WL100-P3430

W100

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WL100-P3430	6026061

Other models and accessories ➜ www.sick.com/W100

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Dual lens
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 ... 6 m [1]
Sensing range	0.01 m ... 5 m [1]
Focus	Approx. 4 °
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 250 mm (3.5 m)
Angle of dispersion	Approx. 4 °
Wave length	680 nm
Adjustment	Potentiometer, 270 °

[1] Reflector PL80A.

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	± 10 % [2]
Current consumption	30 mA [3]

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

[2] May not exceed or fall below 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.

Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	U_V - 1,8 V / ca. 0 V
Output current I$_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Connection type	Connector M8, 3-pin
Circuit protection	A [6] B [7] D [8]
Weight	9 g
Polarisation filter	✓
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP65
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 exceed or fall below 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$_D$	1,042 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

Connection type
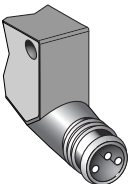
Connection diagram Cd-045

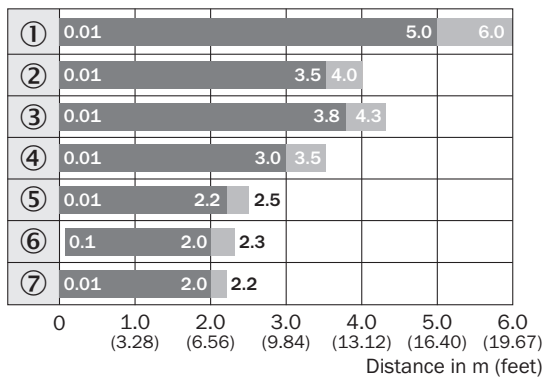|		
BN	1	+ (L+)
BU	3	- (M)
BK	4	Q
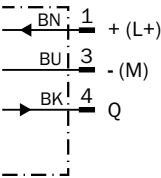
Characteristic curve WL100, 6 m
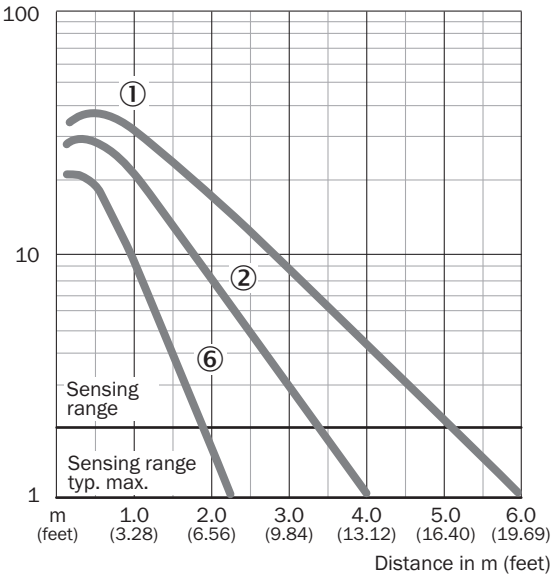
① Reflector PL80A
② Reflector P250
⑥ Reflective tape Diamond Grade

Sensing range diagram WL100, 6 m

① 0.01					5.0	6.0
② 0.01			3.5	4.0		
③ 0.01			3.8	4.3		
④ 0.01		3.0	3.5			
⑤ 0.01	2.2	2.5				
⑥ 0.1	2.0	2.3				
⑦ 0.01	2.0	2.2				

```
0       1.0      2.0      3.0      4.0      5.0      6.0
      (3.28)   (6.56)   (9.84)  (13.12)  (16.40)  (19.67)
                              Distance in m (feet)
```

■ Sensing range   ■ Sensing range max.

① Reflector PL80A
② Reflector P250
③ Reflector PL50A, PL40A
④ Reflector PL30A, PL31A
⑤ Reflector PL20A
⑥ Reflective tape Diamond Grade
⑦ P45

Adjustments W100-2
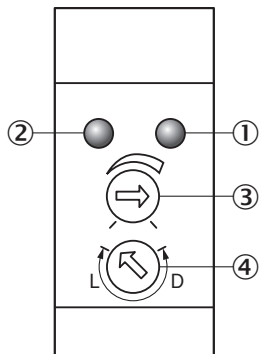
① LED indicator orange: switching output active
② LED indicator green: power on
③ Sensing range adjustment: potentiometer
④ Light/ dark rotary switch: L = light switching, D = dark switching

Dimensional drawing WT100, WL100
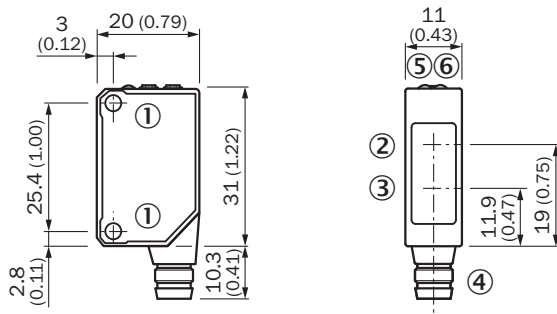
Dimensions in mm (inch)
① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection
⑤ LED indicator orange: switching output active
⑥ LED indicator green: power on

Recommended accessories

Other models and accessories ➜ www.sick.com/W100

	Brief description	Type	part no.
reflectors and optics			
	• **Description:** Rectangular, screw connection • **Dimensions:** 51 mm 61 mm • **Ambient operating temperature:** −30 °C … +65 °C	P250	5304812
Mounting systems			
	• **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
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
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF8U13-050VA1XLEAX	2095884

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**

SICK AG | Waldkirch | Germany | www.sick.com

SICK
Sensor Intelligence.