



## W8 Inox Miniature photoelectric sensors

Highly resistant –  
Tough stainless steel and fluid-tight  
construction combined

## Minimum effort, maximum resistance and endless possibilities

The W8 Inox is one of the smallest sensors in SICK's miniature photoelectric sensors portfolio. Thanks to the quality of the materials used and sophisticated LED technology, the sensor provides a wide range of application solution possibilities. The sensor uses M3 mounting threads to ensure it is compatible with commercially available mounting systems. The W8 Inox therefore excels, on the one hand, due to its minimum mounting effort and, on the other hand, due to its maximum resistance and variance. The four models – through-beam photoelectric sensors, energetic photoelectric proximity sensors and photoelectric proximity sensors with background suppression (BGS) – provide a convincing solution for customers worldwide.

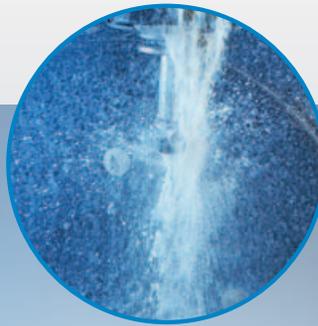
Food and beverage



Pharma and cosmetics



Machine tool



Withstands the pressure of the food and beverage industry

Machines used in this industry, and all of their components must work perfectly in wet surroundings. However, it is not the moisture which poses a challenge, but rather the daily high-pressure cleaning of the systems in combination with high thermal and mechanical loads. You can use the W8 Inox without hesitation wherever you need to use chemicals to prevent bacteria and microorganisms.



Identification of bread rolls



Checking the presence of meat balls



Monitoring a cream cheese packing

Feels at home in the pharmaceutical industry

In a sterile working environment machines have to be disinfected daily. Cleaning agents and disinfectants require a sensor with a high-quality stainless steel housing and maximum resistance. The W8 Inox helps you keep to the prescribed cleaning schedules without constant machine downtime.



Identification of pharmaceuticals

Meets machine tool engineering requirements without difficulty

Machining centers are sophisticated work environments for optical sensors. This is due to the use of cooling lubricants, which influence the machine components directly or as fog as well as hot/glowing chips flying about in the machine. Rely on the W8 Inox and minimize machine downtime.



Verify the presence of machine tools inside the storage area to prevent collision



Tool inspection prior to machine start

## Safety has numerous facets ...



**PES**  
Polyether sulfone

**PEEK**  
Polyether ketone

**PPSU**  
Polyphenylene sulfide

**Stainless steel 1.4404 (316L)**

### Maximum resistance

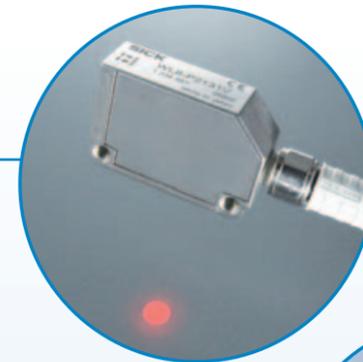
The W8 Inox control element consists of two types of high-performance plastic - PEEK and PES. Both of them exhibit excellent chemical and thermal properties, which is demonstrated, for example, by the high resistance against chemicals such as acid, alkali, oil and alcohol. PEEK's excellent mechanical resistance ensures the potentiometer can withstand harsh environment.

PPSU is used as lens material in the following models: through-beam photoelectric sensor, energetic photoelectric proximity sensor and photoelectric proximity sensor with background suppression. This transparent plastic is resistant even to acrid cleaning agents and disinfectants at high temperatures and is considerably sturdier than the frequently used PMMA. Its relatively low water absorption level is also impressive, which makes the lens highly leakproof in addition to its sturdiness. All of the mentioned types of plastic are suitable for use in food processing.

The 1.4404 (316L) stainless steel used is highly convincing due to its high resistance to rust and acid. In addition to its strength properties, which allow it to be used in rough ambient conditions.

### Highly modern LED technology

A sharply defined, visible light spot enables clean switching.



### Compact and space saving

All models are integrated in a 33.3 x 11 x 21 mm small housing and, due to these dimensions and the light weight therefore, are ideally suited to confined spaces.



### Minimum required installation

Longsome installations belong to the past. This is ensured by the typical industrial mounting systems with M3 screws and simple 3-step documentation.



### High reliability

The sensor's IP 69K protection class is the result of a sophisticated design and outstanding materials. It enables the W8 Inox to easily endure high-pressure cleaning processes with chemicals used to counter-act bacteria and microorganisms in the food industry. This washdown does not impair the availability of the sensors.



### Wide range of versions

It's the first time that miniature sensors are available both as energetic photoelectric proximity sensors and sensors with BGS at SICK. Furthermore, the photoelectric proximity sensor is available with BGS in short range and long range. A 300 mm cable plug is provided as a standard feature for all models.



Tolerates ...	Description of application	Concentration	Load duration	Result
Hydrogen peroxide	Used in cleaning processes for the creation of sterile production conditions in the pharmaceutical industry	30 %	24 hours at room temperature	Passed <sup>1)</sup>
Sodium hydroxide	Conventional cleaning agent	5 %	24 hours at 60 °C	Passed <sup>1)</sup>
P3-topax 66	Cleaning agent containing chlorine, used in the meat and food sector	5 %	21 days at 50 °C	Passed <sup>1)</sup>
Citric, acetic and formic acid	Substances used for the production of food	5 %	24 hours at room temperature	Passed <sup>1)</sup>
Isopropanol, benzine and methylated spirits	Solvents for removing grease		24 hours at room temperature	Passed <sup>1)</sup>
Hydraulic oil, drilling emulsion	Used for machine tool engineering, for example as cooling lubricant		24 hours at room temperature	Passed <sup>1)</sup>

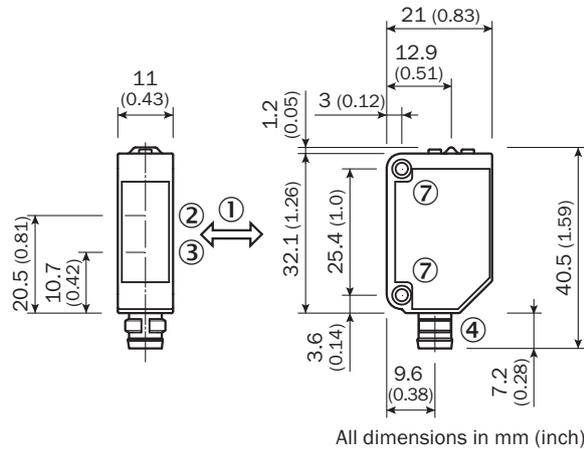
<sup>1)</sup> Test criteria for "passed": the sensor is subjected to 0.5-1.0 bar internal pressure in its cable after the test. All joining and connection points must not exhibit any noticeable sealing deficiencies and the sensor electronics must not have any malfunctions.

**Sensing distance**  
10 ... 500 mm

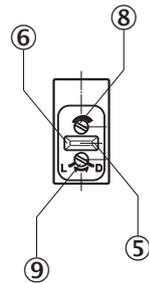
Photoelectric proximity sensor

- Tough stainless steel housing 1.4404/316L with IP 69K enclosure rating
- Lens made of heat and chemical resistant high-performance plastic - PPSU
- Potentiometer made of sturdy high performance plastic - PEEK
- Conforms to FDA requirements
- M3 threaded mounting hole and stainless steel mounting bracket (1.4301/304)

**Dimensional drawing**



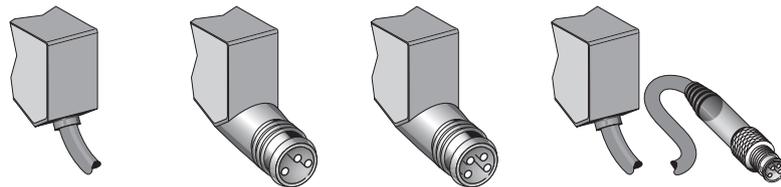
**Adjustments**



- ① Standard direction
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑤ LED display orange: switching output active
- ⑥ LED display green: stability indicator lights if light received < 0.9 or > 1.1 (based on switching threshold Q = 1)
- ⑦ M3 threaded mounting hole, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket (2 x 3.2 mm borehole)
- ⑧ Sensing distance adjustment
- ⑨ Light-/dark-switching:  
L = light-switching,  
D = dark-switching

**Connection type**

WTB8-N1131V	WTB8-N2131V	WTB8-N2231V	WTB8-N3331V
WTB8-P1131V	WTB8-P2131V	WTB8-P2231V	WTB8-P3331V



3 x 0.18 mm <sup>2</sup>	M8, 3-pin	M8, 4-pin	M12, 4-pin

\* NC - not connected



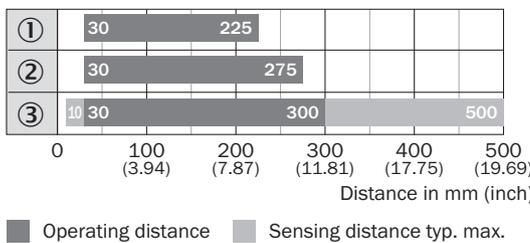
**Accessories**

Round connector
Mounting systems
Universal clamp system

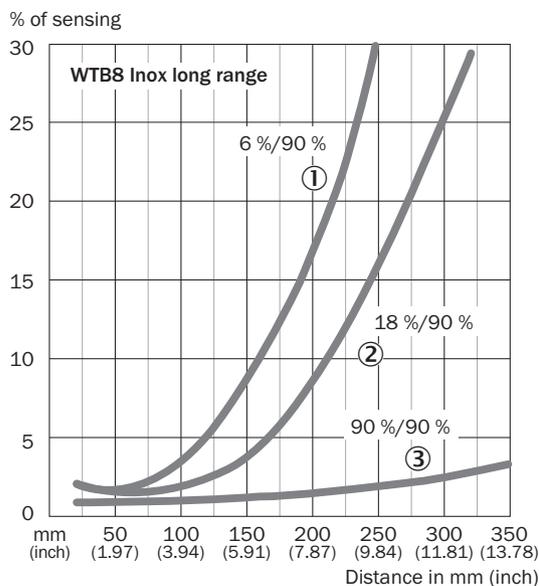
Technical data		WTB8-	N1131V	N2131V	N2231V	N3331V	P1131V	P2131V	P2231V	P3331V
<b>Sensing distance, typ. max.</b>	10 ... 500 mm <sup>1)</sup>									
Adjustable BGS	30 ... 300 mm <sup>1)</sup>									
BGS setting	Potentiometer, 4 revolutions									
<b>Light sender, type of light</b>	LED, red light, 650 nm <sup>2)</sup>									
Light spot diameter	Approx. 22 mm at a distance of 300 mm									
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>3)</sup>									
Residual ripple	± 10 % <sup>4)</sup>									
Power consumption	≤ 30 mA <sup>5)</sup>									
<b>Switching outputs</b>	NPN: open collector: Q									
	PNP: open collector: Q									
PNP signal voltage (HIGH/LOW)	U <sub>V</sub> - 1.8 V/approx. 0 V									
NPN signal voltage (HIGH/LOW)	Approx. U <sub>V</sub> < 1.8 V									
Operating mode	Light/dark with rotary switch									
Output current I <sub>A</sub> max.	100 mA									
Response time	≤ 0.5 ms <sup>6)</sup>									
Switching frequency	1,000 Hz <sup>7)</sup>									
<b>Connection type</b>	Cable, PVC, 2 m <sup>8)</sup>									
	Plug connection, M8, 3-pin									
	Plug connection, M8, 4-pin									
	Cable plug, 300 mm, M12, 4-pin									
<b>Protection class</b>	⚡									
<b>Protective circuits</b>	U <sub>V</sub> connections reverse polarity protected/ outputs reverse polarity protected/outputs overcurrent and short-circuit protected									
<b>Enclosure rating</b>	IP 66, IP 67, IP 68, IP 69K									
<b>Ambient temperature</b>	Operation -30 °C ... +60 °C <sup>9)</sup> Warehouse -40 °C ... +70 °C <sup>9)</sup>									
<b>Weight</b>	83.6 g									
<b>Housing material</b>	1.4404/316L									
<b>Included in delivery</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A									

- 1) Objects with 90 % remission (based on standard white DIN-5033)  
 2) Average service life 100,000 h at T<sub>A</sub> = +25 °C  
 3) Limit values, reverse polarity protected 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) Air humidity of 35 % ... 95 %

**Sensing distance** **Ordering information**



- ① Sensing distance on black, 6 % remission  
 ② Sensing distance on gray, 18 % remission  
 ③ Sensing distance on white, 90 % remission



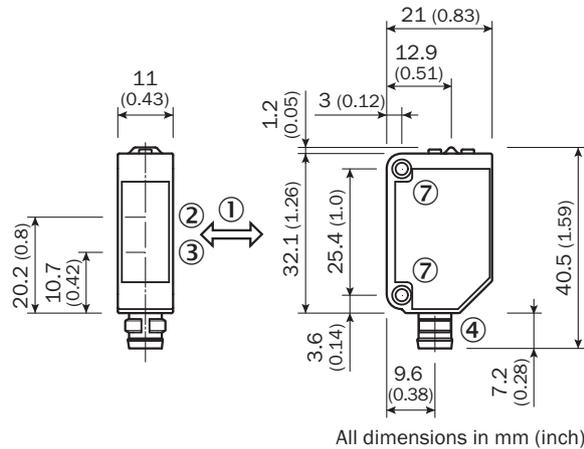
Model name	Part no.
WTB8-N1131V	6041461
WTB8-N2131V	6041462
WTB8-N2231V	6041463
WTB8-N3331V	6041464
WTB8-P1131V	6041465
WTB8-P2131V	6041466
WTB8-P2231V	6041467
WTB8-P3331V	6041468

**Sensing distance**  
5 ... 150 mm

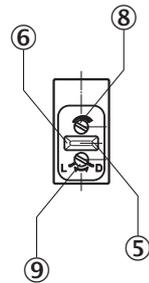
Photoelectric proximity sensor

- Tough stainless steel housing 1.4404/316L with IP 69K enclosure rating
- Lens made of heat and chemical resistant high-performance plastic - PPSU
- Potentiometer made of sturdy high performance plastic - PEEK
- Conforms to FDA requirements
- M3 threaded mounting hole and stainless steel mounting bracket (1.4301/304)

**Dimensional drawing**



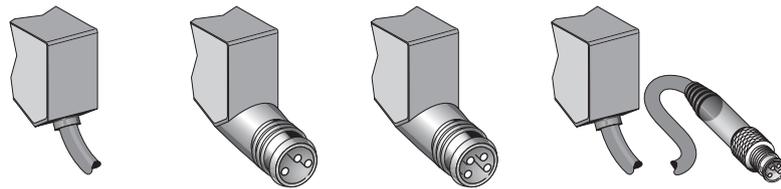
**Adjustments**



- ① Standard direction
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑤ LED display orange: switching output active
- ⑥ LED display green: stability indicator lights if light received < 0.9 or > 1.1 (based on switching threshold Q = 1)
- ⑦ M3 threaded mounting hole, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket (2 x 3.2 mm borehole)
- ⑧ Sensing distance adjustment
- ⑨ Light-/dark-switching:  
L = light-switching  
D = dark-switching

**Connection type**

WTB8-N1111V	WTB8-N2111V	WTB8-N2211V	WTB8-N3311V
WTB8-P1111V	WTB8-P2111V	WTB8-P2211V	WTB8-P3311V



3 x 0.18 mm <sup>2</sup>	M8, 3-pin	M8, 4-pin	M12, 4-pin
 brn   L+ blu   M blk   Q	 brn   1   L+ blu   3   M blk   4   Q	 brn   1   L+ blu   3   M blk   4   Q wht   2   NC *	 brn   1   L+ blu   3   M blk   4   Q wht   2   NC *

\* NC - not connected



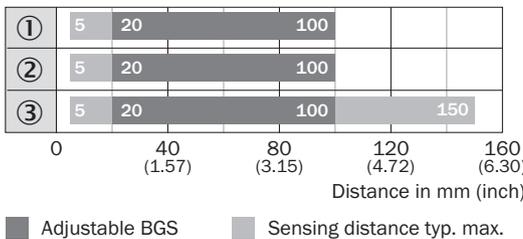
**Accessories**

Round connectors
Mounting systems
Universal clamp system

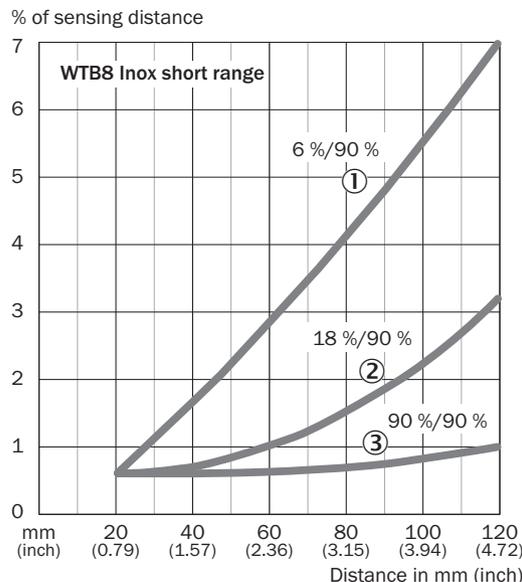
Technical data		WTB8-	N1111V	N2111V	N2211V	N3311V	P1111V	P2111V	P2211V	P3311V
<b>Sensing distance, typ. max.</b>	5 ... 150 mm <sup>1)</sup>									
Adjustable BGS	20 ... 100 mm <sup>1)</sup>									
BGS setting	Potentiometer, 4 revolutions									
<b>Light sender, type of light</b>	LED, red light, 650 nm <sup>2)</sup>									
Light spot diameter	Approx. 8 mm at a distance of 100 mm									
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>3)</sup>									
Residual ripple	± 10 % <sup>4)</sup>									
Power consumption	≤ 30 mA <sup>5)</sup>									
<b>Switching outputs</b>	NPN: open collector: Q									
	PNP: open collector: Q									
PNP signal voltage (HIGH/LOW)	U <sub>V</sub> - 1.8 V/approx. 0 V									
NPN signal voltage (HIGH/LOW)	Approx. U <sub>V</sub> < 1.8 V									
Operating mode	Light/dark with rotary switch									
Output current I <sub>A</sub> max.	100 mA									
Response time	≤ 0.5 ms <sup>6)</sup>									
Switching frequency	1,000 Hz <sup>7)</sup>									
<b>Connection type</b>	Cable, PVC, 2 m <sup>8)</sup>									
	Plug connection, M8, 3-pin									
	Plug connection, M8, 4-pin									
	Cable plug, 300 mm, M12, 4-pin									
<b>Protection class</b>	⊕									
<b>Protective circuits</b>	U <sub>V</sub> connections reverse polarity protected/ outputs reverse polarity protected/outputs overcurrent and short-circuit protected									
<b>Enclosure rating</b>	IP 66, IP 67, IP 68, IP 69K									
<b>Ambient temperature</b>	Operation -30 °C ... +60 °C <sup>9)</sup> Warehouse -40 °C ... +70 °C <sup>9)</sup>									
<b>Weight</b>	83.6 g									
<b>Housing material</b>	1.4404/316L									
<b>Included in delivery</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A									

- 1) Objects with 90 % remission (based on standard white DIN-5033)  
 2) Average service life 100,000 h at T<sub>A</sub> = +25 °C  
 3) Limit values, reverse polarity protected 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) Air humidity of 35 % ... 95 %

**Sensing distance**



- ① Sensing distance on black, 6 % remission  
 ② Sensing distance on gray, 18 % remission  
 ③ Sensing distance on white, 90 % remission



**Ordering information**

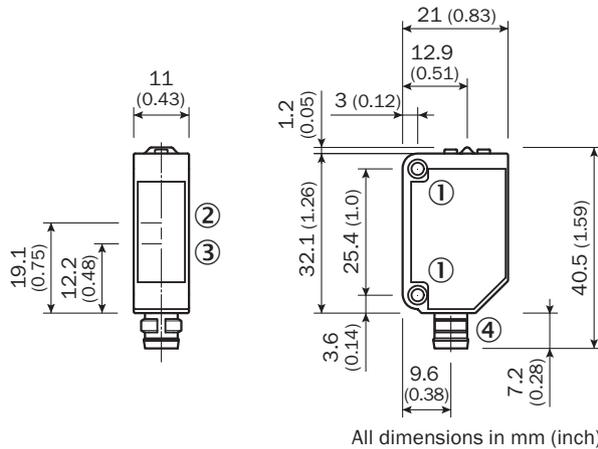
Model name	Part no.
WTB8-N1111V	6041453
WTB8-N2111V	6041454
WTB8-N2211V	6041455
WTB8-N3311V	6041456
WTB8-P1111V	6041457
WTB8-P2111V	6041458
WTB8-P2211V	6041459
WTB8-P3311V	6041460

**Sensing distance**  
0 ... 950 mm

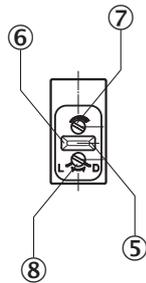
Photoelectric proximity sensor

- Tough stainless steel housing 1.4404/316L with IP 69K enclosure rating
- Lens made of heat and chemical resistant high-performance plastic - PPSU
- Potentiometer made of sturdy high performance plastic - PEEK
- Conforms to FDA requirements
- M3 threaded mounting hole and stainless steel mounting bracket (1.4301/304)

**Dimensional drawing**



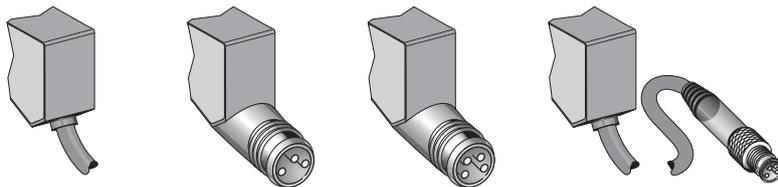
**Adjustments**



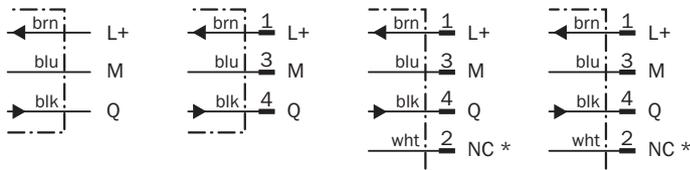
- ① M3 threaded mounting hole, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket (2 x 3.2 mm borehole)
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑤ LED display orange: switching output active
- ⑥ LED display green: stability indicator lights if light received < 0.9 or > 1.1 (based on switching threshold Q = 1)
- ⑦ Sensitivity control (270°)
- ⑧ Light-/dark-switching:  
L = light-switching  
D = dark-switching

**Connection type**

WTE8-N1131V	WTE8-N2131V	WTE8-N2231V	WTE8-N3331V
WTE8-P1131V	WTE8-P2131V	WTE8-P2231V	WTE8-P3331V



3 x 0.18 mm <sup>2</sup>	M8, 3-pin	M8, 4-pin	M12, 4-pin
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\* NC - not connected



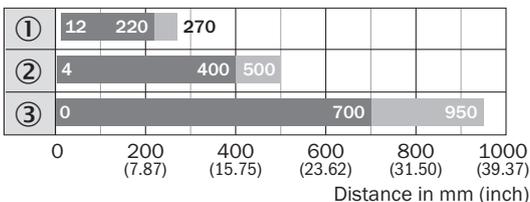
**Accessories**

Round connectors
Mounting systems
Universal clamp system

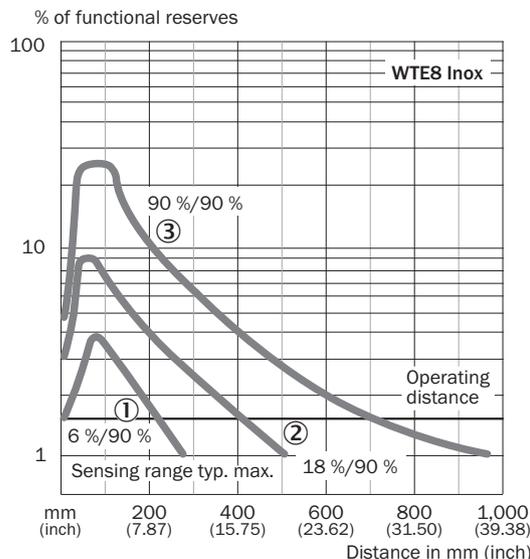
Technical data		WTE8-	N1131V	N2131V	N2231V	N3331V	P1131V	P2131V	P2231V	P3331V
<b>Sensing distance, typ. max.</b>	0 ... 950 mm									
<b>Operating distance</b>	0 ... 700 mm <sup>1)</sup>									
Operating distance setting	Potentiometer									
<b>Light sender, type of light</b>	LED, red light, 645 nm <sup>2)</sup>									
Light spot diameter	Approx. 35 mm at a distance of 700 mm									
Aperture angle	Approx. 3°									
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>3)</sup>									
Residual ripple	± 10 % <sup>4)</sup>									
Power consumption	≤ 30 mA <sup>5)</sup>									
<b>Switching outputs</b>	NPN: open collector: Q									
	PNP: open collector: Q									
PNP signal voltage (HIGH/LOW)	U <sub>V</sub> - 1.8 V/approx. 0 V									
NPN signal voltage (HIGH/LOW)	Approx. U <sub>V</sub> < 1.8 V									
Operating mode	Light/dark with rotary switch									
Output current I <sub>A</sub> max.	100 mA									
Response time	≤ 0.5 ms <sup>6)</sup>									
Switching frequency	1,000 Hz <sup>7)</sup>									
<b>Connection type</b>	Cable, PVC, 2 m <sup>8)</sup>									
	Plug connection, M8, 3-pin									
	Plug connection, M8, 4-pin									
	Cable plug, 300 mm, M12, 4-pin									
<b>Protection class</b>	⊕									
<b>Protective circuits</b>	U <sub>V</sub> connections reverse polarity protected/ outputs reverse polarity protected/outputs overcurrent and short-circuit protected									
<b>Enclosure rating</b>	IP 66, IP 67, IP 68, IP 69K									
<b>Ambient temperature</b>	Operation -30 °C ... +60 °C <sup>9)</sup> Warehouse -40 °C ... +70 °C <sup>9)</sup>									
<b>Weight (net)</b>	83.6 g									
<b>Housing material</b>	1.4404/316L									
<b>Included in delivery</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A									

- 1) Objects with 90 % remission (based on standard white DIN-5033)
- 2) Average service life 100,000 h at T<sub>A</sub> = +25 °C
- 3) Limit values, reverse polarity protected 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) Air humidity of 35 % ... 95 %

**Sensing distance and functional reserves**



- ① Sensing distance on black, 6 % remission
- ② Sensing distance on gray, 18 % remission
- ③ Sensing distance on white, 90 % remission



**Ordering information**

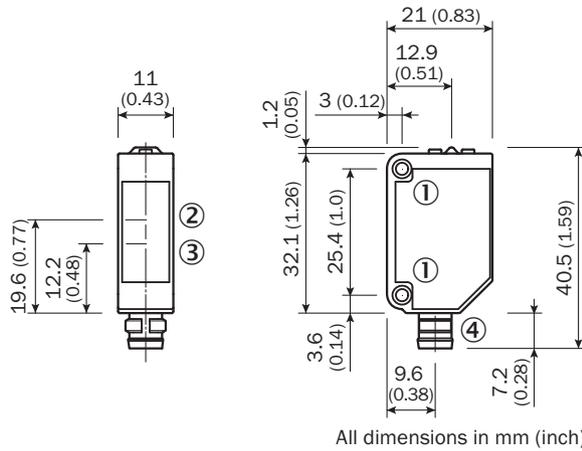
Model name	Part no.
WTE8-N1131V	6041469
WTE8-N2131V	6041470
WTE8-N2231V	6041471
WTE8-N3331V	6041472
WTE8-P1131V	6041473
WTE8-P2131V	6041474
WTE8-P2231V	6041475
WTE8-P3331V	6041476

**Sensing range**  
0.01 ... 6.5 m

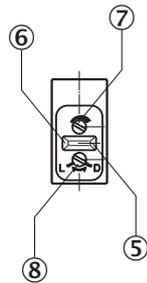
Photoelectric retro-reflective sensor

- Tough stainless steel housing 1.4404/316L with IP 69K enclosure rating
- Lens made of PMMA with a scratch- and abrasion-resistant SiO<sub>2</sub> nano coating
- Potentiometer made of sturdy high performance plastic – PEEK
- Conforms to FDA requirements
- M3 threaded mounting hole, stainless steel mounting bracket (1.4301/304) and P250 reflector

**Dimensional drawing**



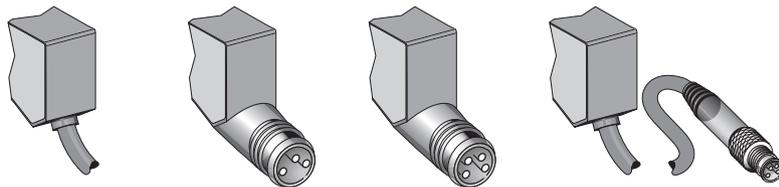
**Adjustments**



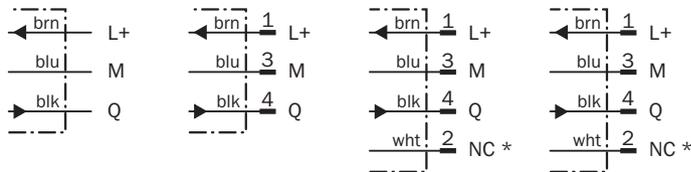
- ① M3 threaded mounting hole, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket (2 x 3.2 mm borehole)
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑤ LED display orange: switching output active
- ⑥ LED display green: stability indicator lights if light received < 0.9 or > 1.1 (based on switching threshold Q = 1)
- ⑦ Sensitivity control (270°)
- ⑧ Light-/dark-switching:  
L = light-switching  
D = dark-switching

**Connection type**

WL8-N1131V	WL8-N2131V	WL8-N2231V	WL8-N3331V
WL8-P1131V	WL8-P2131V	WL8-P2231V	WL8-P3331V



3 x 0.18 mm <sup>2</sup>	M8, 3-pin	M8, 4-pin	M12, 4-pin
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\* NC - not connected



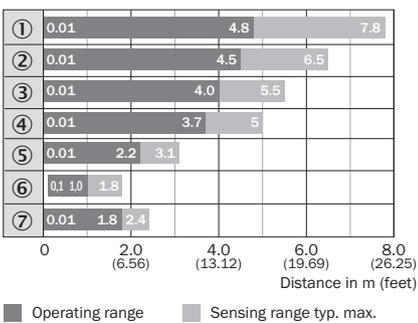
**Accessories**

Round connectors
Reflectors
Special reflectors
Mounting systems
Universal clamp system

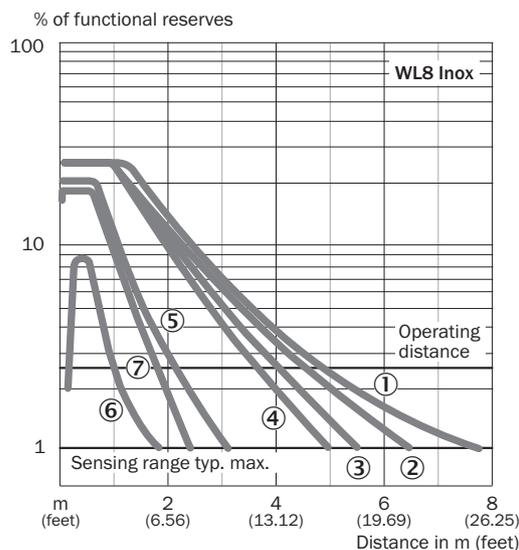
Technical data		WL8-	N1131V	N2131V	N2231V	N3331V	P1131V	P2131V	P2231V	P3331V
<b>Sensing range, typ. max.</b>	0.01 ... 6.5 m									
<b>Operating range, recommended</b>	0.01 ... 4.5 m									
In relation to	P250 reflector									
<b>Light sender, type of light</b>	LED, red light, 645 nm <sup>1)</sup>									
Light spot diameter	Approx. 245 mm at a distance of 4.5 m									
Aperture angle	Approx. 3°									
Polarizing filter	✓									
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>2)</sup>									
Residual ripple	± 10 % <sup>3)</sup>									
Power consumption	≤ 30 mA <sup>4)</sup>									
<b>Switching outputs</b>	NPN: open collector: Q									
	PNP: open collector: Q									
PNP signal voltage (HIGH/LOW)	U <sub>V</sub> - 1.8 V/ approx. 0 V									
NPN signal voltage (HIGH/LOW)	Approx. U <sub>V</sub> / < 1.8 V									
Operating mode	Light/dark with rotary switch									
Output current I <sub>A</sub> max.	100 mA									
Response time	≤ 0.5 ms <sup>5)</sup>									
Switching frequency	1,000 Hz <sup>6)</sup>									
<b>Connection type</b>	Cable, PVC, 2 m <sup>7)</sup>									
	Plug connection, M8, 3-pin									
	Plug connection, M8, 4-pin									
	Cable plug, 300 mm, M12, 4-pin									
<b>Protection class</b>	ⓘ									
<b>Protective circuits</b>	U <sub>V</sub> connections reverse polarity protected/ outputs reverse polarity protected/outputs overcurrent and short-circuit protected									
<b>Enclosure rating</b>	IP 66, IP 67, IP 68, IP 69K									
<b>Ambient temperature</b>	Operation -30 °C ... +60 °C <sup>8)</sup> Warehouse -40 °C ... +70 °C <sup>8)</sup>									
<b>Weight (net)</b>	83.6 g									
<b>Housing material</b>	1.4404/316L									
<b>Included in delivery</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, P250 reflector									

- 1) Average service life 100,000 h at T<sub>A</sub> = +25 °C
- 2) Limit values, reverse polarity protected 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) Air humidity of 35 % ... 95 %

**Sensing range and functional reserves**



- Reflector type**
- ① PL80A
  - ② P250
  - ③ PL40A
  - ④ PL30A
  - ⑤ PL20A
  - ⑥ Reflective tape „Diamond Grade“
  - ⑦ P45A



**Ordering information**

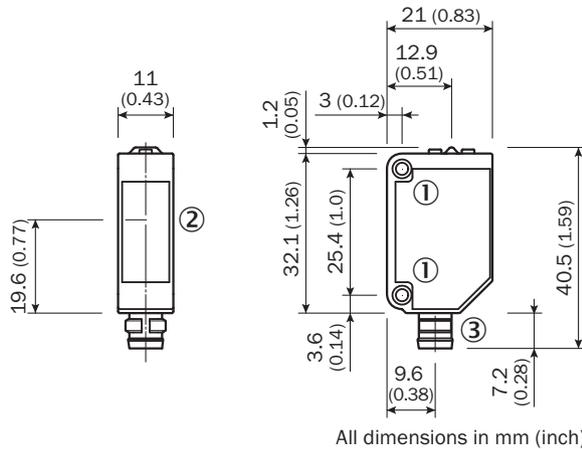
Model name	Part no.
WL8-N1131V	6041477
WL8-N2131V	6041478
WL8-N2231V	6041479
WL8-N3331V	6041480
WL8-P1131V	6041481
WL8-P2131V	6041482
WL8-P2231V	6041483
WL8-P3331V	6041484

 **Sensing range**  
0 ... 45 m

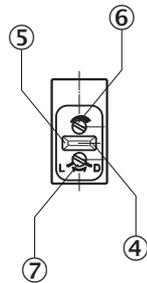
Through-beam photoelectric sensor

- Tough stainless steel housing 1.4404/316L with IP 69K enclosure rating
- Lens made of heat and chemical resistant high-performance plastic - PPSU
- Potentiometer made of sturdy high performance plastic - PEEK
- Conforms to FDA requirements
- M3 threaded mounting hole and stainless steel mounting bracket (1.4301/304)

**Dimensional drawing**



**Adjustments**

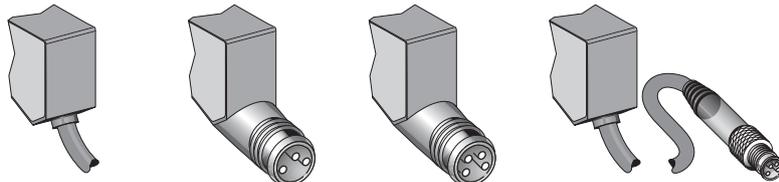


- ① M3 threaded mounting hole, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket (2 x 3.2 mm borehole)
- ② Center of optical axis, Inox WS8 sender  
Center of optical axis, Inox WE8 receiver
- ③ Connection
- ④ LED display orange: switching output active (WE8 Inox)
- ⑤ LED display green: stability indicator lights at WE8 Inox if light received < 0.9 or > 1.1 (based on switching threshold Q = 1)
- ⑥ Sensitivity control (270°, WE8 Inox)
- ⑦ Light-/dark-switching:  
L = light-switching  
D = dark-switching (WE8 Inox)



**Connection type**

WSE8-N1131V	WSE8-N2131V	WSE8-N2231V	WSE8-N3331V
WSE8-P1131V	WSE8-P2131V	WSE8-P2231V	WSE8-P3331V



Sender	2 x 0.18 mm <sup>2</sup>	M8, 3-pin	M8, 4-pin	M12, 4-pin
Receiver	3 x 0.18 mm <sup>2</sup>	M8, 3-pin	M8, 4-pin	M12, 4-pin

\* NC - not connected

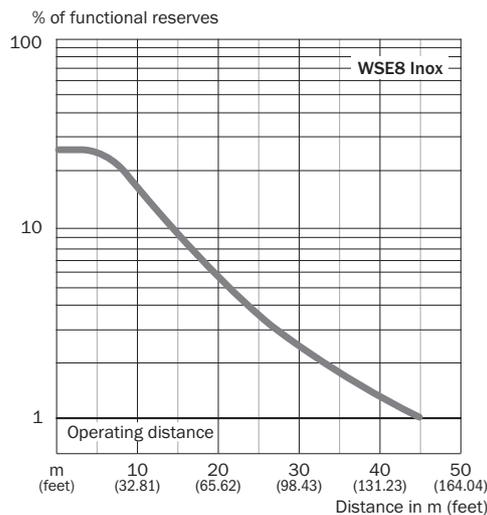
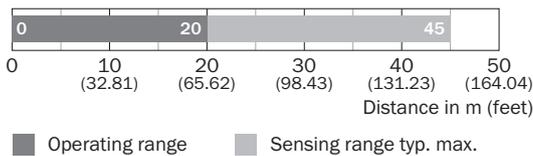
**Accessories**

- Round connectors
- Mounting systems
- Universal clamp system

Technical data		WSE8-	N1131V	N2131V	N2231V	N3331V	P1131V	P2131V	P2231V	P3331V
<b>Sensing range, typ. max.</b>	0 ... 45 m									
<b>Operating range, recommended</b>	0 ... 20 m									
Sensitivity setting	Potentiometer									
<b>Light sender, type of light</b>	LED, red light, 645 nm <sup>1)</sup>									
Light spot diameter	Approx. 900 mm at a distance of 20 m									
Aperture angle	Approx. 2.5°									
Receiving angle	Approx. 15°									
<b>Supply voltage V<sub>S</sub></b>	10 ... 30 V DC <sup>2)</sup>									
Residual ripple	± 10 % <sup>3)</sup>									
Power consumption, sender	≤ 15 mA <sup>4)</sup>									
Power consumption, receiver	≤ 20 mA									
<b>Switching outputs</b>	NPN: open collector: Q									
	PNP: open collector: Q									
PNP signal voltage (HIGH/LOW)	U <sub>V</sub> - 1.8 V/ approx. 0 V									
NPN signal voltage (HIGH/LOW)	Approx. U <sub>V</sub> < 1.8 V									
Operating mode	Light/dark with rotary switch									
Output current I <sub>A</sub> max.	100 mA									
Response time	≤ 0.5 ms <sup>5)</sup>									
Switching frequency	1,000 Hz <sup>6)</sup>									
<b>Connection type</b>	Cable, PVC, 2 m <sup>7)</sup>									
	Plug connection, M8, 3-pin									
	Plug connection, M8, 4-pin									
	Cable plug, 300 mm, M12, 4-pin									
<b>Protection class</b>	⊕									
<b>Protective circuits</b>	U <sub>V</sub> connections reverse polarity protected/ outputs reverse polarity protected (receivers only)/outputs overcurrent and short-circuit protected (receivers only)									
<b>Enclosure rating</b>	IP 66, IP 67, IP 68, IP 69K									
<b>Ambient temperature</b>	Operation -30 °C ... +60 °C <sup>8)</sup>									
	Warehouse -40 °C ... +70 °C <sup>8)</sup>									
<b>Weight (net)</b>	83.6 g									
<b>Housing material</b>	1.4404/316L									
<b>Included in delivery</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A									

1) Average service life 100,000 h at T<sub>A</sub> = +25 °C  
 2) Limit values, reverse polarity protected 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) Air humidity of 35 % ... 95 %

**Sensing range and functional reserves**



**Ordering information**

Model name	Part no.
WSE8-N1131V	6041485
WSE8-N2131V	6041486
WSE8-N2231V	6041487
WSE8-N3331V	6041488
WSE8-P1131V	6041489
WSE8-P2131V	6041490
WSE8-P2231V	6041491
WSE8-P3331V	6041492

# Round connectors

## Note

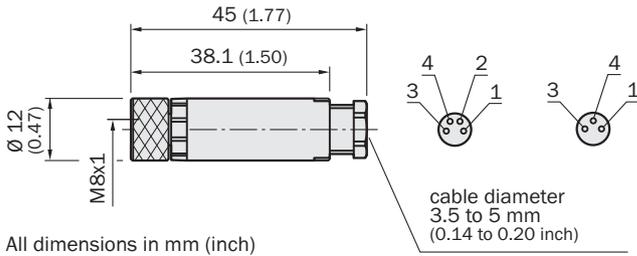
The accessories specified in the following are examples of what we have to offer in addition to the W8 Inox. Please contact your regional contact or go to [www.sick.com](http://www.sick.com) in the event of queries regarding round connectors, (special) reflectors, mounting systems or universal clamp systems.

## Dimensional drawings and ordering information

### Round connectors – with terminals

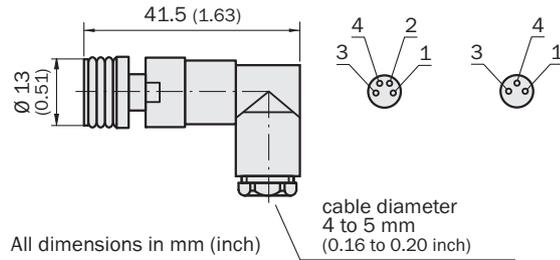
#### M8, 3 or 4-pin, straight, IP 67 enclosure rating \*

Model name	Part no.	Contacts
DOS-0803-G	7902077	3
DOS-0804-G	6009974	4



#### M8, 3 or 4-pin, angled, IP 67 enclosure rating \*

Model name	Part no.	Contacts
DOS-0803-W	7902078	3
DOS-0804-W	6009975	4



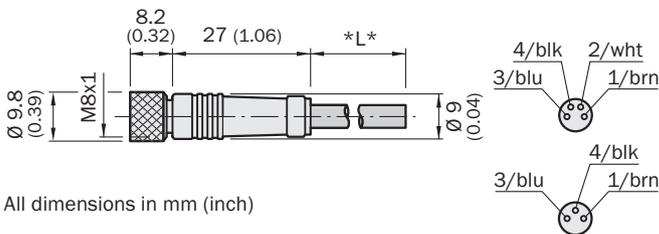
\* Max. tightening torque of 0.6 ... 0.8 Nm for M8

### Round connectors – PVR connecting cables

#### M8, 3 or 4-pin, straight, IP 67 enclosure rating

##### M8, 3 x 0.34 mm<sup>2</sup> or 4 x 0.25 mm<sup>2</sup> \*

Model name	Part no.	Contacts	Length of cable
DOL-0803-G02M	6010785	3	2 m
DOL-0803-G05M	6022009	3	5 m
DOL-0803-G10M	6022011	3	10 m
DOL-0804-G02M	6009870	4	2 m
DOL-0804-G05M	6009872	4	5 m
DOL-0804-G10M	6010754	4	10 m

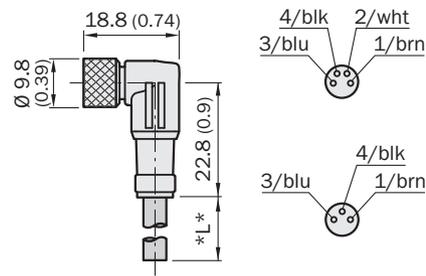


\* Max. tightening torque of 0.3 Nm for M8

#### M8, 3 or 4-pin, angled, IP 67 enclosure rating

##### M8, 3 x 0.34 mm<sup>2</sup> or 4 x 0.25 mm<sup>2</sup> \*

Model name	Part no.	Contacts	Length of cable
DOL-0803-W02M	6008489	3	2 m
DOL-0803-W05M	6022010	3	5 m
DOL-0803-W10M	6022012	3	10 m
DOL-0804-W02M	6009871	4	2 m
DOL-0804-W05M	6009873	4	5 m
DOL-0804-W10M	6010755	4	10 m

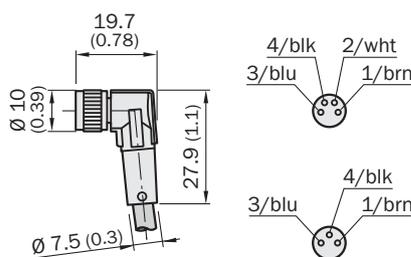
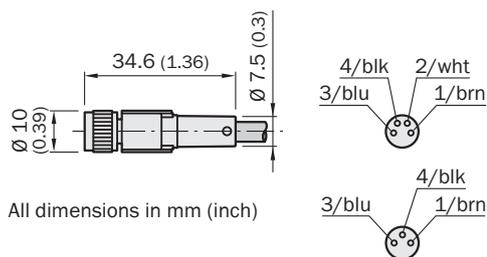


**Dimensional drawings and ordering information**

**Round connectors – PUR connecting cables**

M8, 3 or 4-pin, straight, IP 67 enclosure rating			
M8, 3/4 x 0.25 mm <sup>2</sup> *			
Model name	Part no.	Contacts	Length of cable
DOL-0803-G02MC	6025888	3	2 m
DOL-0803-G05MC	6025889	3	5 m
DOL-0803-G10MC	6025890	3	10 m
DOL-0804-G02MC	6025894	4	2 m
DOL-0804-G05MC	6025895	4	5 m
DOL-0804-G10MC	6025896	4	10 m

M8, 3 or 4-pin, angled, IP 67 enclosure rating			
M8, 3/4 x 0.25 mm <sup>2</sup> *			
Model name	Part no.	Contacts	Length of cable
DOL-0803-W02MC	6025891	3	2 m
DOL-0803-W05MC	6025892	3	5 m
DOL-0803-W10MC	6025893	3	10 m
DOL-0804-W02MC	6025897	4	2 m
DOL-0804-W05MC	6025898	4	5 m
DOL-0804-W10MC	6025899	4	10 m



\* Max. tightening torque of 0.2 Nm for M8

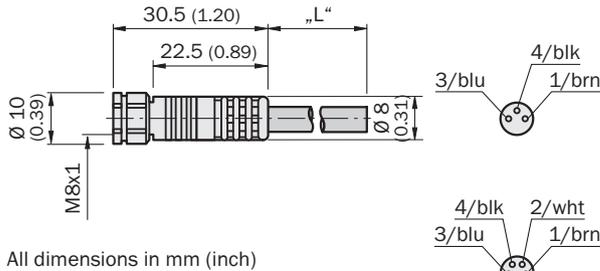
# Round connectors

## Dimensional drawings and ordering information

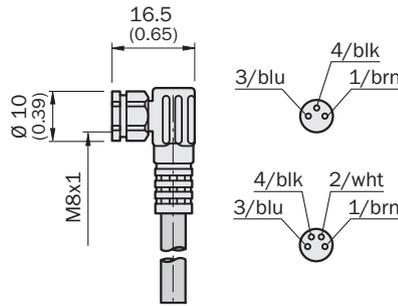
### Round connectors – “hygienic and wet zone” connecting cables

M8, 3 or 4-pin, straight, IP 69K enclosure rating			
M8, 3/4 x 0.34 mm <sup>2</sup> , PVC sheath, stainless steel nut (1.4404) *			
Model name	Part no.	Contacts	Length of cable
DOL-0803-G02MN	6033664	3	2 m
DOL-0803-G05MN	6033665	3	5 m
DOL-0803-G10MN	6033666	3	10 m
DOL-0804-G02MN	6033670	4	2 m
DOL-0804-G05MN	6033671	4	5 m
DOL-0804-G10MN	6033672	4	10 m

M8, 3 or 4-pin, angled, IP 69K enclosure rating			
M8, 3/4 x 0.34 mm <sup>2</sup> , PVC sheath, stainless steel nut (1.4404) *			
Model name	Part no.	Contacts	Length of cable
DOL-0803-W02MN	6033667	3	2 m
DOL-0803-W05MN	6033668	3	5 m
DOL-0803-W10MN	6033669	3	10 m
DOL-0804-W02MN	6033673	4	2 m
DOL-0804-W05MN	6033674	4	5 m
DOL-0804-W10MN	6033675	4	10 m



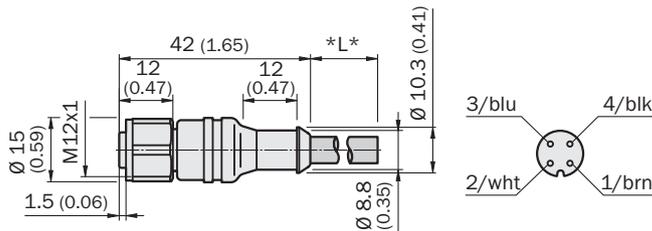
All dimensions in mm (inch)



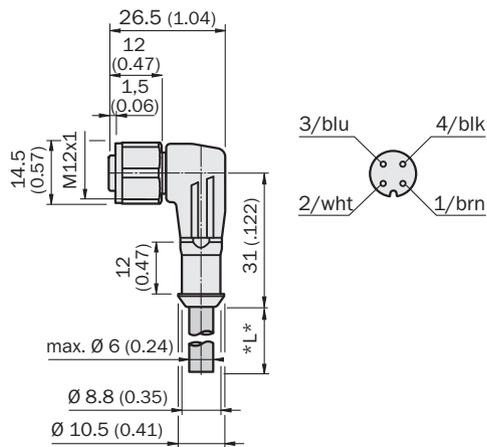
All dimensions in mm (inch)

M12, 4-pin, straight, IP 69K enclosure rating			
M12, 4 x 0.25 mm <sup>2</sup> , PVC sheath, stainless steel nut (1.4404) *			
Model name	Part no.	Contacts	Length of cable
DOL-1204-G02MN	6028128	4	2 m
DOL-1204-G05MN	6028130	4	5 m
DOL-1204-G10MN	6028132	4	10 m
DOL-1204-G25MN	6028134	4	25 m

M12, 4-pin, angled, IP 69K enclosure rating			
M12, 4 x 0.25 mm <sup>2</sup> , PVC sheath, stainless steel nut (1.4404) *			
Model name	Part no.	Contacts	Length of cable
DOL-1204-W02MN	6028129	4	2 m
DOL-1204-W05MN	6028131	4	5 m
DOL-1204-W10MN	6028133	4	10 m
DOL-1204-W25MN	6028135	4	25 m



All dimensions in mm (inch)



All dimensions in mm (inch)

\* Max. tightening torque of 0.6 Nm for M8 and 0.7 Nm for M12

Dimensional drawings and ordering information

Round connectors – “hygienic and wet zone” connection cables

**M12, 4-pin, straight, IP 69K enclosure rating**

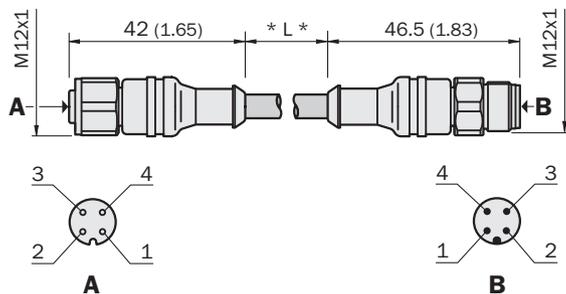
**M12, 4 x 0.25 mm<sup>2</sup>, PVC sheath, stainless steel nut (1.4404) \***

Model name	Part no.	Contacts	Length of cable
DSL-1204-G0M6N	6028194	4	0.6 m
DSL-1204-G0M2N	6028195	4	2 m
DSL-1204-G0M5N	6028196	4	5 m

**M12, 4-pin, angled, IP 69K enclosure rating**

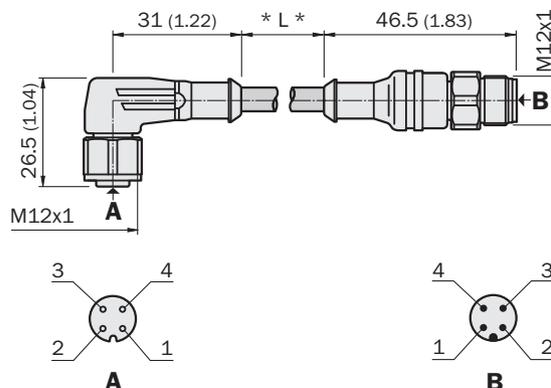
**M12, 4 x 0.25 mm<sup>2</sup>, PVC sheath, stainless steel nut (1.4404) \***

Model name	Part no.	Contacts	Length of cable
DSL-1204-B0M6N	6028197	4	0.6 m
DSL-1204-B0M2N	6028198	4	2 m
DSL-1204-B0M5N	6028199	4	5 m



All dimensions in mm (inch)

\* Max. tightening torque of 0.7 Nm for M12



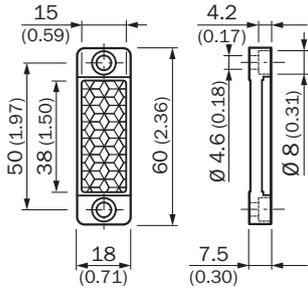
All dimensions in mm (inch)

## Dimensional drawings and ordering information

### Reflectors, plastic version for temperatures up to +65 °C, screwable

#### Reflector 20 x 40 mm

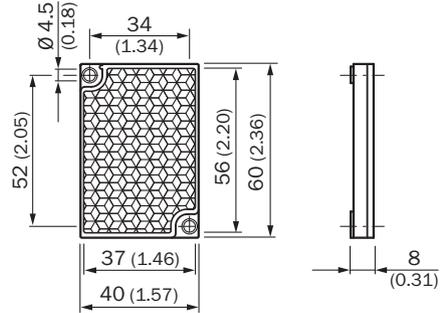
Model name	Part no.
PL20A	1012719



All dimensions in mm (inch)

#### Reflector 40 x 60 mm

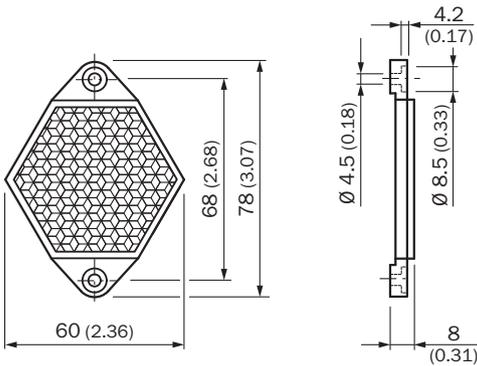
Model name	Part no.
PL40A	1012720



All dimensions in mm (inch)

#### Reflector, 6-sided, 48 mm width across flats, screwable

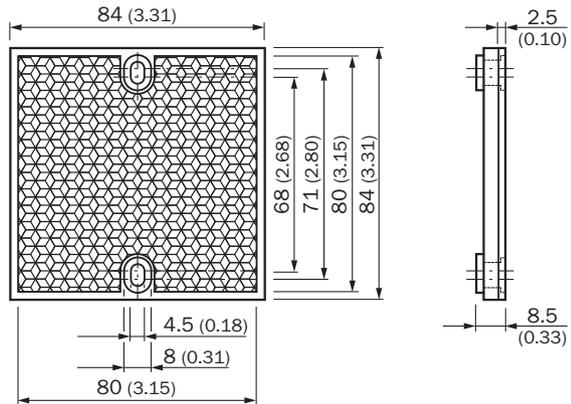
Model name	Part no.
PL50A	1000132



All dimensions in mm (inch)

#### Reflector 80 x 80 mm

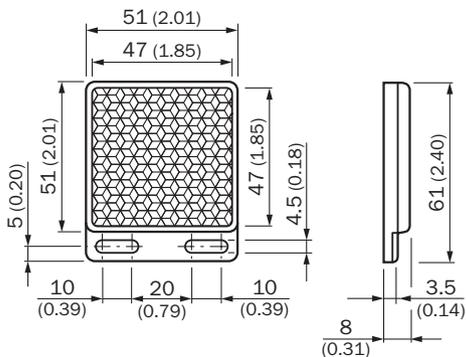
Model name	Part no.
PL80A	1003865



All dimensions in mm (inch)

#### Reflector 47 x 47 mm

Model name	Part no.	Applications
P250 *	5304812	Standard



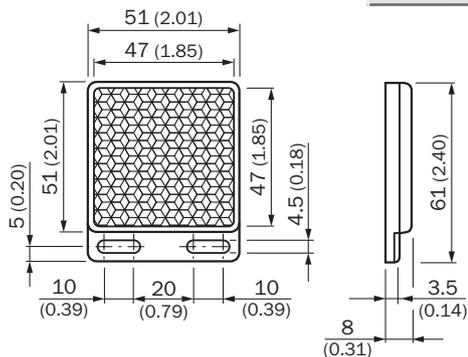
\* Included in delivery All dimensions in mm (inch)

Dimensional drawings and ordering information

Special reflectors, chemically and/or temperature resistant, screwable

Reflector 47 x 47 mm

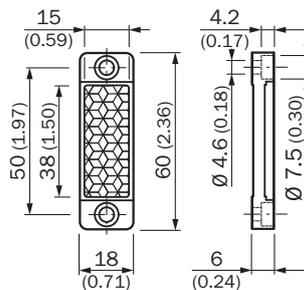
Model name	Part no.	Applications
P250H	5315124	Temperature-resistant up to +110 °C
P250CHEM	5321097	Increased chemical resistance, -20 °C ... +140 °C



All dimensions in mm (inch)

Reflector 15 x 38 mm

Model name	Part no.	Applications
PL20CHEM	5321089	Increased chemical resistance, -20 °C ... +140 °C

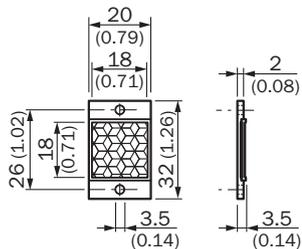


All dimensions in mm (inch)

Reflector, fine triple, chemically resistant, screwable

Reflector 18 x 18 mm

Model name	Part no.
PL10F-CHEM	5321636

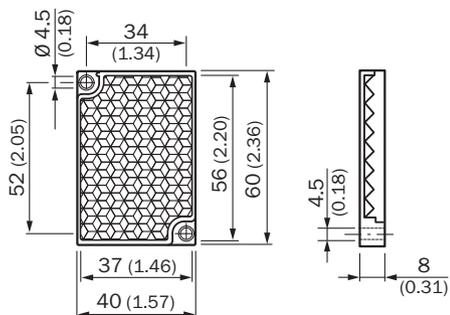


All dimensions in mm (inch)

Reflector, antifog, for prevention of moisture fogging on the reflection surface, screwable

Reflector 37 x 56 mm

Model name	Part no.
PL40 antifog	5322011



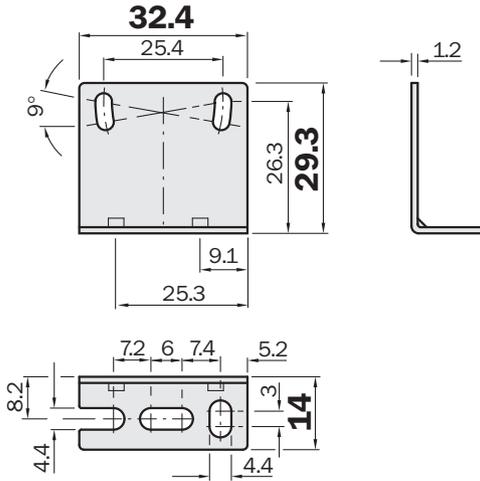
All dimensions in mm (inch)

## Dimensional drawings and ordering information

### Mounting systems

#### Mounting bracket, wall mounting of stainless steel for W8 Inox \*)

Model name	Part no.
BEF-W100-A	5311520

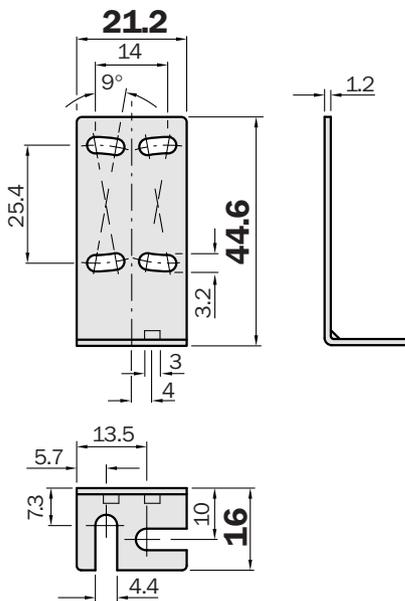


All dimensions in mm

\*) Included in delivery of W8 Inox standard models

#### Mounting bracket, floor mounting of stainless steel for W8 Inox

Model name	Part no.
BEF-W100-B	5311521



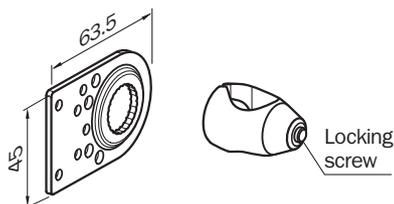
All dimensions in mm

**Dimensional drawings and ordering information**

**Universal clamp system**

**N08N plate for universal clamp, stainless steel plate (1.4571) and stainless steel clamp (1.4408)**

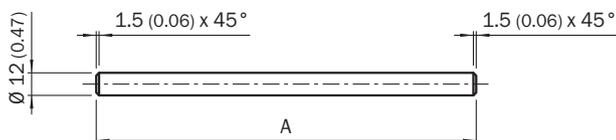
Model name	Part no.
BEF-KHS-N08N	2051616



All dimensions in mm

**Mounting rod, straight, stainless steel (1.4571)**

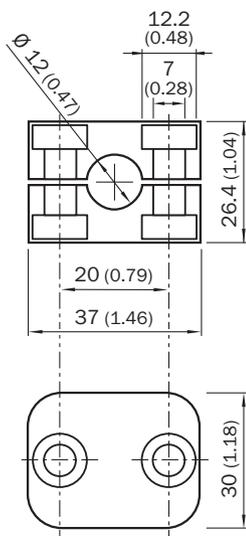
Model name	Part no.	A
BEF-MS12G-NA	4058914	200 mm
BEF-MS12G-NB	4058915	300 mm



All dimensions in mm (inch)

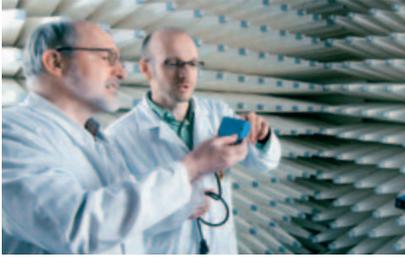
**Rod mounting clamping block, aluminum, 2 x screws (M6 x 30), 2 x spring-discs**

Model name	Part no.
BEF-RMC-D12	5321878



All dimensions in mm

## SICK at a glance



### Leading technologies

With a staff of more than 5,000 and over 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



### Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



### Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal [www.mysick.com](http://www.mysick.com) – price and availability of products, requests for quotation and online orders

Worldwide presence with subsidiaries in the following countries:

Australia  
Belgium/Luxembourg  
Brasil  
Česká Republika  
Canada  
China  
Danmark  
Deutschland  
España  
France  
Great Britain  
India  
Israel  
Italia  
Japan

México  
Nederland  
Norge  
Österreich  
Polska  
România  
Russia  
Schweiz  
Singapore  
Slovenija  
South Africa  
South Korea  
Suomi  
Sverige  
Taiwan  
Türkiye  
United Arab Emirates  
USA

Please find detailed addresses and additional representatives and agencies in all major industrial nations at [www.sick.com](http://www.sick.com)