



WL100-P1422

W100

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WL100-P1422	6027658

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 ... 3 m ¹⁾
Sensing range	0.01 m ... 2.6 m ¹⁾
Focus	Approx. 4°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 200 mm (2 m)
Angle of dispersion	Approx. 4°
Wave length	680 nm
Adjustment	Potentiometer, 270°
Special feature	Detecting transparent objects

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⁾
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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⁾ Do not bend below 0 °C.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

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

Ripple	± 10 % ²⁾
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	$U_V - 1,8 \text{ V} / \text{ca. } 0 \text{ V}$
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	Cable, 3-wire, 2 m ⁶⁾
Cable material	PVC
Conductor cross section	0.18 mm ²
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Weight	53 g
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP65
Special feature	Detecting transparent objects
Ambient operating temperature	-25 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C

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Safety-related parameters

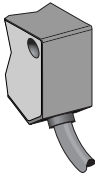
MTTF_D	1,043 years
DC_{avg}	0 %

Classifications

eCl@ss 5.0	27270902
eCl@ss 5.1.4	27270902
eCl@ss 6.0	27270902
eCl@ss 6.2	27270902
eCl@ss 7.0	27270902
eCl@ss 8.0	27270902

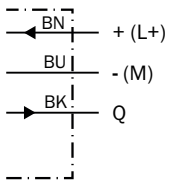
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eCl@ss 9.0	27270902
eCl@ss 10.0	27270902
eCl@ss 11.0	27270902
eCl@ss 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Connection type



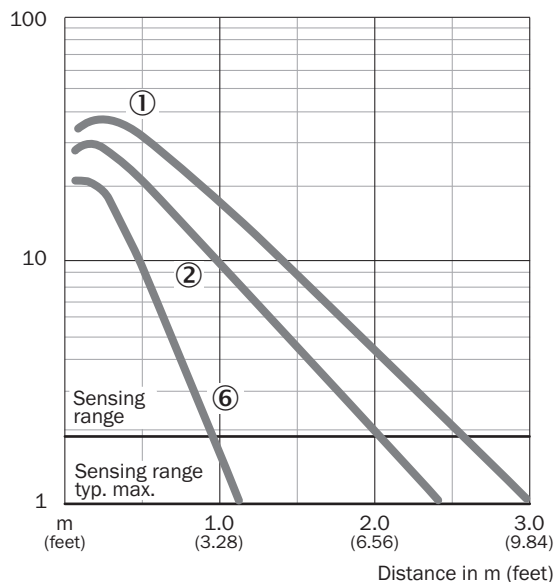
Connection diagram

Cd-043



Characteristic curve

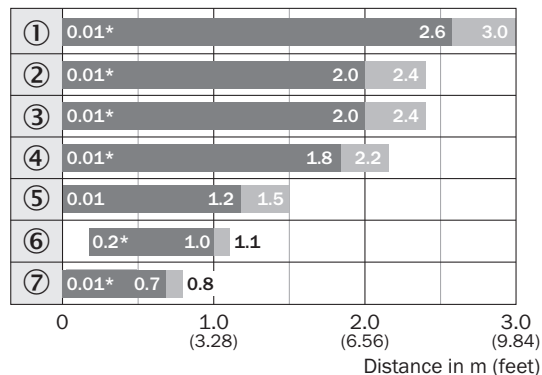
WL100, 3 m



- ① Reflector PL80A
- ② Reflector P250
- ⑥ Reflective tape Diamond Grade

Sensing range diagram

WL100, 3 m



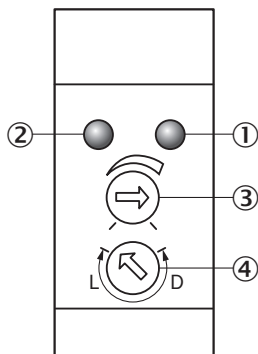
■ Sensing range ■ Sensing range max.

*Close-up range at maximum sensitivity

- 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

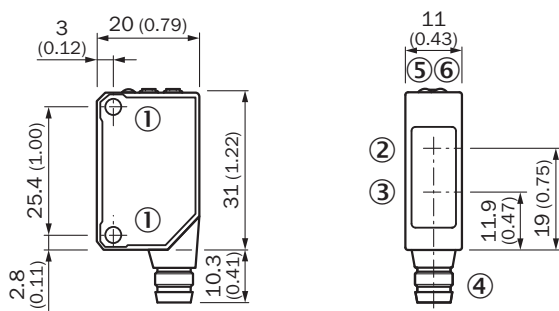
W100-2



- 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 (Dimensions in mm (inch))


WT100, WL100





- 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.
Mounting brackets and plates			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M8, 3-pin, straight Cable: unshielded	STE-0803-G	6037322
Reflectors			
	Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812

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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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