WL8G-P2231

W8G

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WL8G-P2231 | W8G
MINIATURE PHOTOELECTRIC SENSORS

Ordering information

Type	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 [1]
Sensing range	0 ... 1.7 m [1]
Type of light	Visible red light
Light source	LED [2]
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

[1] Reflector PL80A.
[2] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	± 10 % [2]

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not fall below or exceed U_V tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] A = V_S connections reverse-polarity protected.
[7] B = inputs and output reverse-polarity protected.
[8] D = outputs overcurrent and short-circuit protected.

Current consumption	30 mA [3]
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	Approx. V_S – 1.8 V / 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Attenuation along light beam	≤ 20 %
Connection type	Male connector M8, 4-pin
Circuit protection	A [6] B [7] D [8]
Weight	10 g
Polarisation 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

[1] Limit values when operated in short-circuit protected network: max. 8 A.

[2] May not fall below or exceed U_V tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] A = V_S connections reverse-polarity protected.

[7] B = inputs and output reverse-polarity protected.

[8] D = outputs overcurrent and short-circuit protected.

Safety-related parameters

$MTTF_D$	1,431 years
DC_{avg}	0 %

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

Dimensional drawing (Dimensions in mm (inch))
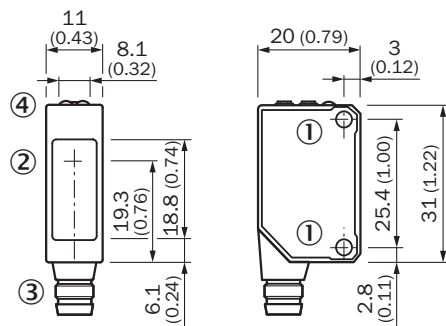
① Threaded mounting hole M3, max. tightening torque: 0.6 Nm
② Center of optical axis
③ Connection
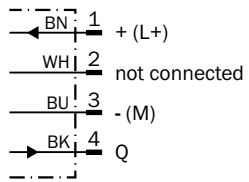④ Orange LED indicator : switching output active

Adjustments
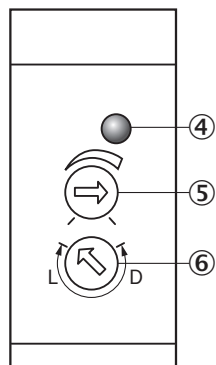
④ Orange LED indicator : switching output active
⑤ Sensitivity control
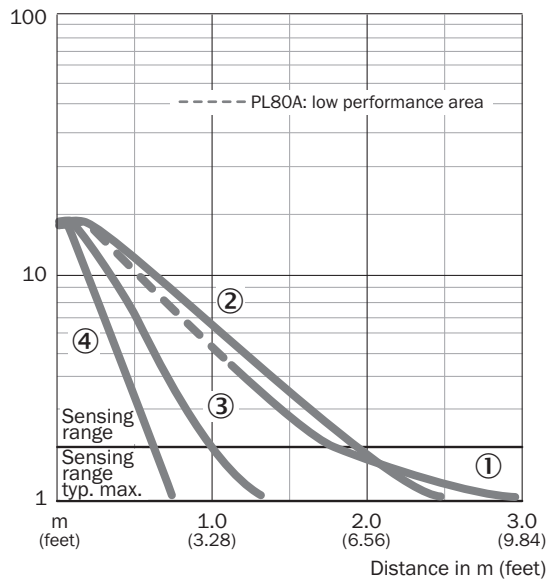⑥ Light/ dark rotary switch: L = light switching, D = dark switching

Connection type
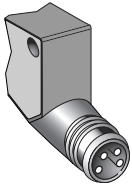
Connection diagram

Cd-066

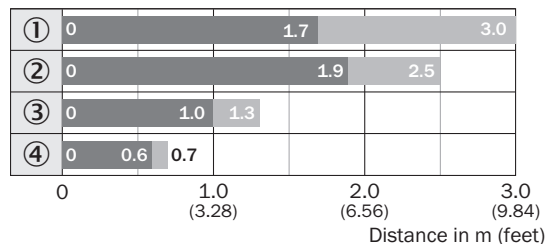|		
BN	1	+ (L+)
WH	2	not connected
BU	3	- (M)
BK	4	Q

Characteristic curve

WL8G

① Reflector PL80A
② Reflector P250F
③ Reflector PL20F
④ PL10F reflector

Sensing range diagram

WL8G

① 0	1.7	3.0	
② 0	1.9	2.5	
③ 0	1.0	1.3	
④ 0	0.6	0.7	

| 0 | 1.0 (3.28) | 2.0 (6.56) | 3.0 (9.84) |

Distance in m (feet)

■ Sensing range   ■ Sensing range typ. max.

① Reflector PL80A
② Reflector P250F
③ Reflector PL20F
④ PL10F reflector

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Reflectors			
	Fine triple reflector, screw connection, suitable for laser sensors, 52 mm x 62 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250F	5308843
Others			
	• **Connection type head A:** Male connector, M8, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323
	• **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, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals	YF8U14-050VA3XLEAX	2095889

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."

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