

WL100-2N1439

W100-2

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.	
WL100-2N1439	6052357	

Included in delivery: P250 (1), BEF-W100-A (1)

Other models and accessories → www.sick.com/W100-2

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.01 m 7.2 m ¹⁾
Sensing range	0.01 m 5.5 m ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 280 mm (4 m)
Wave length	632 nm
Adjustment	Potentiometer (Sensitivity)

¹⁾ Reflector PL80A.

 $^{^{2)}}$ Average service life: 100,000 h at $\rm T_U$ = +25 $^{\circ}\rm C.$

Mechanics/electronics

Supply voltage U _B	10 V DC 30 V DC ¹⁾	
Ripple	± 10 % ²⁾	
Current consumption	30 mA ³⁾	
Switching output	NPN	
Switching mode	Light/dark switching	
Switching mode selector	Selectable via light/dark rotary switch	
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V	
Output current I _{max} .	≤ 100 mA	
Response time	≤ 0.5 ms ⁴⁾	
Switching frequency	1,000 Hz ⁵⁾	
Connection type	Cable, 3-wire, 2 m ⁶⁾	
Cable material	Plastic, PVC	
Conductor cross section	0.18 mm ²	
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾	
Protection class	III	
Polarisation filter	✓	
Housing material	Plastic, ABS/PC/POM	
Optics material	Plastic, PMMA	
Enclosure rating	IP67	
Items supplied	Mounting bracket BEF-W100-A, Reflector P250	
Ambient operating temperature	-25 °C +55 °C	
Ambient temperature, storage	-40 °C +70 °C	

¹⁾ Limit values.

Safety-related parameters

MTTF _D	954 years
DC _{avg}	0 %

Certificates

EU declaration of conformity	✓
UK declaration of conformity	1
ACMA declaration of conformity	1
Moroccan declaration of conformity	✓

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.

 $^{^{6)}}$ Do not bend below 0 °C.

 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

⁸⁾ B = output reverse-polarity protected.

⁹⁾ D = outputs overcurrent and short-circuit protected.

WL100-2N1439 | W100-2

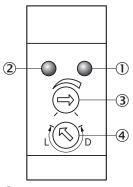
PHOTOELECTRIC SENSORS

China RoHS	✓
cRUus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0 27270902 ECLASS 5.1.4 27270902 ECLASS 6.0 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 W100-2



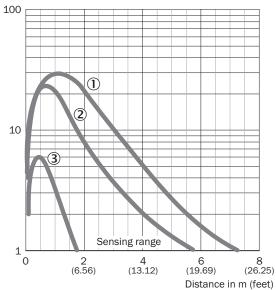
- ① LED indicator orange: switching output active
- ② LED indicator green: power on
- ③ Sensing range adjustment: potentiometer
- 4 Light/ dark rotary switch: L = light switching, D = dark switching

Connection diagram Cd-043



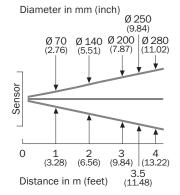
Characteristic curve WL100-2

Function reserve



- ① Reflector PL80A
- ② Reflector P250
- ③ Diamond Grade reflective tape, 100 mm x 100 mm

Light spot size



Sensing range diagram WL100-2

1	0.01*			5.5	7.2	
2	0.01*		4.0	5.7		
3	0.01*		4.0	5.5		
4	0.01*	3.0		5.2		
(5)	0.01* 1.	6 2.2				
6	0.1* 1.2	1.7				
7	0.01* 1.2	1.7				
(.76) (19	.0 7.5 .67) (24.6 ice in m (fe	31

Sensing range max.

*Close-up range at maximum sensitivity

① Reflector PL80A

② Reflector P250

Sensing range

3 Reflector PL50A, PL40A

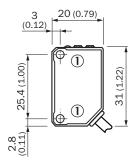
4 Reflector PL30A, PL31A

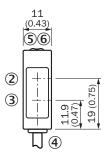
⑤ Reflector PL20A

6 Reflective tape Diamond Grade

⑦ P45

Dimensional drawing





Dimensions in mm (inch)

- ① Threaded mounting hole M3
- ② Center of optical axis, receiver
- 3 Center of optical axis, sender
- 4 Connection
- 6 LED indicator green: power on

Recommended accessories

Other models and accessories → www.sick.com/W100-2

	Brief description	Туре	part no.				
connectors and cables							
	 Connection type head A: Male connector, M8, 3-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² 0.5 mm² 	STE-0803-G	6037322				
Mounting sys	Mounting systems						
0,0	 Description: Mounting bracket for wall mounting Material: Stainless steel Details: Stainless steel Items supplied: Mounting hardware included Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S 	BEF-W100-A	5311520				
	 Description: Mounting bracket for floor mounting Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM 	BEF-W100-B	5311521				
0 A 10 A	 Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A 	BEF-WN-REFX	2064574				
reflectors and optics							
	 Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C +65 °C 	P250	5304812				

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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.

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For us, that is "Sensor Intelligence."

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