

W 11: Economic and Reliable



Overview of the W 11 performance range:

- WL 11: The scanning range is 7 m,
- WT 11: With background suppression and a maximum scanning distance of 250 mm,
- WT 11 energetic: Maximum scanning distance of 1000 mm.

All W 11-2 models have red light transmitter diodes as a standard feature. The sensors can be aligned quickly and effectively on the object using the visible light spot. The 4-pin M 12 equipment plug or the 2 m cable are standard equipment in the same way as the 800 Hz switching frequency and the short-circuit protected switching outputs.


Typical uses include the packaging industry and the foodstuffs and semi-luxury goods industry, but the W 11 series is also very useful in the electronics and textile industries thanks to their reliability.

	Photoelectric proximity switch BGS
	Photoelectric proximity switch ener.
	Photoelectric reflex switch

The essential market requirements for a sensor in standard applications are economy and reliability.

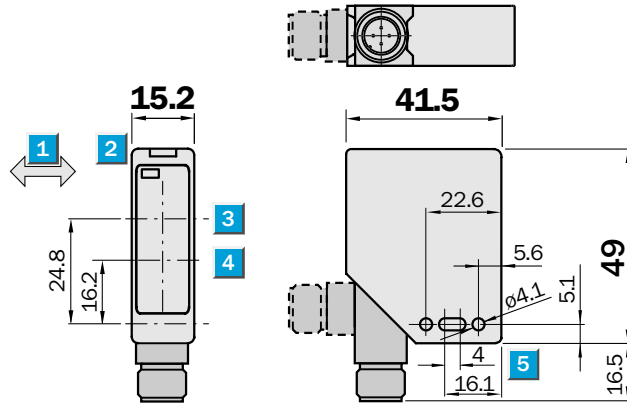
We are fulfilling these requirements with the W 11 series. The series are available for multifaceted jobs with the WL 11 photoelectric reflex switch, the WT 11 photoelectric proximity switch with adjustable background suppression, and the WT 11 energetic.




Scanning distance
20 ... 250 mm
 Photoelectric proximity switch

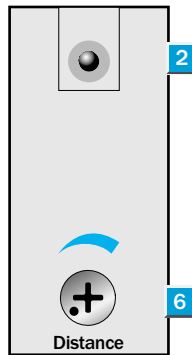
- Red light
- Insensitive to ambient light sources
- M 12 plug rotatable by 90° or 2 m cable
- Adjustable background suppression

Dimension illustration



Setting options

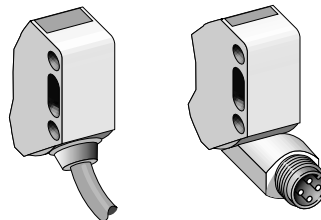
WT 11-P 430	WT 11-N 430
WT 11-P 130	WT 11-N 130



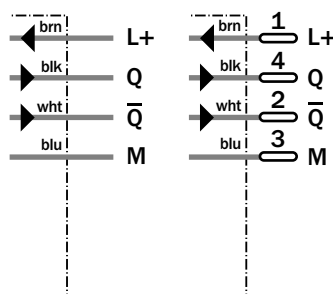
- 1 Standard direction of the material being scanned
- 2 LED signal strength indicator
- 3 Optic axis, receiver
- 4 Optic axis, sender
- 5 Mounting holes $\varnothing 4.1$ mm
- 6 Scanning distance adjuster

Connection type

WT 11-P 130	WT 11-N 430
WT 11-N 130	WT 11-P 430



4 x 0.25 mm ²	4 pin, M 12
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Accessories

- Connectors
- Mounting systems

Technical data		WT 11-	P 430	P 130	N 430	N 130
Scanning distance	20 ... 250 mm, adjustable					
Light source ¹⁾	LED, red light					
Light spot diameter	10 mm at distance of 200 mm					
Supply voltage V_s	DC 10 ... 30 V ²⁾					
Ripple ³⁾	$\leq 5 V_{PP}$					
Current consumption ⁴⁾	≤ 30 mA					
	≤ 40 mA					
Switching outputs	PNP, Q and \bar{Q}					
	NPN, Q and \bar{Q}					
Output current I_A max.	≤ 100 mA					
Response time ⁵⁾	$\leq 625 \mu s$					
Switching frequency, max. ⁶⁾	800/s					
Connection type	Cable ⁷⁾					
	M 12 plug, 4 pin					
VDE protection class ⁸⁾	\square					
Protection circuits ⁹⁾	A, B, C					
Enclosure rating	IP 65					
Ambient temperature	Operation $-20 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$					
	Storage $-20 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$					
Weight	With plug: 120 g					
	With cable: 200 g					
Housing material	Plastic, ABS					

¹⁾ Average service life 100.000 h where $T_U = +25 \text{ }^\circ\text{C}$

²⁾ Limit values

³⁾ Must be within V_s tolerances

⁴⁾ Without load

⁵⁾ With resistive load

⁶⁾ With light/dark ratio 1:1

⁷⁾ 2 m long, PVC, 5 mm \varnothing , do not distort cable below $0 \text{ }^\circ\text{C}$

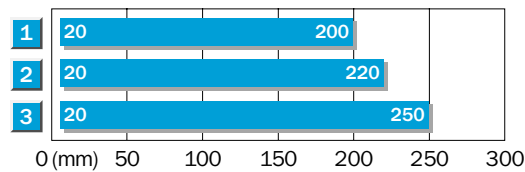
⁸⁾ Withstand voltage 50 V

⁹⁾ A = V_s -connections reverse-polarity protected

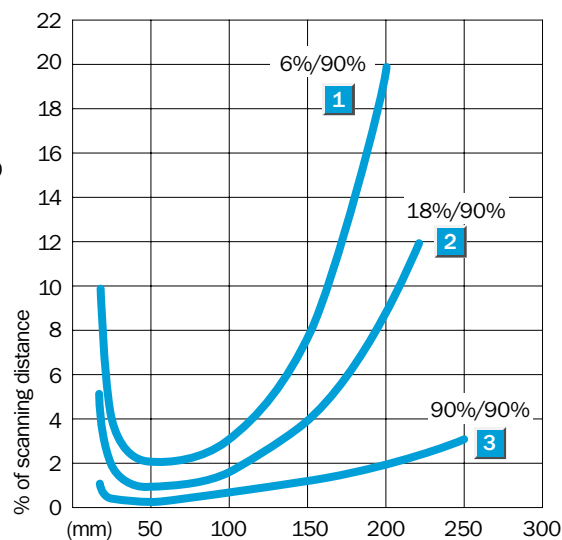
B = Output Q and \bar{Q} short-circuit protected

C = Interference pulse suppression

Scanning distance




- 1 Scanning distance on black, 6 % remission
- 2 Scanning distance on grey, 18 % remission
- 3 Scanning distance on white, 90 % remission



Ordering information

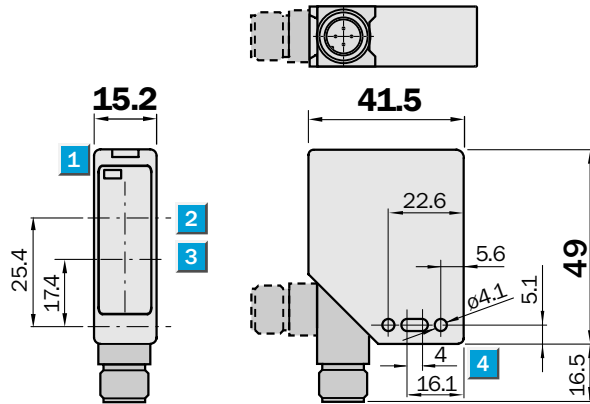
Type	Order no.
WT 11-P 430	1 018 511
WT 11-P 130	1 018 683
WT 11-N 430	1 018 685
WT 11-N 130	1 018 684


Scanning distance
80 ... 1000 mm

Photoelectric proximity switch

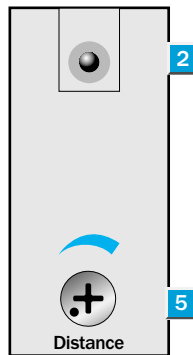
- Red light
- Insensitive to ambient light sources
- M 12 plug rotatable by 90° or 2 m cable
- Energetic proximity switch, adjustable

Dimension illustration



Setting options

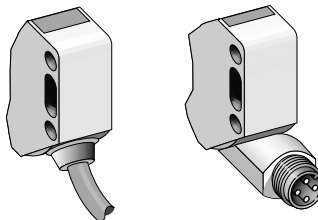
WT 11-P 450	WT 11-N 450
WT 11-P 150	WT 11-N 150



- 1 LED signal strength indicator
- 2 Optic axis, receiver
- 3 Optic axis, sender
- 4 Mounting holes \varnothing 4.1 mm
- 5 Sensitivity control

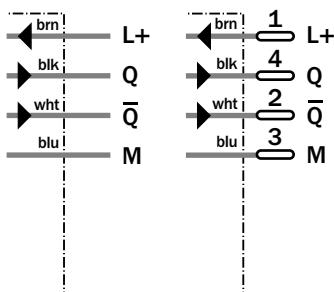
Connection type

WT 11-P 150	WT 11-P 450
WT 11-N 150	WT 11-N 450



4 x 0.25 mm²

4 pin, M 12



Accessories

- Connectors
- Mounting systems

Technical data		WT 11-	P 450	P 150	N 450	N 150
Scanning distance	80 ... 1000 mm, adjustable					
Light source ¹⁾	LED, red light					
Light spot diameter	30 mm at distance of 600 mm					
Supply voltage V_s	10 ... 30 V DC ²⁾					
Ripple ³⁾	$\leq 5 V_{PP}$					
Current consumption ⁴⁾	≤ 30 mA					
	≤ 40 mA					
Switching outputs	PNP, Q and \bar{Q}					
	NPN, Q and \bar{Q}					
Output current I_A max.	≤ 100 mA					
Response time ⁵⁾	$\leq 625 \mu s$					
Switching frequency, max. ⁶⁾	800/s					
Connection type	Cable ⁷⁾					
	M 12 plug, 4 pin					
VDE protection class ⁸⁾	<input type="checkbox"/>					
Protection circuits ⁹⁾	A, B, C					
Enclosure rating	IP 65					
Ambient temperature	Operation $-20 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$					
	Storage $-20 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$					
Weight	With plug 120 g					
	With cable 200 g					
Housing material	Plastic, ABS					

¹⁾ Average service life 100.000 h where $T_U = +25 \text{ }^\circ\text{C}$

²⁾ Limit values

³⁾ Must be within V_s tolerances

⁴⁾ Without load

⁵⁾ With resistive load

⁶⁾ With light/dark ratio 1:1

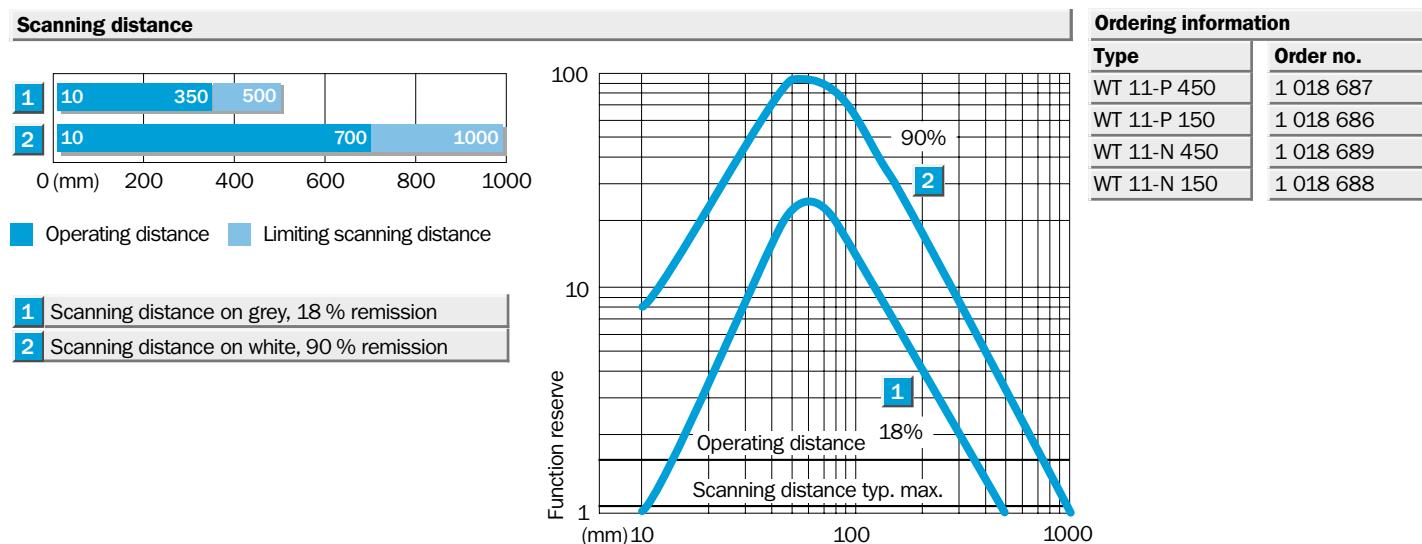
⁷⁾ 2 m long, PVC, 5 mm \varnothing , do not distort cable below $0 \text{ }^\circ\text{C}$


⁸⁾ Withstand voltage 50 V

⁹⁾ A = V_s -connections reverse-polarity protected

B = Output Q and \bar{Q} short-circuit protected

C = Interference pulse suppression

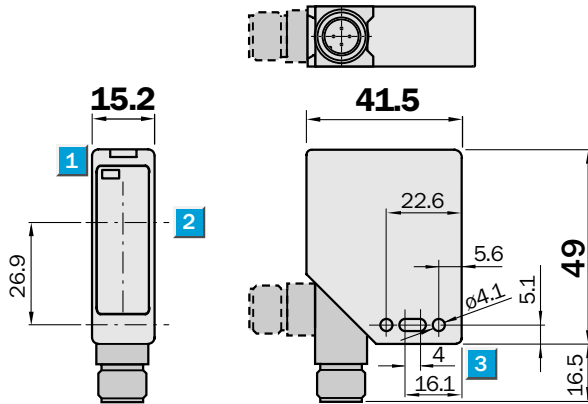



Scanning range
7 m

Photoelectric reflex switch

- Red light
- Insensitive to ambient light sources
- M 12 plug rotatable by 90° or 2 m cable
- Energetic proximity switch, adjustable

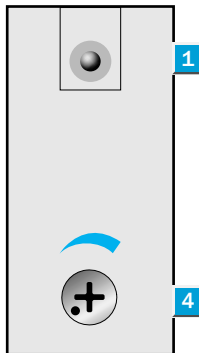
Dimension illustration



Setting options

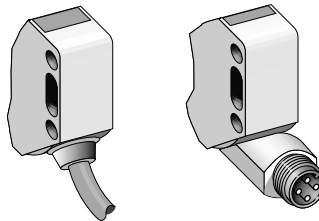
WL 11-P 430	WL 11-N 430
WL 11-P 130	WL 11-N 130
WL 11-P 420	WL 11-N 420
WL 11-P 120	WL 11-N 120

- 1 LED signal strength indicator
- 2 Middle of optic axis
- 3 Mounting holes \varnothing 4.1 mm
- 4 Sensitivity control



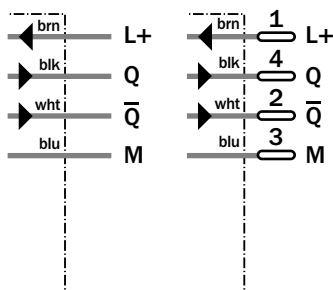
Connection type

WL 11-P 130	WL 11-P 430
WL 11-N 130	WL 11-N 430



4 x 0.25 mm²

4 pin, M 12



Accessories

- Connectors
- Mounting systems
- Reflectors

Technical data	WL 11-	P 430	P 130	N 430	N 130						
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Scanning range

typ. max./on Reflector, $f = \infty$	7 m/PL 80 A										
Sensitivity	Adjustable										
Light source ¹⁾	LED, red light										
Light spot diameter	80 mm at distance of 3 m										
Supply voltage V_s	10 ... 30 V DC ²⁾										
Ripple ³⁾	$\leq 5 V_{PP}$										
Current consumption ⁴⁾	≤ 30 mA										
	≤ 40 mA										
Switching outputs	PNP, Q and \bar{Q}										
	NPN, Q and \bar{Q}										
Output current I_A max.	100 mA										
Response time ⁵⁾	$\leq 625 \mu s$										
Switching frequency, max. ⁶⁾	800/s										
Connection type	Cable ⁷⁾										
	M 12 plug, 4 pin										
VDE protection class ⁸⁾	<input type="checkbox"/>										
Protection circuits ⁹⁾	A, B, C										
Enclosure rating	IP 65										
Ambient temperature	Operation $-20 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$										
	Storage $-20 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$										
Weight	With plug 120 g										
	With cable 200 g										
Polarising filter											
Housing material	Plastic, ABS										

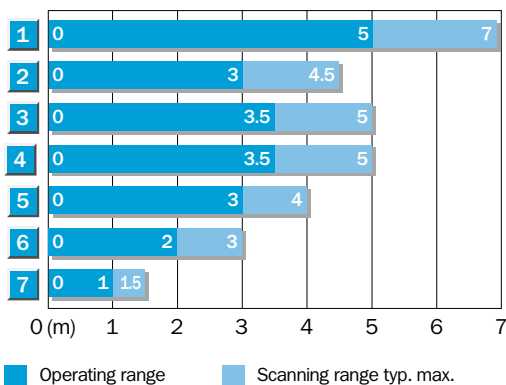
1) Average service life 100.000 h where $T_U = +25 \text{ }^\circ\text{C}$
 2) Limit values
 3) Must be within V_s tolerances

4) Without load
 5) With resistive load
 6) With light/dark ratio 1:1

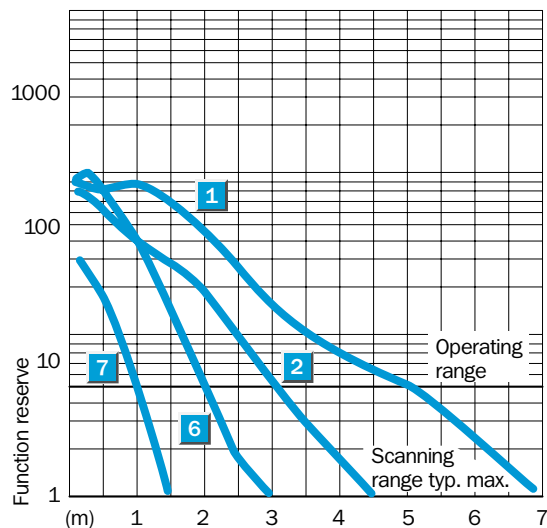
7) 2 m long, PVC, 5 mm \varnothing , do not distort cable below $0 \text{ }^\circ\text{C}$
 8) Withstand voltage 50 V

9) A = V_s -connections reverse-polarity protected
 B = Output Q and \bar{Q} short-circuit protected
 C = Interference pulse suppression

Operating range and function reserve



Reflector type	Operating range
1 PL 80 A	0 – 5.0 m
2 C 110	0 – 3.0 m
3 PL 50 A	0 – 3.5 m
4 PL 40 A	0 – 3.5 m
5 PL 30 A	0 – 3.0 m
6 PL 20 A	0 – 2.0 m
7 Reflective tape	0 – 1.0 m



Ordering information

Type	Order no.
WL 11-P 430	1 018 510
WL 11-P 130	1 018 680
WL 11-N 430	1 018 682
WL 11-N 130	1 018 681

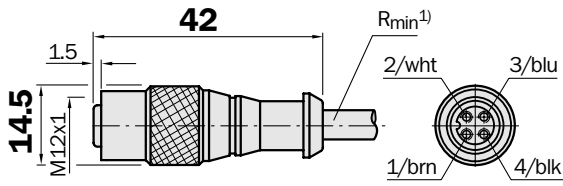
Dimension illustrations and ordering information

SENSICK circular screwing system M 12, 4 pin, enclosure rating IP 67

M 12 cable receptacles, 4 pin, straight

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

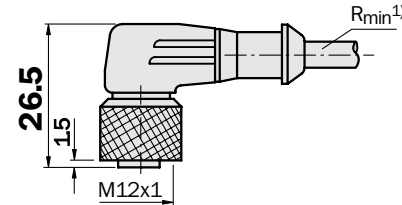
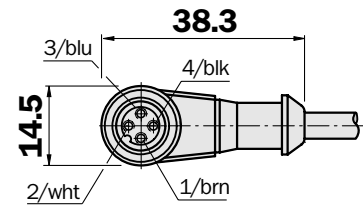
Type	Order no.	Pins	Cable length
DOL-1204-G02M	6 009 382	4	2 m
DOL-1204-G05M	6 009 866	4	5 m
DOL-1204-G10M	6 010 543	4	10 m
DOL-1204-G15M	6 010 753	4	15 m



M 12 cable receptacles, 4 pin, angled

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

Type	Order no.	Pins	Cable length
DOL-1204-W02M	6 009 383	4	2 m
DOL-1204-W05M	6 009 867	4	5 m
DOL-1204-W10M	6 010 541	4	10 m

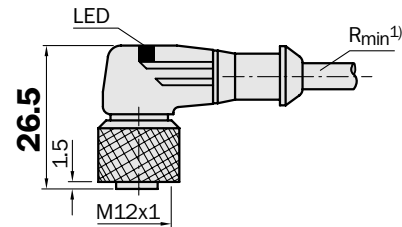
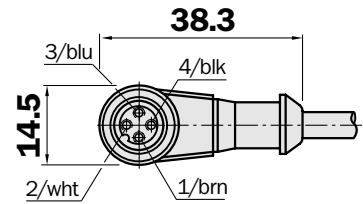


M 12 cable receptacles, 4 pin, angled

Cable diameter 5 mm, 4 x 0.34 mm², PUR/PVC coating

With LED for power and status indicators, PNP complementary²⁾

Type	Order no.	Pins	Cable length
DOL-1204-W05ME	6 020 398	4	5 m



¹⁾ Minimum bending radius with dynamic use
 $R_{min} = 20 \times \text{cable diameter}$

²⁾ Remark: Not suitable for sender in through-beam systems

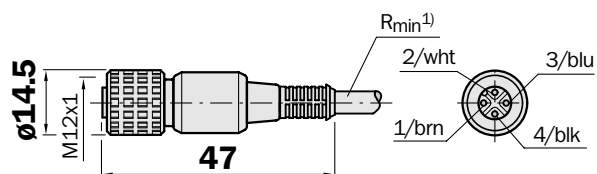
Dimension illustrations and ordering information

SENSICK circular screwing system M 12, 4 pin, enclosure rating IP 67

M 12 cable receptacles, 4 pin, straight

Cable diameter 4.5 mm, 4 x 0.34 mm², PUR coating

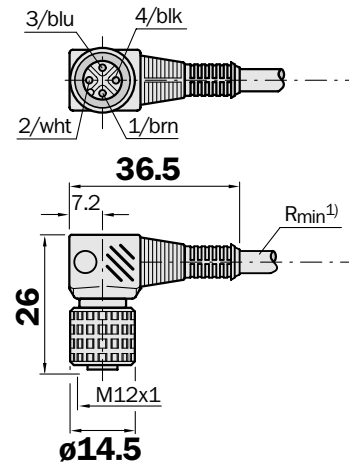
Type	Order no.	Cable length
DOL-1204-G05MB	7 902 084	5 m



M 12 cable receptacles, 4 pin, angled

Cable diameter 4.5 mm, 4 x 0.34 mm², PUR coating

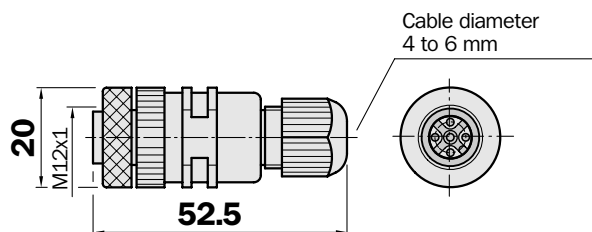
Type	Order no.	Cable length
DOL-1204-W05MB	7 902 085	5 m



¹⁾ Minimum bending radius with dynamic use
 $R_{min} = 20 \times \text{cable diameter}$

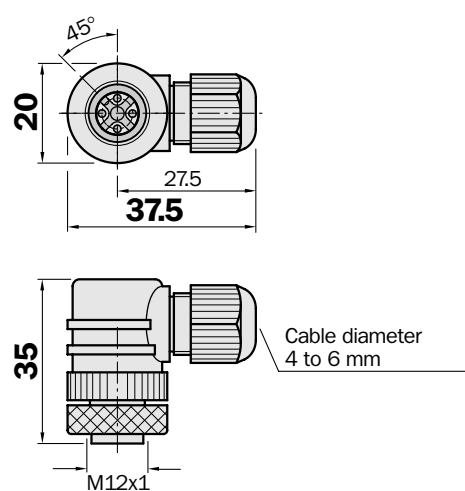
M 12 cable receptacles, 4 pin, straight

Type	Order no.	Pins
DOS-1204-G	6 007 302	4



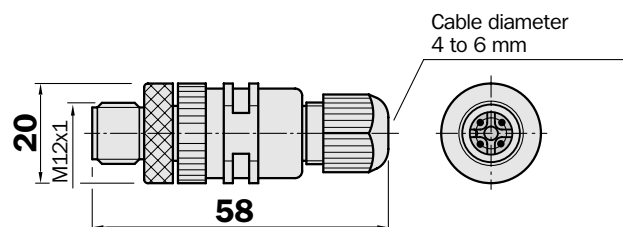
M 12 cable receptacles, 4 pin, angled

Type	Order no.	Pins
DOS-1204-W	6 007 303	4



M 12 cable plug, 4 pin, straight

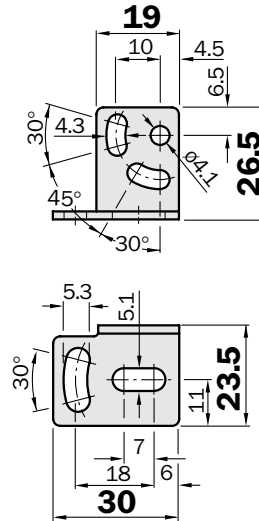
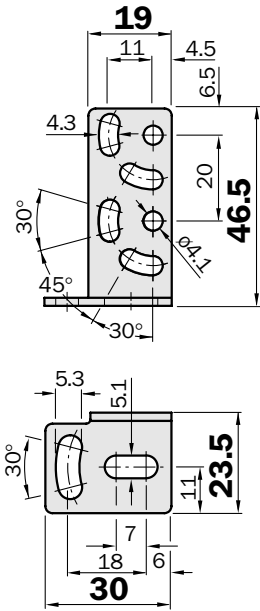
Type	Order no.
STE-1204-G	6 009 932



Dimension illustrations and ordering information

Mounting brackets, big		
Type	Order no.	For equipment type
BEF-WG-W12	2 013 942	W 11, W 12-2, W 12L-2, KT 2

Mounting brackets, small		
Type	Order no.	For equipment type
BEF-WK-W12	2 012 938	W 11, W 12-2, W 12L-2, KT 2



Universal bracket for rod mounting

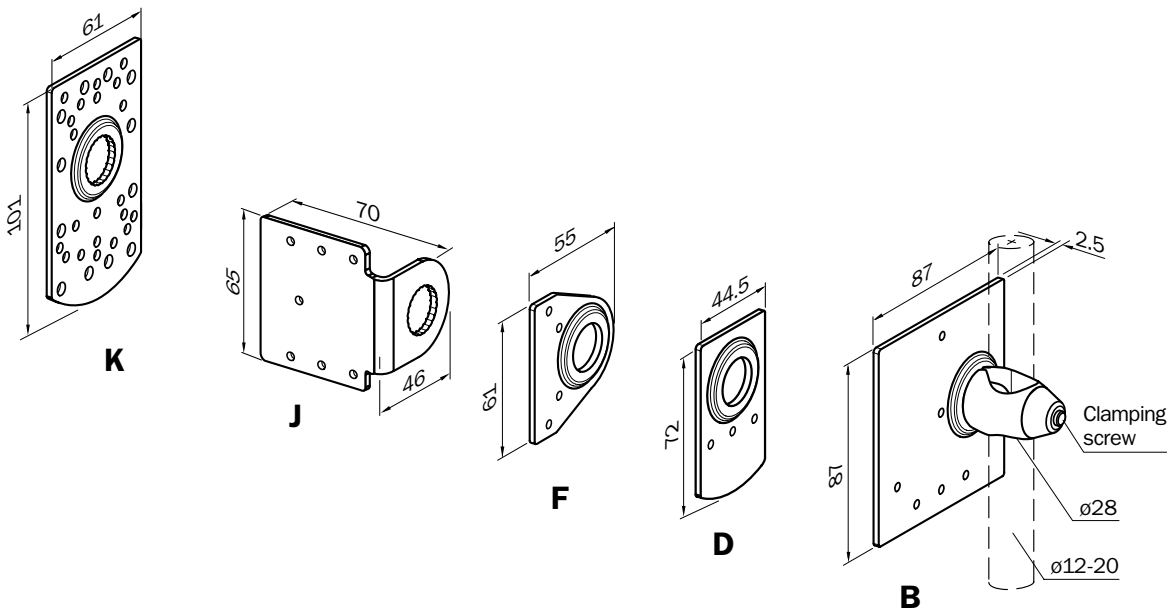


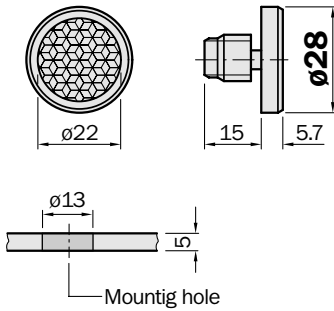
Plate	Type	Order no. ¹⁾	Sensors/reflectors
B	BEF-KHS-B01	2 022 459	P 250, PL 30 A, PL 40 A, PL 50 A, PL 80 A, C 110
D	BEF-KHS-D01	2 022 461	W 11, W 12-2, W 12L-2, KT 2
F	BEF-KHS-F01	2 022 463	W 260, PL 20 A, P 250
J	BEF-KHS-J01	2 022 719	PL 20 A, PL 40 A, PL 50 A, P 250, C 110
K	BEF-KHS-K01	2 022 718	W 11, W 12-2, W 12L-2, W 14, W 18-2, W 23, W 24-2, W 27-2, W 30, W 32, W 34, W 36, KT 2, KT 5, KT 10, CS, LUT 3, DS 60, PL 20 A, PL 30 A, PL 40 A, PL 50 A, PL 80 A, P 250, C 110

¹⁾ Universal bracket and mounting screws included

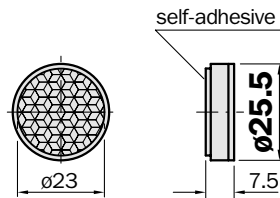
Dimension illustrations and ordering information

Plastic model for temperatures up to 65 °C

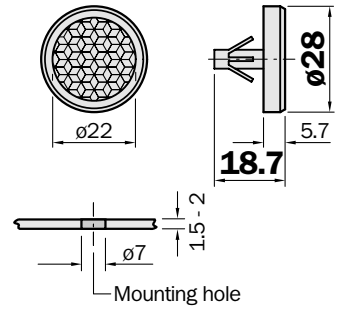
Reflector, \varnothing 22 mm, pluggable	
Type	Order no.
PL 22-1	1 003 546



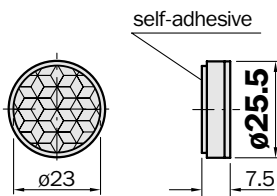
Reflector, \varnothing 23 mm, self-adhesive	
Type	Order no.
PL 22-2	1 003 621



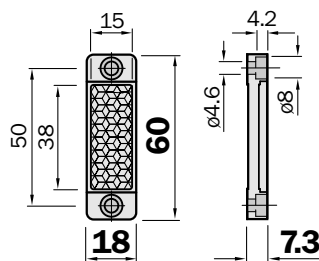
Reflector, \varnothing 22 mm Pluggable for orifice	
Type	Order no.
PL 22-3	1 004 488



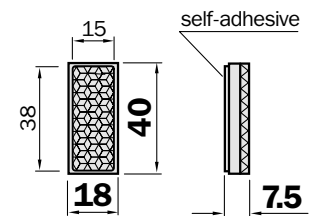
Reflector, \varnothing 23 mm, self-adhesive	
Type	Order no.
PL 26	1 001 440



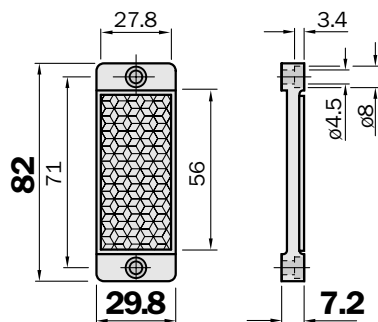
Reflector 20 x 40 mm	
Type	Order no.
PL 20 A	1 012 719



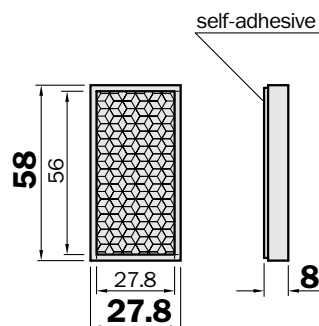
Reflector 20 x 40 mm self-adhesive	
Type	Order no.
PL 21 A	1 015 172



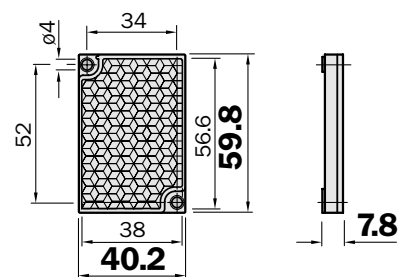
Reflector 30 x 50 mm	
Type	Order no.
PL 30 A	1 002 314



Reflector 30 x 50 mm self-adhesive	
Type	Order no.
PL 31 A	1 002 315



Reflector 40 x 60 mm self-adhesive	
Type	Order no.
PL 40 A	1 012 720



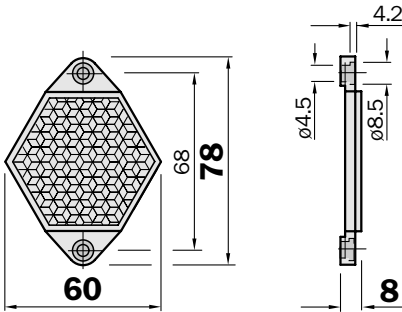
Dimension illustrations and ordering information

Plastic model for temperatures up to 65 °C

Reflector, hexagonal

Opening width 48 mm

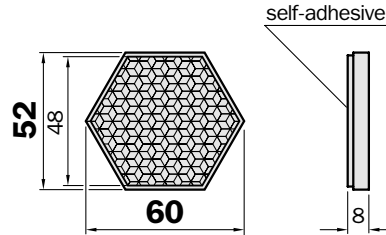
Type	Order no.
PL 50 A	1 000 132



Reflector, hexagonal, self-adhesive

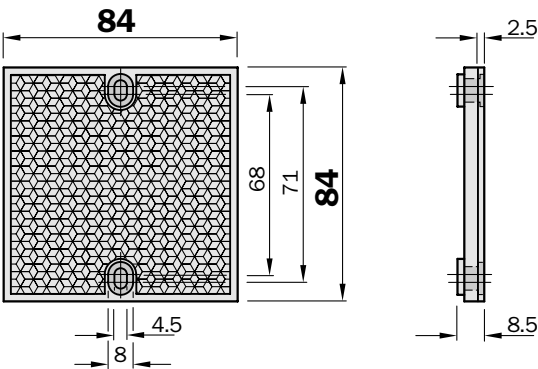
Opening width 48 mm

Type	Order no.
PL 51 A	1 001 628



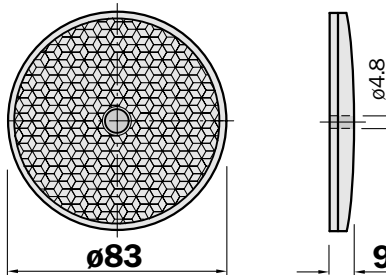
Reflector 80 x 80

Type	Order no.
PL 80 A	1 003 865



Reflector, ø 83 mm, center hole mounting

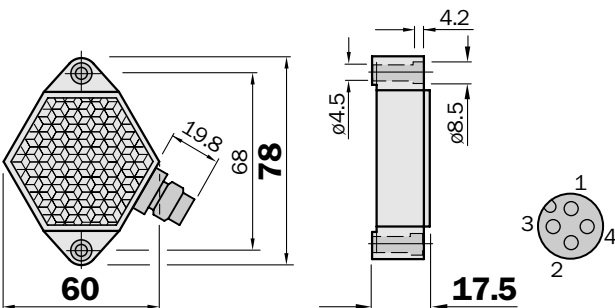
Type	Order no.
C 110	5 304 549



Heatable reflectors, 24 V UC; 1.4 W

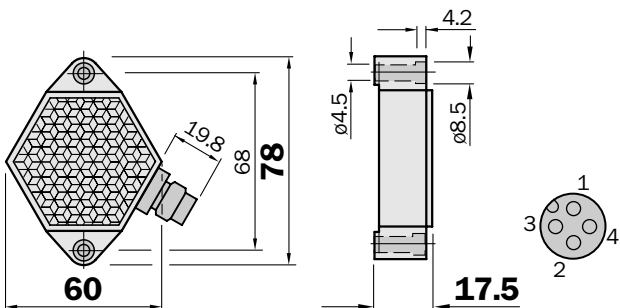
Reflector, hexagonal, opening width 48 mm, permanent heating

Type	Order no.
PL 50 HK	1 011 545



Reflector, hexagonal, opening width 48 mm, controlled heating

Type	Order no.
PL 50 HS	1 009 871



Dimension illustrations and ordering information

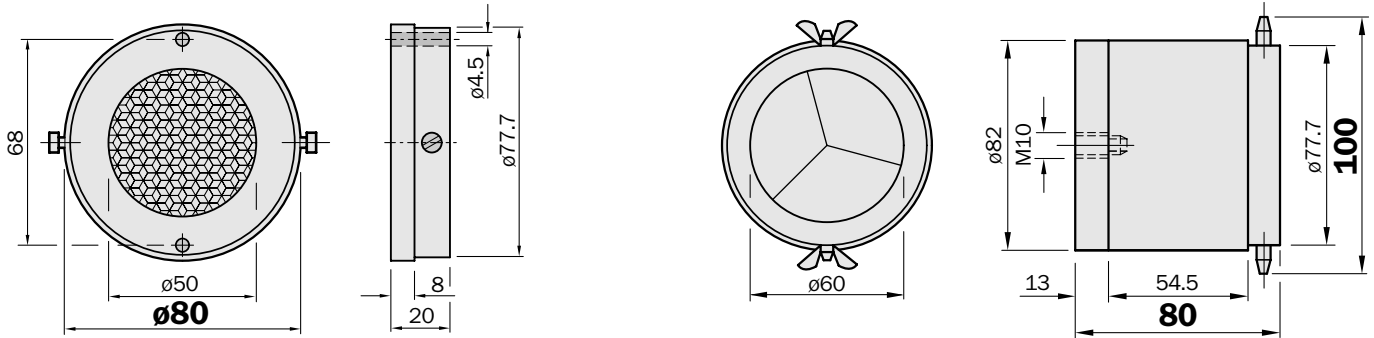
Reflectors with triple glass for temperatures up to 300 °C

Reflector, ϕ 50 mm

Type	Order no.
SW 50	1 000 131

Reflector/triple glass, ϕ 60 mm, high-temperature resistant sealings

Type	Order no.
OP 61- ∞	1 002 627



Self-adhesive reflective tape for photoelectric switches with polarizing filter

Reflective tape APM

Arc 225 x 225 mm

Type	Order no.
REF-APM	4 025 097

Reflective tape

Arc 749 x 914 mm

Type	Order no.
REF-DG	5 304 334

Reflective tape REF-DG

Ready-made

Type	Order no.
REF-DG-K	4 019 634



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Representatives and agencies
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The SICK logo consists of the word "SICK" in a bold, blue, sans-serif font. The letters are closely spaced and have a slight shadow effect.