer 270°											
Orange LED indicator	Switching output active											
Green LED indicator	Stability indicator light reception											
	LED lights continuously:											
	light reception < 0.9/> 1.1											
	LED off: light reception > 0.9 ... < 1.1											
Supply voltage V_S	10 ... 30 V DC ³⁾											
Residual ripple ⁴⁾	± 10 %											
Current consumption ⁵⁾	≤ 30 mA											
Switching outputs	Q: PNP, open collector											
Signal voltage PNP HIGH/LOW	V _S - 1.8 V _{max} /approx. 0 V											
	Q: NPN, open collector											
Signal voltage NPN HIGH/LOW	Approx. V _S / < 1.8 V											
Switching mode	Light-/dark-switching, selectable ⁶⁾											
Output current I_A max.	≤ 100 mA											
Response time ⁷⁾	≤ 0.5 ms											
Max. switching frequency ⁸⁾	1,000/s											
Connection type	Plug, M12, 4-pin											
	Cable ⁹⁾ , PVC, 2 m, 4 x 0.18 mm ² , Ø 3.8 mm											
VDE protection class	◆◆											
Enclosure rating	IP 67											
Circuit protection ¹⁰⁾	A, B, C											
Ambient temperature T_A	Operation -25 °C ... +55 °C											
	Storage -40 °C ... +70 °C											
Weight plastic housing	With plug M12, approx. 18 g											
	With cable 2 m, approx. 62 g											
Weight metal housing	With plug M12, approx. 47 g											
	With cable 2 m, approx. 95 g											
Housing material	Housing: PBT and PC											
	Housing: brass nickel-pated and PC											
	Optic: PMMA											

- 1) Object with 90 % remission (based on standard white DIN 5033); 100 x 100 mm
- 2) Average service life 100,000 h at T_A = +25 °C
- 3) Limit values
- 4) May not exceed or fall short of V_S tolerances
- 5) Without load
- 6) L/D-switching type control line: L/D = + V_S: light-switching L.ON
L/D = 0 V: dark-switching D.ON
- 7) Signal transit time with resistive load
- 8) With light/dark ratio 1:1
- 9) Do not bend below 0 °C
- 10) A = V_S connections reverse-polarity protected
B = Inputs and outputs reverse-polarity protected
C = Outputs overcurrent and short-circuit protected


Scanning distance



Ordering information

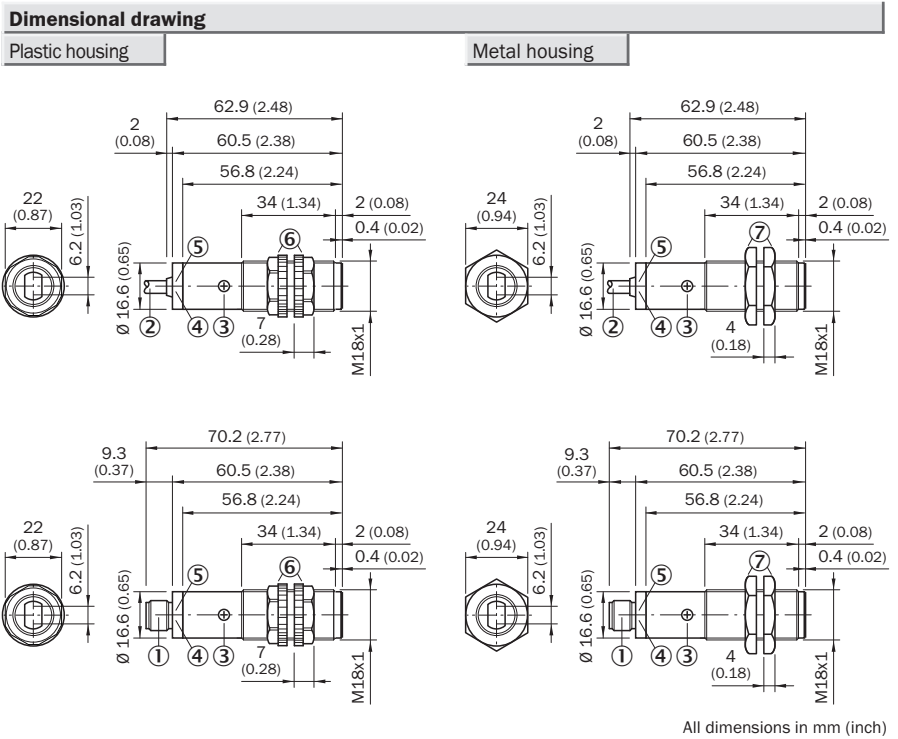
Model name	Part No.
VTE180-2N41187	6037485
VTE180-2N42487	6037486
VTE180-2P41187	6037487
VTE180-2P42487	6037488
VTE180-2N41182	6041808
VTE180-2N42482	6041809
VTE180-2P41182	6041810
VTE180-2P42482	6041811

VL180-2 Photoelectric reflex sensor, with polarizing filter, red light


Scanning range
 0.05 ... 7 m (PL80A)

Photoelectric reflex sensor

- Polarizing filter for reliable detection of shiny surfaces
- LED indicator: switching output active and operation reserve
- Large ranges
- Red light as alignment aid
- Material optionally made of plastic or metal



Adjustments

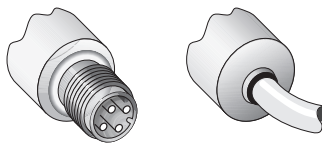
All types



- ① M12 plug, 4-pin
- ② Connector cable 2 m
- ③ Sensitivity control 270°
- ④ Orange LED indicator: switching output active
- ⑤ Green LED indicator, stability indicator:
 - LED lights continuously: light reception < 0.9 / > 1.1
 - LED off: light reception > 0.9 ... < 1.1
- ⑥ Plastic housing, mounting nuts (2x); SW22, PC
- ⑦ Metal housing, mounting nuts (2x); SW24

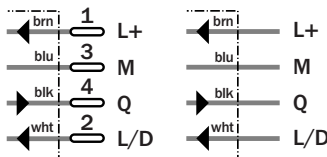
Connection types

VL180-2N42436	VL180-2N41136
VL180-2P42436	VL180-2P41136
VL180-2N42431	VL180-2N41131
VL180-2P42431	VL180-2P41131



4-pin, M12

4 x 0.18 mm²



Accessories

Cables and connectors
Mounting systems
Reflectors

Technical data	VL180-2	P41136	P42436	N41136	N42436	P41131	P42431	N41131	N42431		
Scanning range SR , typ. max./reflect.	0.05 ... 7 m (PL80A)/... 6 m (P250) ¹⁾										
Operating range	0.05 ... 6 m (PL80A)/... 4.5 m (P250) ¹⁾										
Light spot diameter	Approx. 400 mm at 6 m										
Angle of dispersion sender	Approx. 4.5°										
Light source ²⁾ , light type	LED, red light, 645 nm										
Polarizing filter	Yes										
Sensitivity adjustable	Potentiometer 270°										
Orange LED indicator	Switching output active										
Green LED indicator	Stability indicator light reception										
	LED lights continuously:										
	light reception < 0.9/> 1.1										
	LED off: light reception > 0.9 ... < 1.1										
Supply voltage V_S	10 ... 30 V DC ³⁾										
Residual ripple ⁴⁾	± 10 %										
Current consumption ⁵⁾	≤ 30 mA										
Switching outputs	Q: PNP, open collector										
Signal voltage PNP HIGH/LOW	V _S - 1.8 V _{max} /approx. 0 V										
	Q: NPN, open collector										
Signal voltage NPN HIGH/LOW	Approx. V _S /< 1.8 V										
Switching mode	Light-/dark-switching, selectable ⁶⁾										
Output current I_A max.	≤ 100 mA										
Response time ⁷⁾	≤ 0.5 ms										
Max. switching frequency ⁸⁾	1,000/s										
Connection type	Plug, M12, 4-pin										
	Cable ⁹⁾ , PVC, 2 m, 4 x 0.18 mm ² , Ø 3.8 mm										
VDE protection class	◆◆										
Enclosure rating	IP 67										
Circuit protection ¹⁰⁾	A, B, C										
Ambient temperature T_A	Operation -25 °C ... +55 °C										
	Storage -40 °C ... +70 °C										
Weight plastic housing	With plug M12, approx. 18 g										
	With cable 2 m, approx. 62 g										
Weight metal housing	With plug M12, approx. 47 g										
	With cable 2 m, approx. 95 g										
Housing material	Housing: PBT and PC										
	Housing: brass nickel-pated and PC										
	Optic: PMMA										

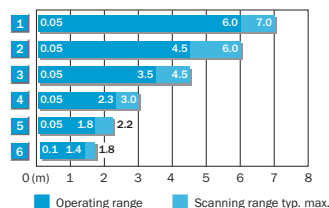
- 1) Reflector P250 included with delivery VL180-2
- 2) Average service life 100,000 h at T_A = +25 °C
- 3) Limit values

- 4) May not exceed or fall short of V_S tolerances
- 5) Without load
- 6) L/D-switching type control line: L/D = + V_S: light-switching L.ON
L/D = 0 V: dark-switching D.ON

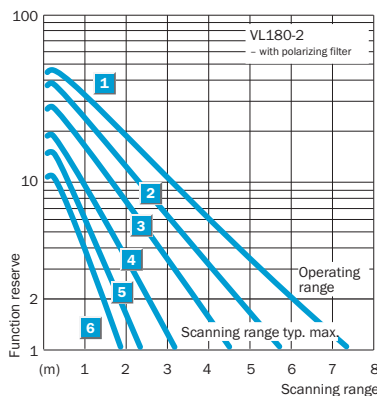
- Control line open
- NPN: light-switching L.ON
- PNP: dark-switching D.ON
- 7) Signal transit time with resistive load
- 8) With light/dark ratio 1:1
- 9) Do not bend below 0 °C

- 10) A = V_S connections reverse-polarity protected
- B = Inputs and outputs reverse-polarity protected
- C = Outputs overcurrent and short-circuit protected

Scanning range and operating reserve



Reflector type	Operating range
1	PL80A 0.05 ... 6.0 m
2	P250, PL40A, PL50A, C110A 0.05 ... 4.5 m
3	PL30A, PL31A 0.05 ... 3.5 m
4	PL20A 0.05 ... 2.3 m
5	P45 0.05 ... 1.8 m
6	Reflective tape Diamond Grade 0.1 ... 1.4 m (100 x 100 mm ²)



Ordering information

Model name	Part No. *)
VL180-2N41136	6037493
VL180-2N42436	6037494
VL180-2P41136	6037495
VL180-2P42436	6037496
VL180-2N41131	6041816
VL180-2N42431	6041817
VL180-2P41131	6041818
VL180-2P42431	6041819

*) Reflector P250 included with delivery VL180-2

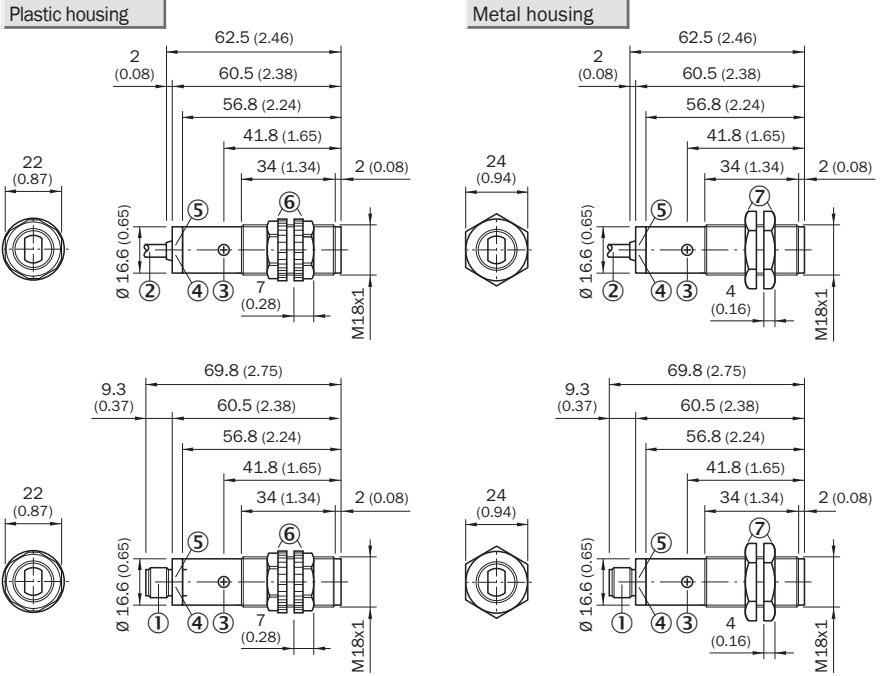
VSE180-2 Through-beam photoelectric sensor, red light

Scanning range
0 ... 28 m

Through-beam photoelectric sensor

- Very large scanning ranges
- Adjustable sensitivity
- LED indicator VE180-2: switching output active and operation reserve
- Red light as alignment aid
- Material optionally made of plastic or metal

Dimensional drawing



All dimensions in mm (inch)



Adjustments

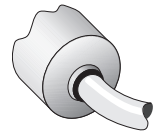
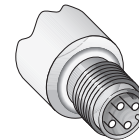
All types



- ① M12 plug, 4-pin
- ② Connector cable 2 m
- ③ Sensitivity control 270°, only VE180-2
- ④ Orange LED indicator, only VE180-2: switching output active
- ⑤ Green LED indicator, only VE180-2, stability indicator:
 - LED lights continuously: light reception < 0.9 / > 1.1
 - LED off: light reception > 0.9 ... < 1.1
- ⑥ Plastic housing, mounting nuts (2x); SW22, PC
- ⑦ Metal housing, mounting nuts (2x); SW24

Connection types

VSE180-2N42437	VSE180-2N41137	VSE180-2N42437	VSE180-2N41137
VSE180-2P42437	VSE180-2P41137	VSE180-2P42437	VSE180-2P41137
VSE180-2N42432	VSE180-2N41132	VSE180-2N42432	VSE180-2N41132
VSE180-2P42432	VSE180-2P41132	VSE180-2P42432	VSE180-2P41132



Accessories

- Cables and connectors
- Mounting systems

Sender

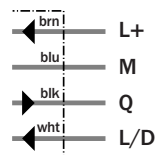
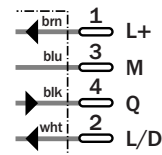
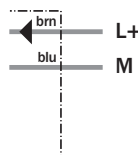
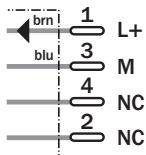
4-pin, M12

2 x 0.18 mm²

Receiver

4-pin, M12

4 x 0.18 mm²



Technical data		VSE180-2	P41137	P42437	N41137	N42437	P41132	P42432	N41132	N42432		
Scanning range SR , typ. max.	0 ... 28 m											
Operating range	0 ... 20 m											
Light spot diameter	Approx. 1,100 mm at 20 m											
Angle of dispersion sender	Approx. 5°											
Light source ¹⁾ , light type	LED, red light, 645 nm											
Sensitivity adjustable	Receiver VE180-2: Potentiometer 270°											
Orange LED indicator	Switching output active											
Green LED indicator	Stability indicator light reception											
	LED lights continuously:											
	light reception < 0.9/> 1.1											
	LED off: light reception > 0.9 ... < 1.1											
Supply voltage V_S	10 ... 30 V DC ²⁾											
Residual ripple ³⁾	± 10 %											
Current consumption sender ⁴⁾	≤ 20 mA											
Current consumption receiver ⁴⁾	≤ 15 mA											
Switching outputs	Q: PNP, open collector											
Signal voltage PNP HIGH/LOW	V _S - 1.8 V _{max} /approx. 0 V											
	Q: NPN, open collector											
Signal voltage NPN HIGH/LOW	Approx. V _S /< 1.8 V											
Switching mode Receiver	Light-/dark-switching, selectable ⁵⁾											
Output current I_A max.	≤ 100 mA											
Response time ⁶⁾	≤ 0.5 ms											
Max. switching frequency ⁷⁾	1,000/s											
Connection type	Plug, M12, 4-pin											
Sender	Cable ⁸⁾ , PVC, 2 m, 2 x 0.18 mm ² , Ø 3.8 mm											
Receiver	Cable ⁸⁾ , PVC, 2 m, 4 x 0.18 mm ² , Ø 3.8 mm											
VDE protection class	⏚											
Enclosure rating	IP 67											
Circuit protection ⁹⁾	A, B, C											
Ambient temperature T_A	Operation -25 °C ... +55 °C											
	Storage -40 °C ... +70 °C											
Weight plastic housing ¹⁰⁾	With plug M12, approx. 18 g											
	With cable 2 m, approx. 62 g											
Weight metal housing ¹⁰⁾	With plug M12, approx. 47 g											
	With cable 2 m, approx. 95 g											
Housing material	Housing: PBT and PC											
	Housing: brass nickel-pated and PC											
	Optic: PMMA											

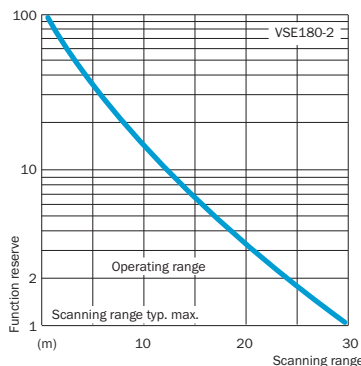
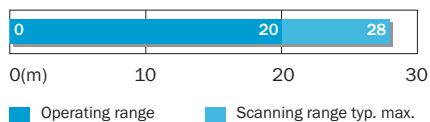
- 1) Average service life 100,000 h at T_A = +25 °C
- 2) Limit values
- 3) May not exceed or fall short of V_S tolerances
- 4) Without load

- 5) L/D-switching type control line:
L/D = + V_S: light-switching L.ON
L/D = 0 V: dark-switching D.ON
Control line open
NPN: light-switching L.ON
PNP: dark-switching D.ON

- 6) Signal transit time with resistive load
- 7) With light/dark ratio 1:1
- 8) Do not bend below 0 °C
- 9) A = V_S connections reverse-polarity protected

- B = Inputs and outputs reverse-polarity protected
- C = Outputs overcurrent and short-circuit protected
- 10) Per sender or receiver

Scanning range and operating reserve



Ordering information

Model name	Part No. *)
VSE180-2N41137	6037497
VSE180-2N42437	6037498
VSE180-2P41137	6037499
VSE180-2P42437	6037500
VSE180-2N41132	6041820
VSE180-2N42432	6041821
VSE180-2P41132	6041822
VSE180-2P42432	6041823

*) Part No. includes sender and receiver (pair)

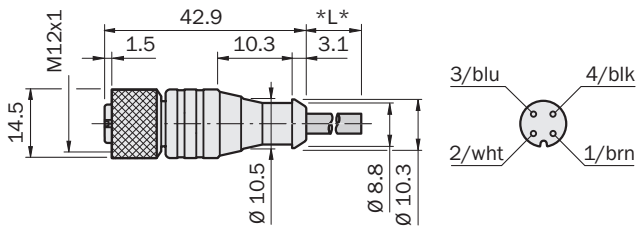
Dimensional drawings and Ordering information

SENSICK screw-in system M12, 4-pin, Enclosure rating IP 67

Female connector M12, 4-pin, straight ¹⁾

Cable diameter 5 mm, 4 x 0.25 mm², sheath PVC

Model name	Part No.	Contacts	Cable length *L*
DOL-1204-G02M	6009382	4	2 m
DOL-1204-G05M	6009866	4	5 m
DOL-1204-G10M	6010543	4	10 m
DOL-1204-G15M	6010753	4	15 m

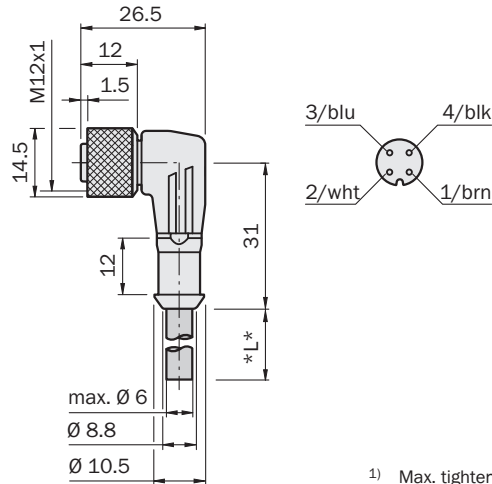


¹⁾ Max. tightening torque 0.5 Nm

Female connector M12, 4-pin, angled¹⁾

Cable diameter 5 mm, 4 x 0.25 mm², sheath PVC

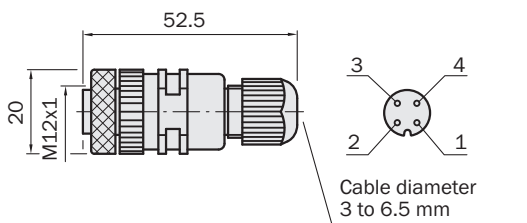
Model name	Part No.	Contacts	Cable length *L*
DOL-1204-W02M	6009383	4	2 m
DOL-1204-W05M	6009867	4	5 m
DOL-1204-W10M	6010541	4	10 m



¹⁾ Max. tightening torque 0.5 Nm

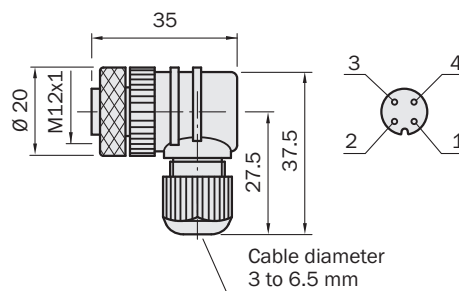
Female connector M12, 4-pin, straight

Model name	Part No.	Contacts	Can be adapted for cables Ø 4.5 to 6.5 mm
DOS-1204-G	6007302	4	



Female connector M12, 4-pin, angled

Model name	Part No.	Contacts	Can be adapted for cables Ø 4.5 to 6.5 mm
DOS-1204-W	6007303	4	

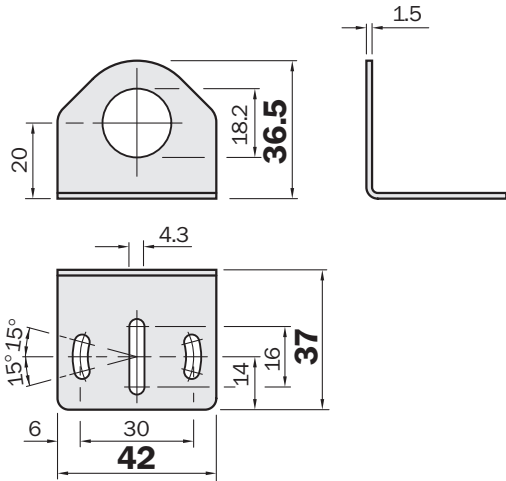


Dimensional drawings and Ordering information

Mounting systems

Mounting bracket

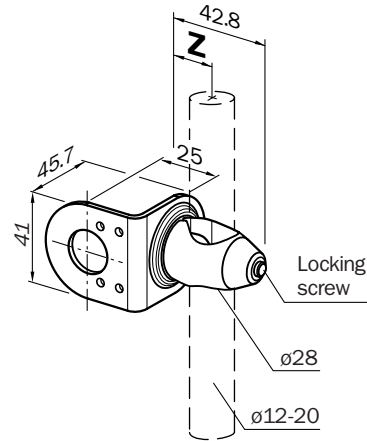
Model name	Part No.
BEF-WN-M18	5308446



Universal bracket (rod mounting) for sensors

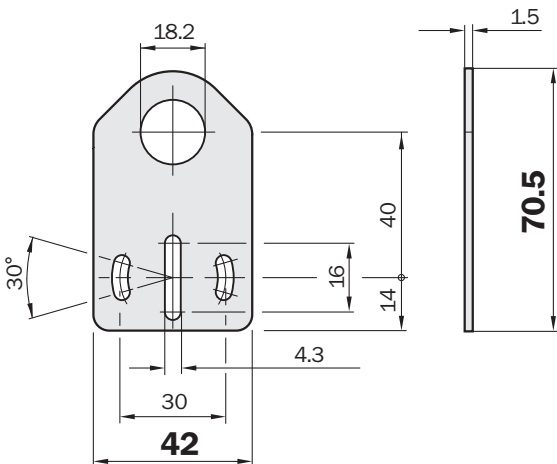
Distance Z: bar center – inner plate surface

Model name	Part No.	Bar-Ø (mm)	Distance Z (mm)
BEF-KHS-H01	2022465	12	15.0
		14	16.4
		15	17.1
		18	19.2
		20	20.7

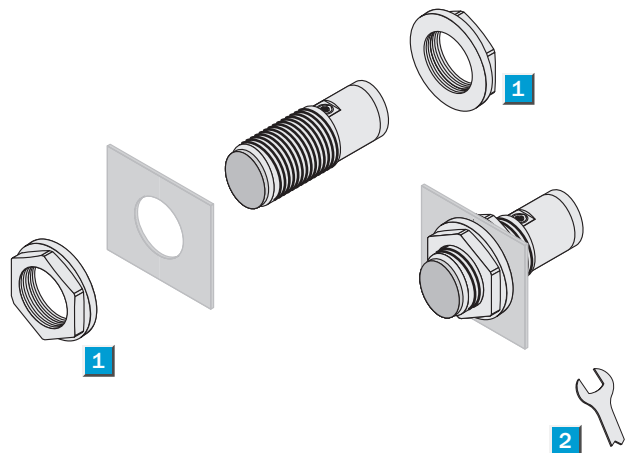


Mounting plate, steel, galvanized

Model name	Part No.
BEF-WG-M18	5321870



Mounting kit for V180-2 (included with delivery)



Plastic housing V180-2

- 1 2 x locknuts, RDL M18x1 (SW22); (Part No. 4040270); supplied with V180-2
- 2 Maximum torque 1.5 Nm

Metal housing V180-2

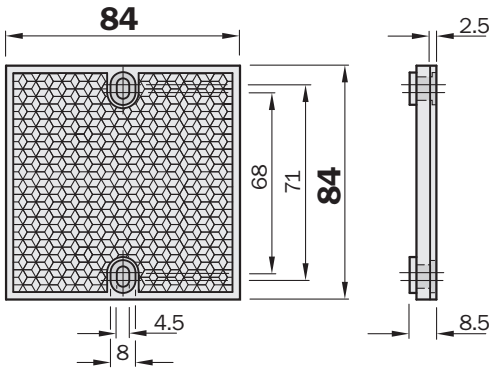
- 1 2 x locknuts M18 (SW24); (Part No. 7900436); supplied with V180-2
- 2 Maximum torque 20 Nm

Dimensional drawings and Ordering information

Reflectors for VL180-2, plastic design for temperatures up to 65 °C

Reflector 80 x 80 mm, screwable

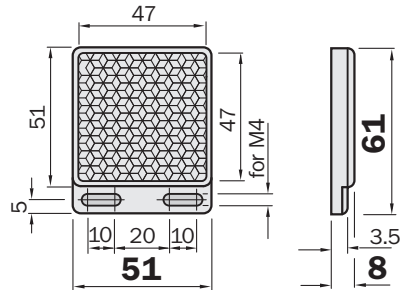
Model name	Part No.
PL80A	1003865



Reflector 47 x 47 mm, screwable

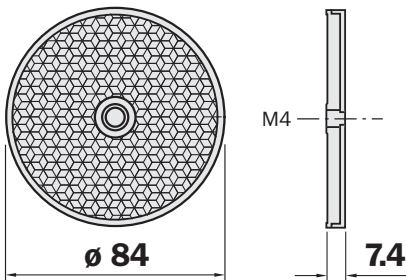
Model name	Part No.
P250	5304812*

* included with delivery VL180-2



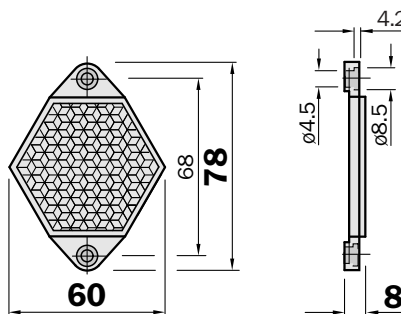
Reflector, diameter 83 mm, center hole mounting

Model name	Part No.
C110A	5304549



Reflector, 6-sided, width across flats 48 mm

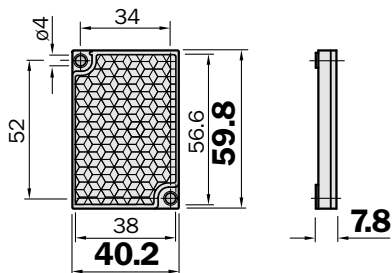
Model name	Part No.
PL50A	1000132



Also available in heatable model:
Permanent heating: PL50HK,
Part No. 1001545
Controlled heating: PL50HS
Part No. 1009871

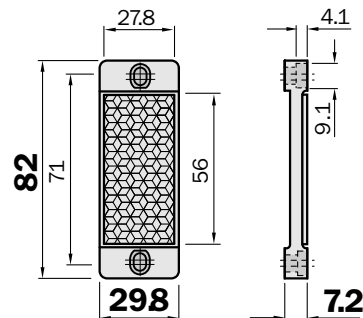
Reflector 38 x 56 mm, screwable

Model name	Part No.
PL40A	1012720



Reflector 28 x 56 mm, screwable

Model name	Part No.
PL30A	1002314



Dimensional drawings and Ordering information

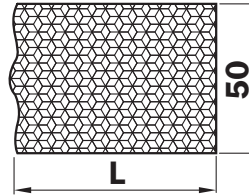
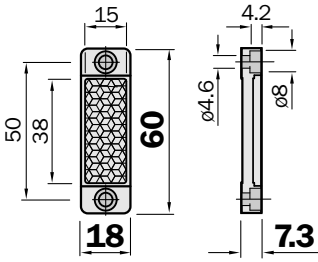
Reflectors for V180-2, plastic design for temperatures up to 65 °C

Reflector 15 x 38 mm, screwable

Model name	Part No.
PL20A	1012719

Reflective tape

Model name	Part No.	
REF-Plus-R50	5319981	Roll: 50 mm x 22.8 m
REF-Plus-R50-K	4051185	Cut to size: 50 mm x L (mm)



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