

WL8G-P2231 W8G

**PHOTOELECTRIC SENSORS** 



# PHOTOELECTRIC SENSORS



# Ordering information

Туре	part no.
WL8G-P2231	6033188

Included in delivery: BEF-W100-A (1), P250F (1)
Other models and accessories → www.sick.com/W8G

Illustration may differ



#### Detailed technical data

#### **Features**

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m 3 m <sup>1)</sup>
Sensing range	0 1.7 m <sup>1)</sup>
Type of light	Visible red light
Light source	LED <sup>2)</sup>
Light spot size (distance)	Ø 70 mm (2 m)
Wave length	650 nm
Adjustment	Potentiometer, 270°
Special feature	Detecting transparent objects
Special applications	Detecting transparent objects

<sup>&</sup>lt;sup>1)</sup> Reflector PL80A.

 $<sup>^{2)}</sup>$  Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

Supply voltage $\mathbf{U}_{\mathrm{B}}$	10 V DC 30 V DC <sup>1)</sup>
Ripple	± 10 % <sup>2)</sup>
Current consumption	30 mA <sup>3)</sup>
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	Approx. V <sub>S</sub> - 1.8 V / 0 V
Output current I <sub>max.</sub>	≤ 100 mA
Response time	$\leq$ 0.5 ms $^{4)}$
Switching frequency	1,000 Hz <sup>5)</sup>
Attenuation along light beam	≤ 20 %
Connection type	Male connector M8, 4-pin
Circuit protection	A <sup>6)</sup> B <sup>7)</sup> D <sup>8)</sup>
Weight	10 g
Polarizing filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector P250F
Special feature	Detecting transparent objects
Ambient operating temperature	-25 °C +55 °C
Ambient temperature, storage	-40 °C +70 °C

 $<sup>^{1)}\,\</sup>mathrm{Limit}$  values when operated in short-circuit protected network: max. 8 A.

### Safety-related parameters

MTTF <sub>D</sub>	1,431 years
DC <sub>avg</sub>	0 %

#### Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

 $<sup>^{2)}</sup>$  May not fall below or exceed  $\mathrm{U}_{\mathrm{V}}$  tolerances.

<sup>&</sup>lt;sup>3)</sup> Without load.

 $<sup>^{4)}</sup>$  Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

 $<sup>^{6)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

 $<sup>^{7)}</sup>$  B = inputs and output reverse-polarity protected.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

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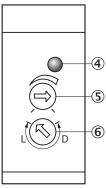
### PHOTOELECTRIC SENSORS

Photobiological safety (DIN EN 62471) cer-	✓
tificate	

### Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

# Adjustments

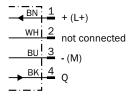


- $\ensuremath{\textcircled{4}}$  Orange LED indicator : switching output active
- ⑤ sensitivity control
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

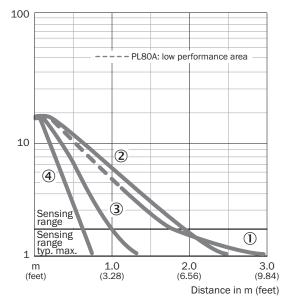
### Connection type



### Connection diagram Cd-066



#### Characteristic curve WL8G



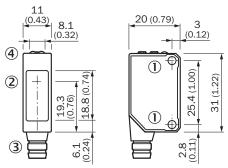
- ① Reflector PL80A
- ② Reflector P250F
- 3 Reflector PL20F
- PL10F reflector

### Sensing range diagram WL8G



- Sensing range
- Sensing range typ. max.
- ① Reflector PL80A
- ② Reflector P250F
- 3 Reflector PL20F
- 4 PL10F reflector

### **Dimensional drawing**



Dimensions in mm (inch)

- ① Threaded mounting hole M3, max. tightening torque: 0.6 Nm
- ② Center of optical axis
- 3 Connection
- ④ Orange LED indicator: switching output active

#### Recommended accessories

Other models and accessories → www.sick.com/W8G

	Brief description	Туре	part no.	
Mounting sys	Mounting systems			
3 A 10	<ul> <li>Description: Universal mounting bracket for reflectors</li> <li>Dimensions (W x H x L): 85 mm x 90 mm x 35 mm</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574	
0,0	<ul> <li>Description: Mounting bracket for wall mounting</li> <li>Material: Stainless steel</li> <li>Details: Stainless steel</li> <li>Items supplied: Mounting hardware included</li> <li>Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S</li> </ul>	BEF-W100-A	5311520	
6	<ul> <li>Description: Plate N08 for universal clamp bracket</li> <li>Material: Steel, zinc diecast</li> <li>Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li>Items supplied: Universal clamp (5322626), mounting hardware</li> <li>Usable for: W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8</li> </ul>	BEF-KHS-N08	2051607	
6	<ul> <li>Description: Plate N11N for universal clamp bracket</li> <li>Material: Stainless steel</li> <li>Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li>Items supplied: Universal clamp (5322627), mounting hardware</li> <li>Usable for: DeltaPac, Glare, WTD20E</li> </ul>	BEF-KHS-N11N	2071081	

	Brief description	Туре	part no.
reflectors and	optics		
	<ul> <li>Description: Fine triple reflector, screw connection, suitable for laser sensors</li> <li>Dimensions: 52 mm 62 mm</li> <li>Ambient operating temperature: -30 °C +65 °C</li> </ul>	P250F	5308843
connectors ar	nd cables		
	<ul> <li>Connection type head A: Male connector, M8, 4-pin, straight, A-coded</li> <li>Description: Unshielded</li> <li>Connection systems: Screw-type terminals</li> <li>Permitted cross-section: 0.14 mm² 0.5 mm²</li> </ul>	STE-0804-G	6037323
	<ul> <li>Connection type head A: Female connector, M8, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PVC</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with chemicals, Uncontaminated zones</li> </ul>	YF8U14-050VA3XLEAX	2095889
1	Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-050UA3XLEAX	2094792

# SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

