

## W11-2 Photoelectric Sensors

Reduction to the essential,  
multifaceted application options

W11-2 is convincing thanks to its wide variety. Sensor technology designed optimally for individual applications enables a wide range of applications in very different areas of automation technology. Regardless of which sensor principle you select, the housing, mounting and connection features are uniform in the complete series.

Whether in the packaging industry, materials handling or bottling industry, the W11-2 is the right choice in any case.

W11-2 provides the following variants:

**WTB11-2 with background blanking**

**WTF11-2 with foreground blanking**

when objects with inhomogeneous surfaces should be detected reliably.

**WTE11-2, energetic photoelectric sensor** if large scanning distances are required.

**WL11-2, photoelectric reflex sensor,** the tried-and-tested solution with multifaceted application options.

**WL11G, for glass detection,** the ideal sensor for detecting transparent objects such as glass bottles.


**WSE11-2, through-beam photoelectric sensor** for applications, in which larger performance reserves are needed.

W11-2 adapts to your system.

The sturdy plastic housing fulfills the inspection requirements of ECOLAB. Rotatable plug and cable connections and the multifaceted attachment options such as dovetail mounting provide a maximum number of mounting and installation possibilities.

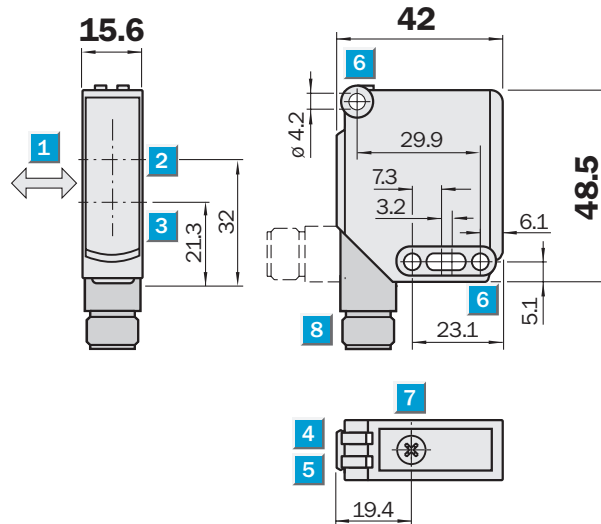
The commissioning of a W11-2 is fast and easy: mount the sensor, align it and you're done !

It is easier to align the sensors with the new PinPoint technology.

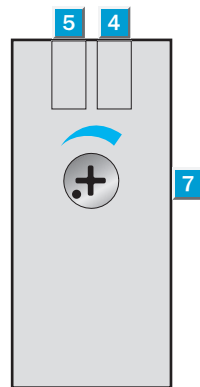

**Scanning distance**  
 35 ... 350 mm  
**Photoelectric proximity sensor**

- Scanning range adjustable via potentiometer
- Sturdy plastic housing
- Dovetail mounting
- M12 plug rotatable

**Dimensional drawing**



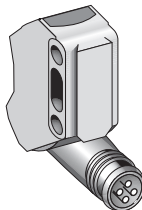
**Adjustments possible**



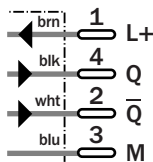
- 1 Standard direction of the material being scanned
- 2 Optical axis receiver
- 3 Optical axis sender
- 4 LED indicator, green; power on
- 5 LED indicator, yellow; status of received light beam
- 6 Mounting hole  $\varnothing$  4.2 mm
- 7 Scanning distance adjustment, Potentiometer
- 8 Connection

**Connection type**

WTF11-2P2431



M12, 4-pin



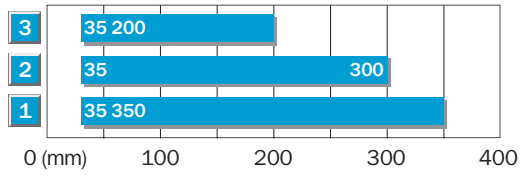
**Accessories**

- Mounting systems
- Connector, M12, 4-pin

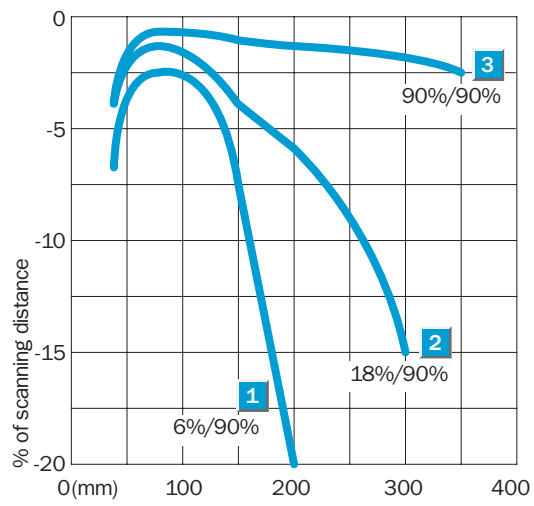
WTF11-2		P2431												
<b>Scanning distance max. typ.</b>	35 ... 350 mm <sup>1)</sup>													
<b>Operating distance</b>	35 ... 350 mm <sup>1)</sup>													
Adjustment of operating distance	Potentiometer (5 turn)													
<b>Light source, light type</b>	LED, red light, 640 nm <sup>2)</sup>													
Light spot diameter	Ø 6.0 mm at 200 mm distance													
<b>Supply voltage V<sub>s</sub></b>	10 ... 30 V DC <sup>3)</sup>													
Residual ripple	≤ 5 V <sub>pp</sub> <sup>4)</sup>													
Current consumption	≤ 30 mA <sup>5)</sup>													
<b>Switching outputs</b>	PNP antivalent													
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 2.5 V / approx. 0 V													
Output current I <sub>a</sub> max	100 mA													
Response time	≤ 2.5 ms <sup>6)</sup>													
Switching frequency	200 Hz <sup>7)</sup>													
<b>Connection type</b>	Connector, M12, 4-pin													
<b>VDE protection class</b>	□ <sup>8)</sup>													
<b>Circuit protection</b>	U <sub>v</sub> -connections reverse-polarity protected / Outputs short-circuit protected / Interference suppression													
<b>Enclosure rating</b>	IP 66, IP 67, IP 69K													
<b>Ambient temperature operation</b>	-30 °C ... +60 °C													
<b>Ambient temperature storage</b>	-40 °C ... +75 °C													
<b>Weight</b>	Approx. 120 g													
<b>Housing material</b>	ABS, PMMA													

1) Object with 90 % remission (based on standard white to DIN 5033)  
 2) Average service life 100,000 h at T<sub>A</sub> = +25 °C  
 3) Limit values, operation in short-circuit protected network max. 8 A  
 4) May not exceed or fall short of V<sub>S</sub> tolerances  
 5) Without load  
 6) Signal transit time with resistive load  
 7) With light/dark ratio 1:1  
 8) Reference voltage 50 V DC


**Scanning distance**



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

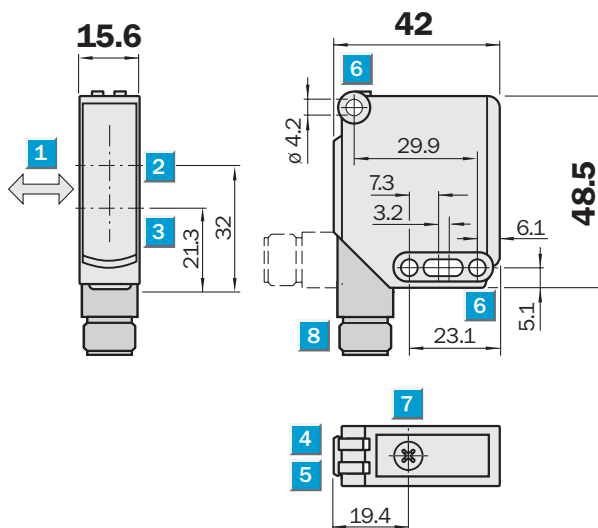


Order informationen	
Type	Order no.
WTF11-2P2431	1041380

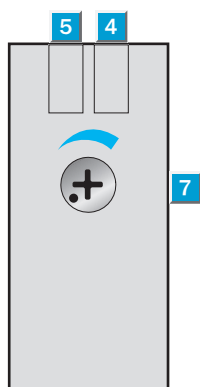

**Scanning distance**  
 20 ... 350 mm  
**Photoelectric proximity sensor**

- Scanning range adjustable via potentiometer
- Sturdy plastic housing
- Dovetail mounting
- M12 plug rotatable or cable

### Dimensional drawing



### Adjustments possible

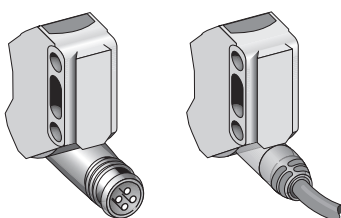


- 1 Standard direction of the material being scanned
- 2 Optical axis receiver
- 3 Optical axis sender
- 4 LED indicator, green; power on
- 5 LED indicator, yellow; status of received light beam
- 6 Mounting hole  $\varnothing$  4.2 mm
- 7 Scanning distance adjustment, Potentiometer
- 8 Connection, cable or plug M12



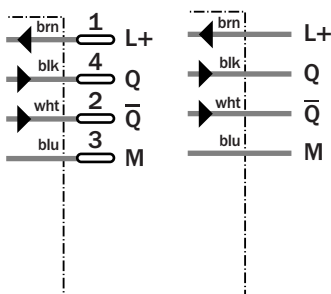
### Connection types

WTB11-2N2431	WTB11-2N1131
WTB11-2P2431	WTB11-2P1131



M12, 4-pin

4 x 0.25 mm<sup>2</sup>



### Accessories

Mounting systems  
 Connector, M12, 4-pin

	WTB11-2	N1131	N2431	P1131	P2431
<b>Scanning distance max. typ.</b>	20 ... 350 mm <sup>1)</sup>				
<b>Operating distance</b>	20 ... 350 mm <sup>1)</sup>				
Adjustment of operating distance	Potentiometer (5 turn)				
<b>Light source, light type</b>	LED, red light, 640 nm <sup>2)</sup>				
Light spot diameter	Approx. 6.0 mm at 200 mm distance				
<b>Supply voltage V<sub>s</sub></b>	10 ... 30 V DC <sup>3)</sup>				
Residual ripple	≤ 5 V <sub>pp</sub> <sup>4)</sup>				
Current consumption	≤ 40 mA <sup>5)</sup>				
	≤ 30 mA <sup>5)</sup>				
<b>Switching outputs</b>	NPN antivalent				
	PNP antivalent				
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 2.5 V / approx. 0 V				
Signal voltage NPN HIGH / LOW	Approx. V <sub>S</sub> / < 2.5 V				
Output current I <sub>a</sub> max	100 mA				
Response time	≤ 2.5 ms <sup>6)</sup>				
Switching frequency	200 Hz <sup>7)</sup>				
<b>Connection type</b>	Cable, PVC, 2 m <sup>8)</sup>				
	Connector, M12, 4-pin				
<b>VDE protection class</b>	□ <sup>9)</sup>				
<b>Circuit protection</b>	V <sub>s</sub> connections reverse-polarity protected/ Outputs short-circuit protected/ Interference suppression				
<b>Enclosure rating</b>	IP 66, IP 67, IP 69K				
<b>Ambient temperature operation</b>	-30 °C ... +60 °C				
<b>Ambient temperature storage</b>	-40 °C ... +75 °C				
<b>Weight</b>	Approx. 200 g				
	Approx. 120 g				
<b>Housing material</b>	ABS, PMMA				

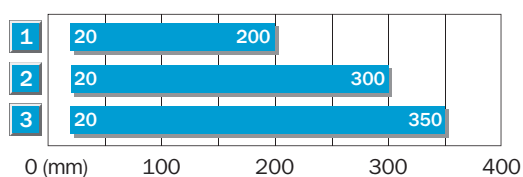
1) Object with 90 % remission (based on standard white to DIN 5033)  
2) Average service life 100,000 h at T<sub>A</sub> = +25 °C

3) Limit values, operation in short-circuit protected network max. 8 A  
4) May not exceed or fall short of V<sub>S</sub> tolerances

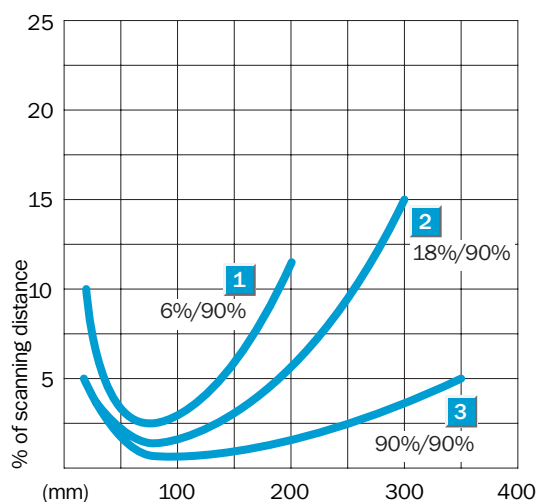
5) Without load  
6) Signal transit time with resistive load  
7) With light/dark ratio 1:1

8) Do not bend below 0 °C  
9) Reference voltage 50 V DC

**Scanning distance**




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



**Order informationen**

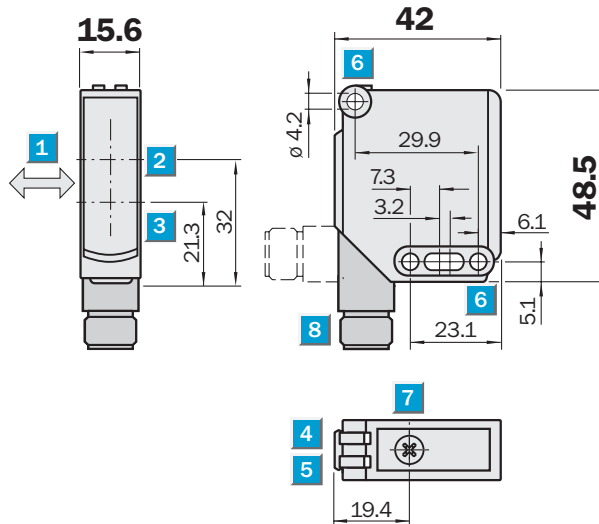
Type	Order no.
WTB11-2N1131	1041379
WTB11-2N2431	1041378
WTB11-2P1131	1041377
WTB11-2P2431	1041376

 Scanning distance  
30 ... 1,100 mm

Photoelectric proximity sensor

- PinPoint Technology, bright, precise red light
- Scanning distance adjustable via potentiometer
- Robust plastic housing
- Dovetail mounting
- M12 plug rotatable

Dimensional drawing



Adjustments possible

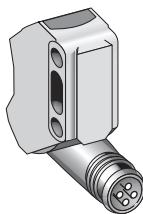


- 1 Standard direction of the material being scanned
- 2 Optical axis receiver
- 3 Optical axis sender
- 4 LED indicator, green; power on
- 5 LED indicator, yellow; status of received light beam
- 6 Mounting hole  $\varnothing$  4.2 mm
- 7 Scanning distance adjustment, Potentiometer
- 8 Connection, plug M12

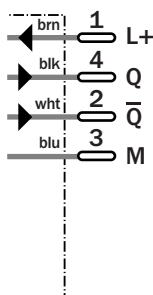


Connection type

WTB11-2P2461



M12, 4-pin



Accessories
Mounting systems
Connector, M12, 4-pin



WTB11-2		P2461
<b>Scanning distance typ. max.</b>	30 ... 1.100 mm <sup>1)</sup>	
<b>Operating distance</b>	30 ... 800 mm <sup>1)</sup>	
Adjustment of operating distance	Potentiometer	
<b>Light source, light type</b>	PinPoint LED, red light, 660 nm <sup>2)</sup>	
Light spot diameter	Approx. 6.0 mm at 200 mm distance	
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 VDC <sup>3)</sup>	
Residual ripple	≤ 5 V <sub>pp</sub> <sup>4)</sup>	
Power consumption	≤ 30 mA <sup>5)</sup>	
<b>Switching outputs</b>	PNP antivalent	
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 2.5 V / approx. 0 V	
Output current I <sub>a</sub> max	100 mA	
Response time	≤ 2.5 ms <sup>6)</sup>	
Switching frequency max.	200 Hz <sup>7)</sup>	
<b>Connection type</b>	Connector, M12, 4-pin	
<b>VDE protection class</b>	□ <sup>8)</sup>	
<b>Circuit protection</b>	V <sub>S</sub> connections reverse-polarity protected / All outputs short-circuit protected / Interference pulse suppression	
<b>Enclosure rating</b>	IP 66, IP 67, IP 69K	
<b>Ambient temperature operation</b>	-30 °C ... +60 °C	
<b>Ambient temperature storage</b>	-40 °C ... +75 °C	
<b>Weight</b>	Approx. 120 g	
<b>Housing material</b>	ABS, PMMA	

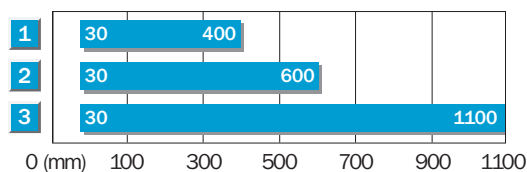
1) Object with 90 % remission (based on standard white to DIN 5033)  
2) Average service life 100,000 h at T<sub>A</sub> = +25 °C

3) Limit values, operation in short-circuit protected network max. 8 A  
4) May not exceed or fall short of V<sub>S</sub> tolerances

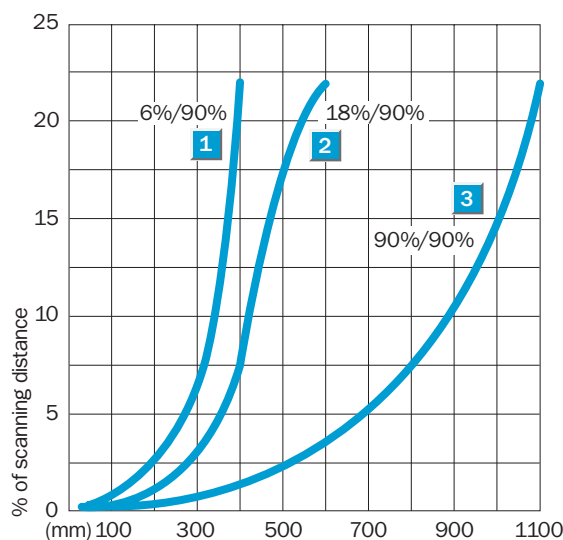
5) Without load  
6) Signal transit time with resistive load

7) With light/dark ratio 1:1  
8) Reference voltage 50 V DC


**Scanning distance**



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

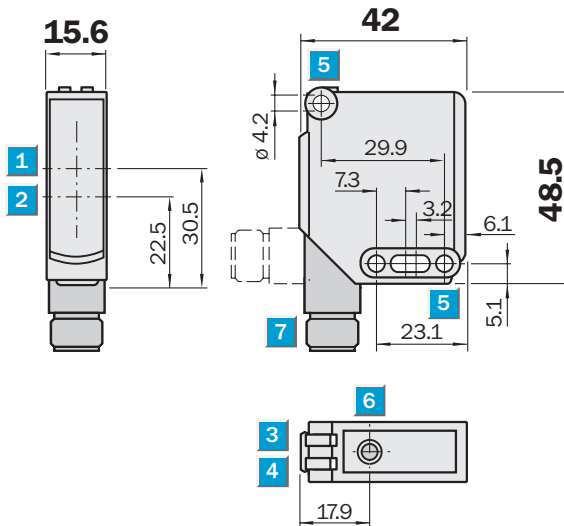


Order information	
<b>Type</b>	<b>Order no.</b>
WTB11-2P2461	1044442

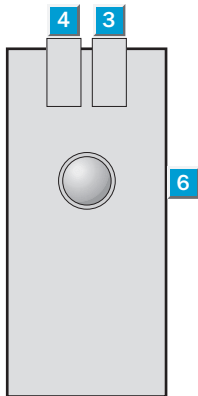

**Scanning distance**  
 40 ... 1000 mm  
**Photoelectric proximity sensor**

- Sensitivity adjustable via Teach-in, single button
- Sturdy plastic housing
- Dovetail mounting
- M12 plug rotatable or cable

**Dimensional drawing**



**Adjustments possible**

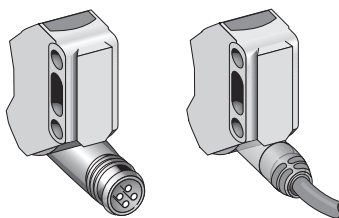


- 1 Optical axis sender
- 2 Optical axis receiver
- 3 LED indicator, green; power on
- 4 LED indicator, yellow; status of received light beam
- 5 Mounting hole Ø 4.2 mm
- 6 Sensitivity setting teach-in; single teach button
- 7 Connection, cable or plug M12

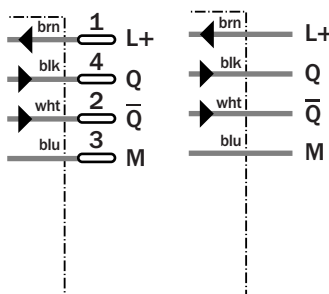


**Connection types**

WTE11-2N2432	WTE11-2N1132
WTE11-2P2432	WTE11-2P1132



M12, 4-pin      4 x 0.25 mm<sup>2</sup>



**Accessories**

Mounting systems
Connector, M12, 4-pin





	WTE11-2	N1132	N2432	P1132	P2432						
<b>Scanning distance max. typ.</b>	40 ... 1.000 mm <sup>1)</sup>										
<b>Operating distance</b>	40 ... 600 mm <sup>1)</sup>										
Adjustment of operating distance	Teach-in; single teach button										
<b>Light source, light type</b>	LED, red light, 633 nm <sup>2)</sup>										
Light spot diameter	Ø 90 mm at 600 mm distance										
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>3)</sup>										
Residual ripple	≤ 5 V <sub>pp</sub> <sup>4)</sup>										
Current consumption	≤ 40 mA <sup>5)</sup>										
	≤ 30 mA <sup>5)</sup>										
<b>Switching outputs</b>	NPN antivalent										
	PNP antivalent										
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 2.5 V / approx. 0 V										
Signal voltage NPN HIGH / LOW	Approx. V <sub>S</sub> / < 2.5 V										
Output current I <sub>a</sub> max	100 mA										
Response time	≤ 2.5 ms <sup>6)</sup>										
Switching frequency	200 Hz <sup>7)</sup>										
<b>Connection type</b>	Cable, PVC, 2 m <sup>8)</sup>										
	Connector, M12, 4-pin										
<b>VDE protection class</b>	□ <sup>9)</sup>										
<b>Circuit protection</b>	V <sub>S</sub> connections reverse-polarity protected/ Outputs short-circuit protected/ Interference suppression										
<b>Enclosure rating</b>	IP 66, IP 67										
<b>Ambient temperature operation</b>	-30 °C ... +60 °C										
<b>Ambient temperature storage</b>	-40 °C ... +75 °C										
<b>Weight</b>	Approx. 200 g										
	Approx. 120 g										
<b>Housing material</b>	ABS, PMMA										

1) Object with 90 % remission (based on standard white to DIN 5033)  
2) Average service life 100,000 h at T<sub>A</sub> = +25 °C

3) Limit values, operation in short-circuit protected network max. 8 A  
4) May not exceed or fall short of V<sub>S</sub> tolerances

5) Without load  
6) Signal transit time with resistive load  
7) With light/dark ratio 1:1  
8) Do not bend below 0 °C

9) Reference voltage 50 V DC

**Teach-in-function**

■ **Programming via Teach-in button.**

■ **Simple programming:**

Position object in the beam and push the button: finished:  
LED confirms the Teach-in procedure.

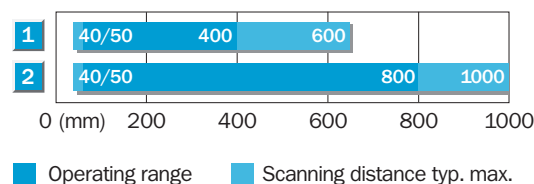
■ **Teach-in value can be stored.**

■ **Two operating modes:**

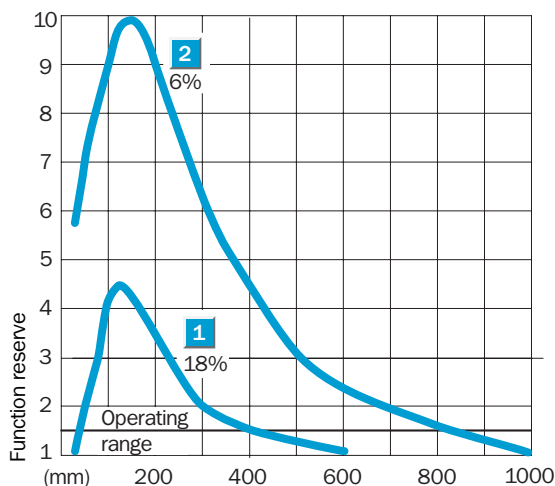
**Default setting:** short Teach-in time (< 8 s);

for standard applications;  
approx. double reserve via switching threshold;  
LED lights continuously.  
**Precise setting:** long Teach-in time (> 8 s);  
for precise applications;  
small switching hysteresis;  
LED blinks.

**Scanning distance**




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



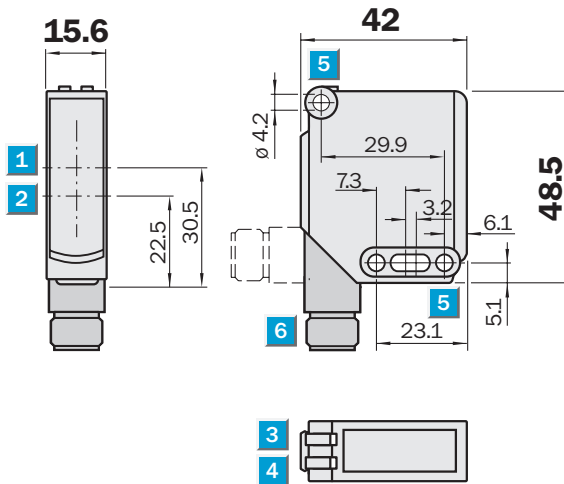
**Order informationen**

Type	Order no.
WTE11-2N1132	1041384
WTE11-2N2432	1041383
WTE11-2P1132	1041382
WTE11-2P2432	1041381


**Scanning range**  
**0.15 ... 10 m**  
 Photoelectric reflex sensor

- Sturdy plastic housing
- Dovetail mounting
- M12 plug rotatable or cable
- PinPoint Technology

**Dimensional drawing**



**Adjustments possible**

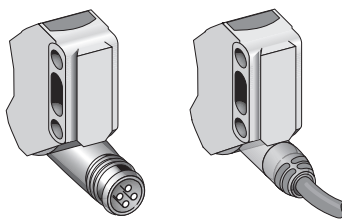


- 1 Optical axis sender
- 2 Optical axis receiver
- 3 LED indicator, green; power on
- 4 LED indicator, yellow; status of received light beam
- 5 Mounting hole  $\varnothing$  4.2 mm
- 6 Connection, cable or plug M12

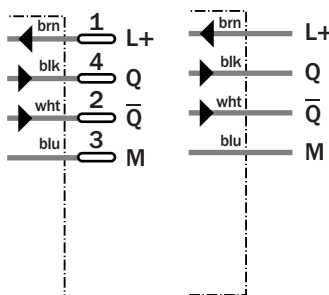


**Connection types**

WL11-2N2430	WL11-2N1130
WL11-2P2430	WL11-2P1130
WL11-2P2440	



M12, 4-pin      4 x 0.25 mm<sup>2</sup>



**Accessories**

Mounting systems
Reflectors
Connector, M12, 4-pin

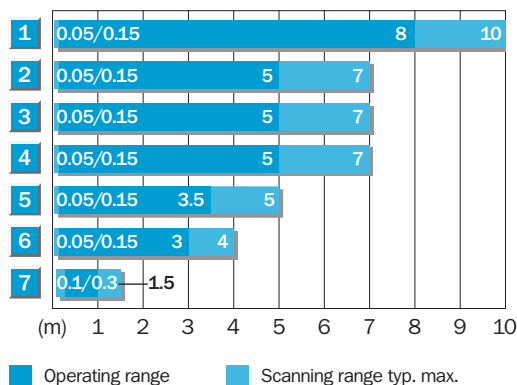
	WL11-2	N1130	N2430	P1130	P2430	P2440
<b>Scanning range max. typ.</b>	0.15 ... 10 m					
<b>Scanning range, recommended</b>	0.15 ... 8 m					
Relating to	Reflector PL80A					
<b>Light source, light type</b>	LED, red light, 640 nm <sup>1)</sup>					
Light spot diameter	Approx. 50 mm at 3 m distance					
Angle of dispersion	Approx. 2.2°					
Polarisation filter	✓					
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>2)</sup>					
Residual ripple	≤ 5 V <sub>pp</sub> <sup>3)</sup>					
Current consumption	≤ 40 mA <sup>4)</sup>					
	≤ 30 mA <sup>4)</sup>					
<b>Switching outputs</b>	NPN antivalent					
	PNP antivalent					
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 2.5 V / approx. 0 V					
Signal voltage NPN HIGH / LOW	Approx. V <sub>S</sub> / < 2.5 V					
Output current I <sub>a</sub> max	100 mA					
Response time	2.5 ms <sup>5)</sup>					
Switching frequency	200 Hz <sup>6)</sup>					
<b>Connection type</b>	Cable, PVC, 2 m <sup>7)</sup>					
	Connector, M12, 4-pin					
<b>VDE protection class</b>	□ <sup>8)</sup>					
<b>Circuit protection</b>	V <sub>S</sub> connections reverse-polarity protected/ Outputs short-circuit protected/ Interference suppression					
<b>Enclosure rating</b>	IP 66, IP 67, IP 69K					
<b>Ambient temperature operation</b>	-30 °C ... +60 °C					
<b>Ambient temperature storage</b>	-40 °C ... +75 °C					
<b>Weight</b>	Approx. 200 g					
	Approx. 120 g					
<b>Housing material</b>	ABS, PMMA					

1) Average service life 100,000 h at T<sub>A</sub> = +25 °C  
 2) Limit values, operation in short-circuit protected network max. 8 A

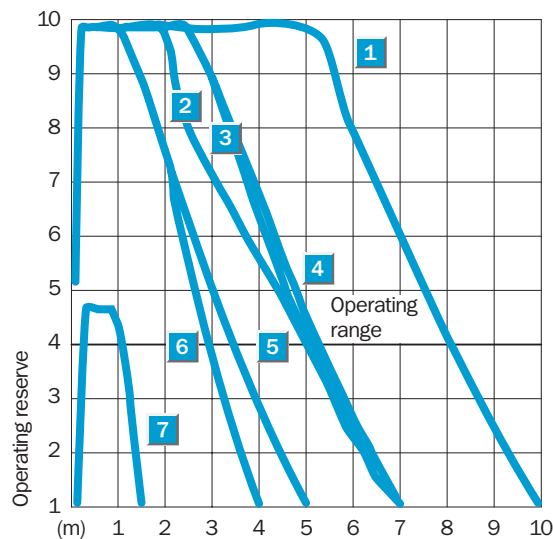
3) May not exceed or fall short of V<sub>S</sub> tolerances  
 4) Without load  
 5) Signal transit time with resistive load

6) With light/dark ratio 1:1  
 7) Do not bend below 0 °C  
 8) Reference voltage 50 V DC


**Scanning distance**



Reflector type	Operating range
1 PL80A	0.15 ... 8.0 m
2 C110A	0.15 ... 5.0 m
3 PL50A	0.15 ... 5.0 m
4 PL40A	0.15 ... 5.0 m
5 PL30A	0.15 ... 3.5 m
6 PL20A	0.15 ... 3.0 m
7 Reflective tape Diamond Grade	0.3 ... 1.0 m

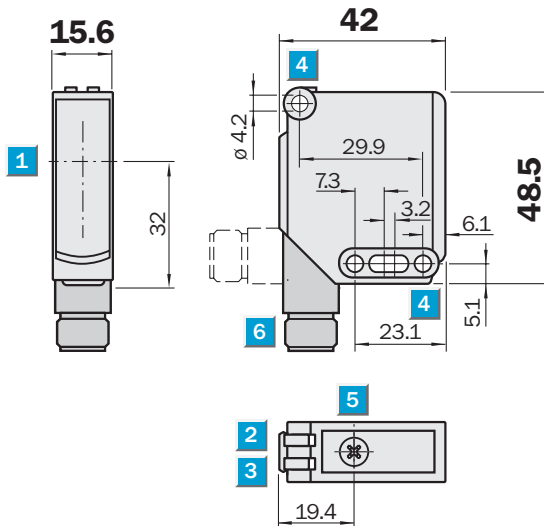


Order informationen	
Type	Order no.
WL11-2N1130	1041388
WL11-2N2430	1041387
WL11-2P1130	1041386
WL11-2P2430	1041385
WL11-2P2440	1041389


**Scanning range**  
**0 ... 4 m**  
 Photoelectric reflex sensor

- Detection of glass and transparent films
- Attenuation > 8 %
- Sturdy plastic housing
- Dovetail mounting
- M12 plug rotatable

**Dimensional drawing**



**Adjustments possible**

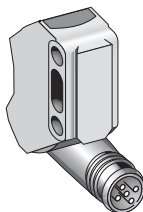


- 1 Center of optical axis
- 2 LED indicator, green; power on
- 3 LED indicator, yellow; status of received light beam
- 4 Mounting hole Ø 4.2 mm
- 5 Sensitivity control: Potentiometer
- 6 Connection, plug M12

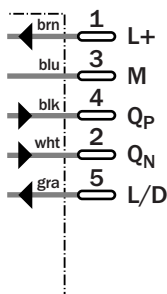


**Connection type**

WL11G-2B2531



M12, 5-pin



**Accessories**

- Mounting systems
- Reflectors
- Connector, M12, 5-pin

WL11G-2		B2531							
<b>Scanning range max.</b>	0 ... 4 m								
Relating to	Reflector PL80A								
Sensitivity adjustment	Potentiometer, (11 turn)								
<b>Light source, light type</b>	LED, red light, 640 nm <sup>1)</sup>								
Light spot diameter	Approx. 25 mm at 1.5 m distance								
Angle of dispersion	Approx. 1.5°								
Polarisation filter	✓								
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>2)</sup>								
Residual ripple	≤ 5 V <sub>pp</sub> <sup>3)</sup>								
Current consumption	≤ 30 mA <sup>4)</sup>								
<b>Switching outputs</b>	Q <sub>PNP</sub> and Q <sub>NPN</sub>								
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 3 V / approx. 0 V								
Signal voltage NPN HIGH / LOW	Approx. V <sub>S</sub> / < 3 V								
Switching type	Light-/dark-switching, selectable <sup>5)</sup>								
Output current I <sub>a</sub> max	100 mA								
Response time	≤ 330 μs <sup>6)</sup>								
Switching frequency	1,500 Hz <sup>7)</sup>								
<b>Connection type</b>	Connector, M12, 5-pin								
<b>VDE protection class</b>	□ <sup>8)</sup>								
<b>Circuit protection</b>	V <sub>S</sub> connections reverse-polarity protected/ Outputs short-circuit protected/ Interference suppression								
<b>Enclosure rating</b>	IP 66, IP 67, IP 69K								
<b>Ambient temperature operation</b>	-30 °C ... +60 °C								
<b>Ambient temperature storage</b>	-40 °C ... +75 °C								
<b>Weight</b>	Approx. 120 g								
<b>Housing material</b>	ABS, PMMA								

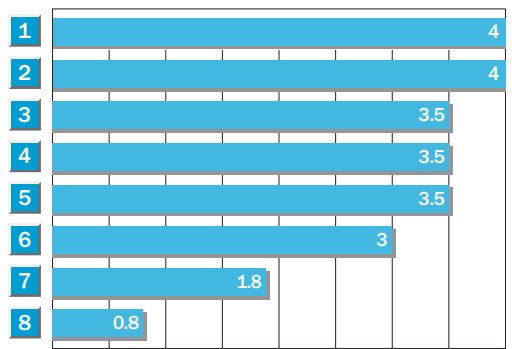
<sup>1)</sup> Average service life 100,000 h at T<sub>A</sub> = +25 °C  
<sup>2)</sup> Limit values, operation in short-circuit protected network max. 8 A

<sup>3)</sup> May not exceed or fall short of V<sub>S</sub> tolerances  
<sup>4)</sup> Without load

<sup>5)</sup> Control wire 0 V or not assigned = light-switching, control wire V<sub>S</sub> = dark-switching  
<sup>6)</sup> Signal transit time with resistive load

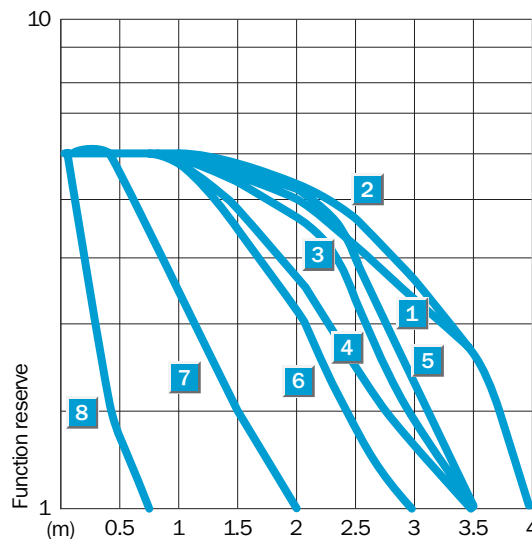
<sup>7)</sup> With light/dark ratio 1:1  
<sup>8)</sup> Reference voltage 50 V DC

**Scanning range**



■ Scanning range max.

Reflector type	Scanning range max.	
1	PL80A	0 ... 4.0 m
2	C110A	0 ... 4.0 m
3	P250F	0 ... 3.5 m
4	PL50A	0 ... 3.5 m
5	PL40A	0 ... 3.5 m
6	PL30A	0 ... 3.0 m
7	PL20A	0 ... 1.8 m
8	Reflective Tape Diamond Grade	0 ... 0.8 m



**Order informationen**

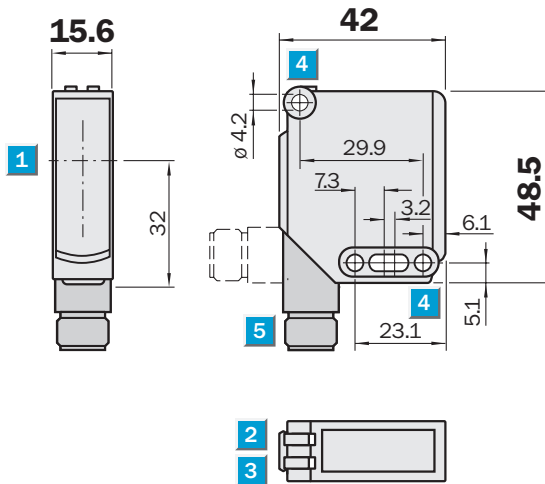
Type	Order no.
WL11G-2B2531	1041390

**Scanning range**  
0 ... 20 m

Through-beam photoelectric sensor

- Sturdy plastic housing
- Dovetail mounting
- M12 plug rotatable or cable

### Dimensional drawing



### Adjustments possible



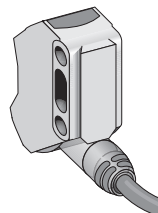
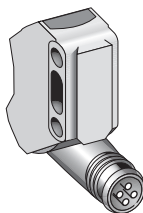
- 1 Center of optical axis
- 2 LED indicator, green; power on
- 3 LED indicator, yellow; status of received light beam
- 4 Mounting hole  $\varnothing 4.2$  mm
- 5 Connection, cable or plug M12



### Connection types

WSE11-2N2430  
WSE11-2P2430

WSE11-2N1130  
WSE11-2P1130

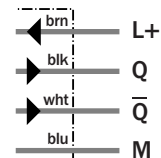
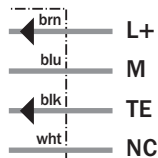
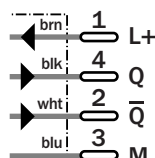
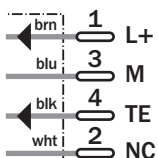


M12, 4-pin  
Sender

Receiver

4 x 0.25 mm<sup>2</sup>  
Sender

Receiver



### Accessories

- Mounting systems
- Connector, M12, 4-pin

	WSE11-2	N1130	N2430	P1130	P2430
<b>Scanning range max. typ.</b>	0 ... 20 m				
<b>Scanning range, recommended</b>	0 ... 15 m				
<b>Light source, light type</b>	LED, red light, 633 nm <sup>1)</sup>				
Light spot diameter	Ø 220 mm at 15 m distance				
Angle of dispersion	Approx. 1.5°				
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>2)</sup>				
Residual ripple	≤ 5 V <sub>pp</sub> <sup>3)</sup>				
Current consumption	WS ≤ 25 mA <sup>4)</sup> WE ≤ 20 mA <sup>4)</sup>				
<b>Switching outputs</b>	NPN antivalent				
	PNP antivalent				
Signal voltage PNP HIGH / LOW	> V <sub>S</sub> - 2.5 V / approx. 0 V				
Signal voltage NPN HIGH / LOW	Approx. V <sub>S</sub> / < 2.5 V				
Output current I <sub>a</sub> max	100 mA				
Response time	2.5 ms <sup>5)</sup>				
Switching frequency	200 Hz <sup>6)</sup>				
<b>Test input sender off</b>	TE to 0 V				
<b>Connection type</b>	Cable, PVC, 2 m <sup>7)</sup>				
	Connector, M12, 4-pin				
<b>VDE protection class</b>	□ <sup>8)</sup>				
<b>Circuit protection</b>	V <sub>S</sub> connections reverse-polarity protected/ Outputs short-circuit protected/ Interference suppression				
<b>Enclosure rating</b>	IP 66, IP 67, IP 69K				
<b>Ambient temperature operation</b>	-30 °C ... +60 °C				
<b>Ambient temperature storage</b>	-40 °C ... +75 °C				
<b>Weight</b>	Approx. 200 g				
	Approx. 120 g				
<b>Housing material</b>	ABS, PMMA				

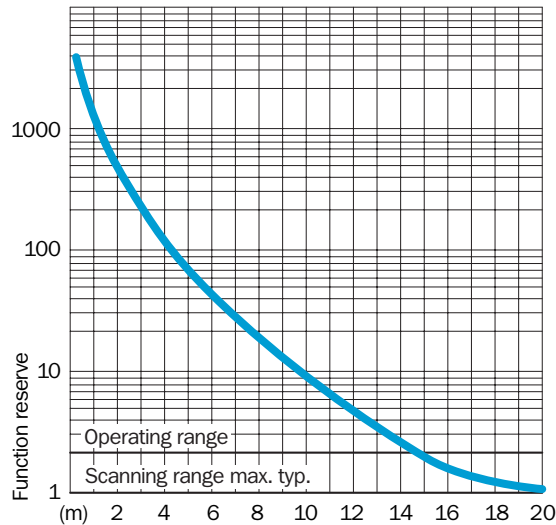
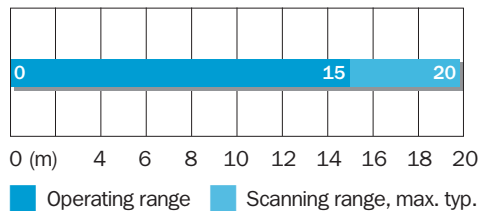
1) Average service life 100,000 h at T<sub>A</sub> = +25 °C  
2) Limit values, operation in short-circuit

3) May not exceed or fall short of V<sub>S</sub> tolerances  
protected network max. 8 A

4) Without load  
5) Signal transit time with resistive load  
6) With light/dark ratio 1:1

7) Do not bend below 0 °C  
8) Reference voltage 50 V DC

**Scanning distance**



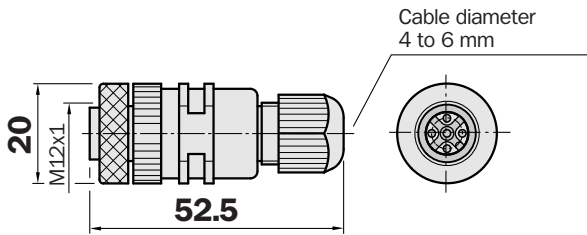
Order informationen	
Type	Order no.
WSE11-2N1130	1041397
WSE11-2N2430	1041396
WSE11-2P1130	1041395
WSE11-2P2430	1041394

Dimensional drawings and order information

SENSICK screw-in system M12, 4/5 pin, enclosure rating IP 67

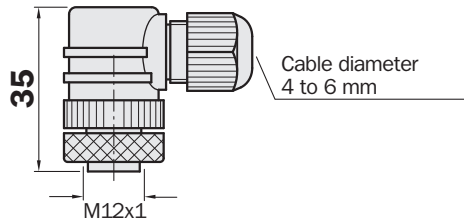
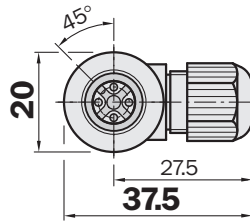
M12 cable receptacles, 4/5 pin, straight

Type	Order no.	Contacts
DOS-1204-G	6007302	4
DOS-1205-G	6009719	5



M12 cable receptacles, 4/5 pin, angled

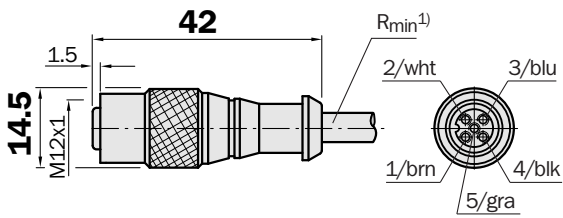
Type	Order no.	Contacts
DOS-1204-W	6007303	4
DOS-1205-W	6009720	5



M12 cable receptacles, 4/5 pin, straight

Cable diameter 5/6 mm, 4/5 x 0.25 mm<sup>2</sup>, PVC coating

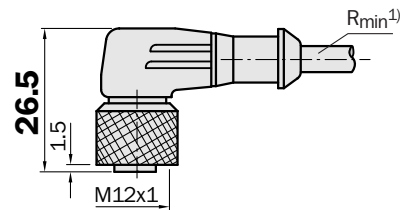
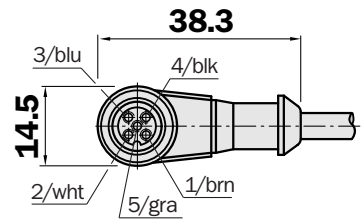
Type	Order no.	Contacts	Cable length
DOL-1204-G02M	6009382	4	2 m
DOL-1204-G05M	6009866	4	5 m
DOL-1204-G10M	6010543	4	10 m
DOL-1204-G15M	6010753	4	15 m
DOL-1205-G02M	6008899	5	2 m
DOL-1205-G05M	6009868	5	5 m
DOL-1205-G10M	6010544	5	10 m
DOL-1205-G15M	6029215	5	15 m



M12 cable receptacles, 4/5 pin, angled

Cable diameter 5/6 mm, 4/5 x 0.25 mm<sup>2</sup>, PVC coating

Type	Order no.	Contacts	Cable length
DOL-1204-W02M	6009383	4	2 m
DOL-1204-W05M	6009867	4	5 m
DOL-1204-W10M	6010541	4	10 m
DOL-1204-W15M	6036474	4	15 m
DOL-1205-W02M	6008900	5	2 m
DOL-1205-W05M	6009869	5	5 m
DOL-1205-W10M	6010542	5	10 m



<sup>1)</sup> Minimum bend radius with dynamic use  
R<sub>min</sub> = 20 x cable diameter

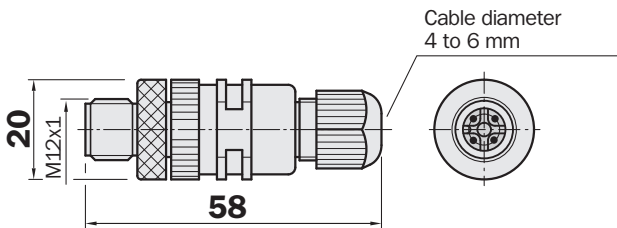


Dimensional drawings and order information

SENSICK screw-in system M12, 4-/5-pin, enclosure rating IP 67

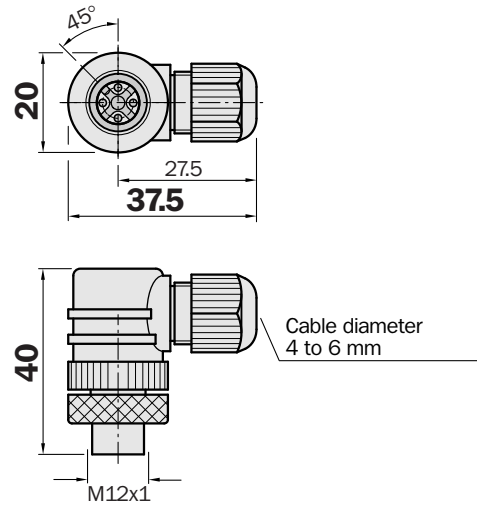
M12 cable receptacles, 4/5 pin, straight, terminal screwed

Type	Order no.	Contacts
STE-1204-G	6009932	4
STE-1205-G	6022083	5



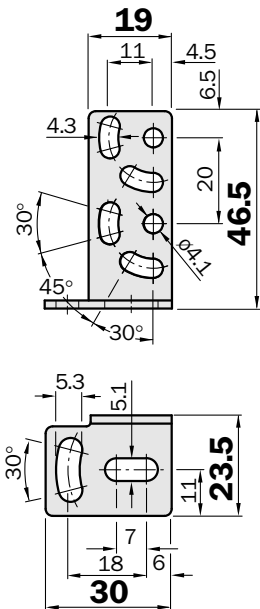
M12 cable receptacles, 4 pin, angled, terminal screwed

Type	Order no.	Contacts
STE-1204-W	6022084	4
STE-1205-W	6022082	5



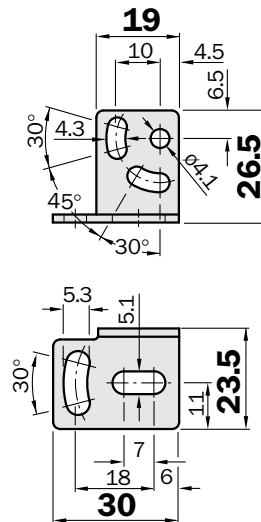
Mounting bracket, stainless steel, large

Type	Order no.	For equipment type
BEF-WG-W12	2013942	W11-2, W12-3, W12L-2, KT2



Mounting bracket, stainless steel, small

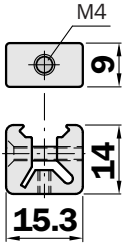
Type	Order no.	For equipment type
BEF-WK-W12	2012938	W11-2, W12-3, W12L-2, KT2



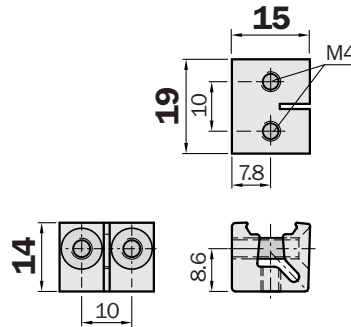
Dimensional drawings and order information

Clamp		
Type	Order no.	For equipment type
BEF-KH-W12	2013285	W11-2, W12-3, W12L-2, KT2

Double clamp	
Type	Order no.
BEF-DKH-W12	2013947



Countersunk screw M4 x 15 mm included with delivery



2 Countersunk screws M4 x 15 mm included with delivery

Universal bracket for rod mounting for sensors und reflectors

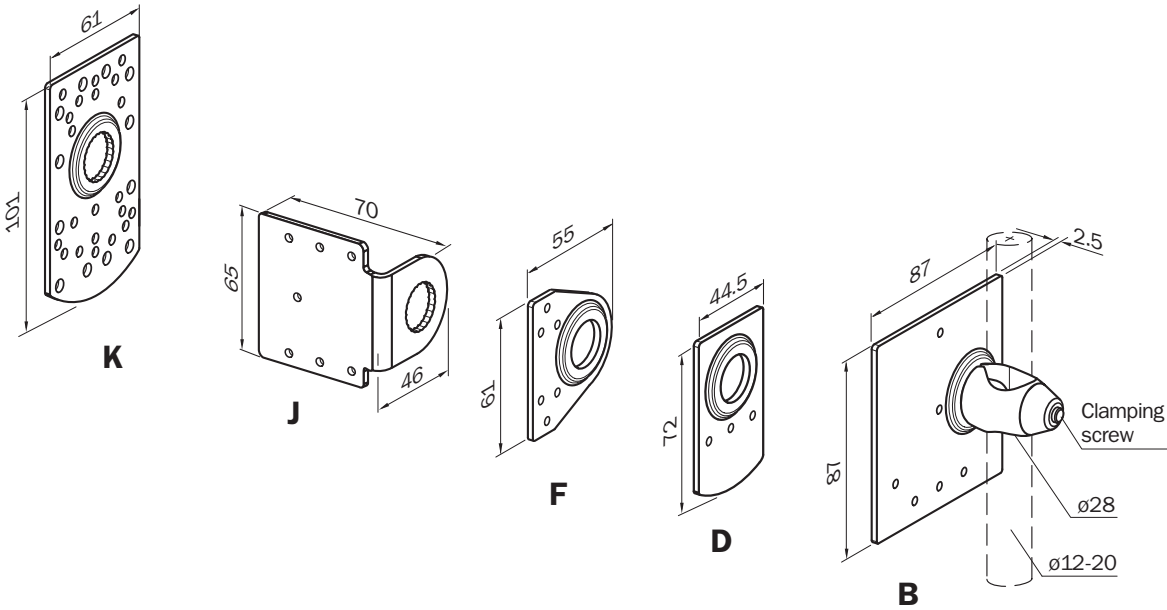


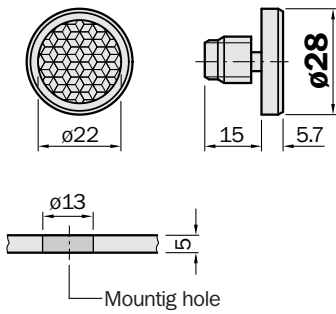
Plate	Type	Order no. <sup>1)</sup>	Sensors/reflectors
B	BEF-KHS-B01	2022459	P250, PL30A, PL40A, PL50A, PL80A, C110A, P250F
D	BEF-KHS-D01	2022461	W11-2, W12-3, W12L-2, KT2, UC12, DT2
F	BEF-KHS-F01	2022463	PL20A, P250, P250F
J	BEF-KHS-J01	2022719	PL20A, PL40A, PL50A, P250, C110A, P250F
K	BEF-KHS-K01	2022718	W11-2, W12-3, W12L-2, W14-2, W18-3, W23-2, W24-2, W27-3, KT2, DT2, PL20A, PL30A, PL40A, PL50A, PL80A, P250, C110A

<sup>1)</sup> Universal bracket and mounting screws included

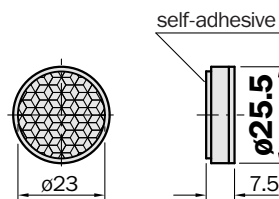
Dimensional drawings and order information

Plastic model for temperatures up to 65 °C

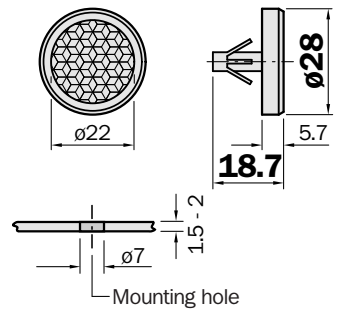
Reflector, $\phi$ 22 mm, pluggable	
Type	Order no.
PL22-1	1003546



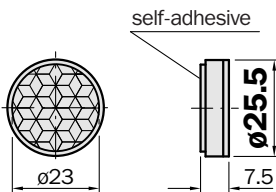
Reflector, $\phi$ 23 mm, self-adhesive	
Type	Order no.
PL22-2	1003621



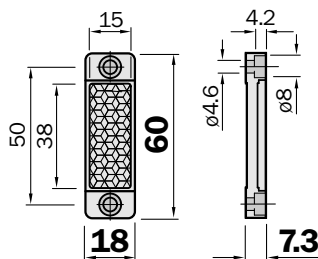
Reflector, $\phi$ 22 mm Pluggable for orifice	
Type	Order no.
PL22-3	1004488



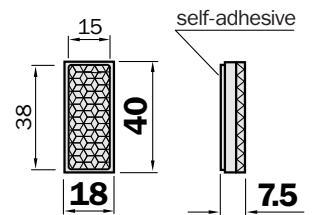
Reflector, $\phi$ 23 mm, self-adhesive	
Type	Order no.
PL26	1001440



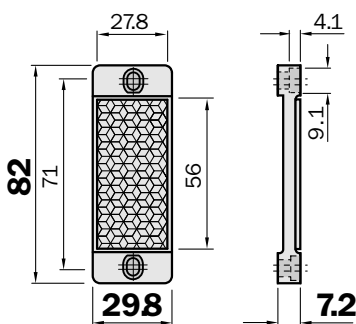
Reflector 20 x 40 mm	
Type	Order no.
PL20A	1012719



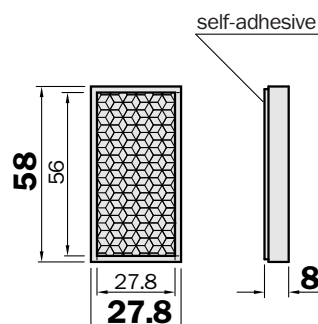
Reflector 20 x 40 mm Self-adhesive	
Type	Order no.
PL21A	1015172



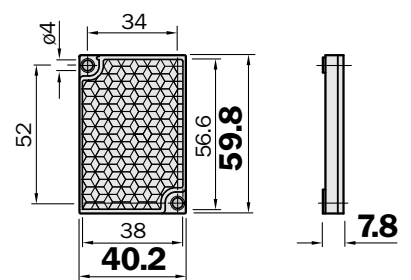
Reflector 30 x 50 mm	
Type	Order no.
PL30A	1002314



Reflector 30 x 50 mm Self-adhesive	
Type	Order no.
PL31A	1002315



Reflector 40 x 60 mm Self-adhesive	
Type	Order no.
PL40A	1012720



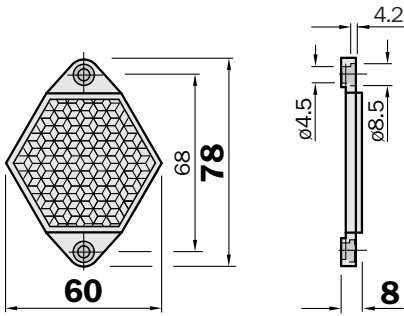
Dimensional drawings and order information

Plastic model for temperatures up to 65 °C

Reflector, hexagonal

Opening width 48 mm

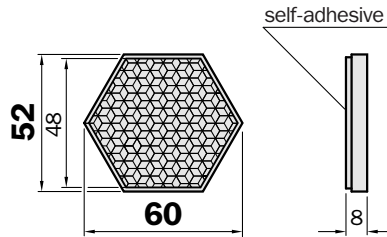
Type	Order no.
PL50A	1000132



Reflector, hexagonal, self-adhesive

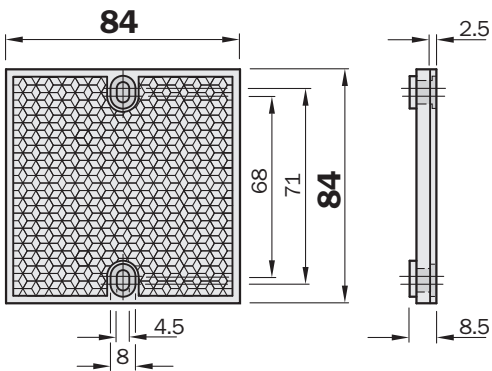
Opening width 48 mm

Type	Order no.
PL51A	1001628



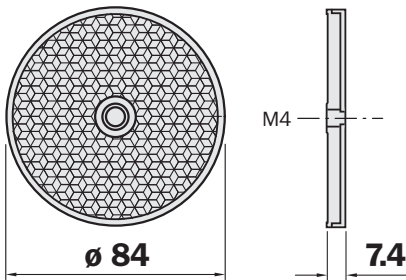
Reflector 80 x 80 mm

Type	Order no.
PL80A	1003865



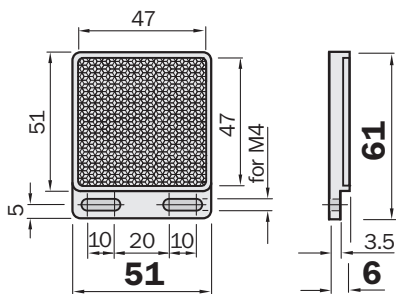
Reflector,  $\varnothing$  84 mm, center hole mounting

Type	Order no.
C110A	5304549



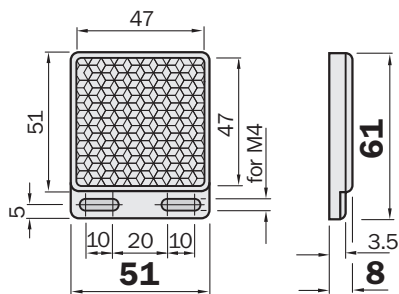
Micro triple reflector 47 x 47 mm

Type	Order no.
P250F	5308843



Reflector 47 x 47 mm<sup>2</sup>

Type	Order no.
P250	5304812

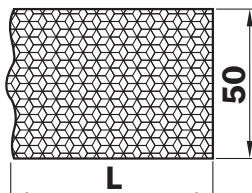
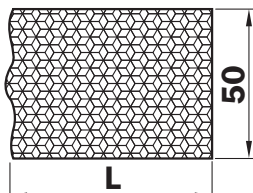


Dimensional drawings and order information

Self-adhesive reflective tape for photoelectric sensors with polarizing filter

Reflective tape	
Sheet 749 x 914 mm	
Type	Order no.
REF-DG (983)	5320565

Reflective tape REF-DG	
Ready-made	
Type	Order no.
REF-DG-K	4019634



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