Product data sheet

WT100L-E2241

W100 Laser

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WT100L-E2241	6030707

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

Other models and accessories → www.sick.com/W100_Laser

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 mm ... 450 mm [1]
Sensing range	0 mm ... 400 mm
Type of light	Visible red light
Light source	Laser [2]
Light spot size (distance)	Ø 2 mm (400 mm)
Wave length	650 nm
Laser class	1
Adjustment	Potentiometer, 270°
Special applications	Detecting small objects, Detection of objects moving at high speeds

[1] Object with 90% remission (based on standard white, DIN 5033).
[2] Average service life: 50,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	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 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.

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	< 0.25 ms [4]
Switching frequency	2,000 Hz [5]
Connection type	Male connector M8, 4-pin
Circuit protection	A [6] B [7] D [8]
Weight	10 g
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP65
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient operating temperature	–10 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +70 °C

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[5] With light/dark ratio 1:1.
[6] A = V_S connections reverse-polarity protected.
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Safety-related parameters

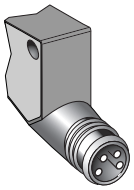
$MTTF_D$	453 years
DC_{avg}	0 %

Classifications

eCl@ss 5.0	27270903
eCl@ss 5.1.4	27270903
eCl@ss 6.0	27270903
eCl@ss 6.2	27270903
eCl@ss 7.0	27270903
eCl@ss 8.0	27270903
eCl@ss 8.1	27270903
eCl@ss 9.0	27270903
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903

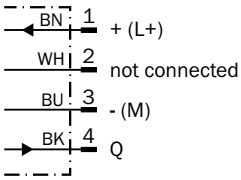
ETIM 5.0	EC001821
ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection type



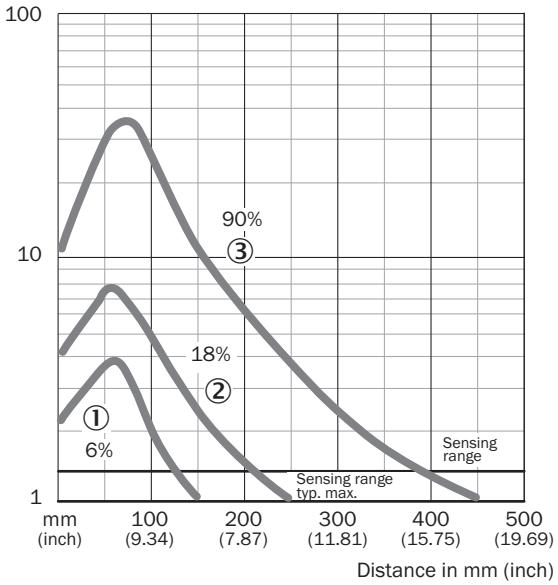
Connection diagram

Cd-066



Characteristic curve

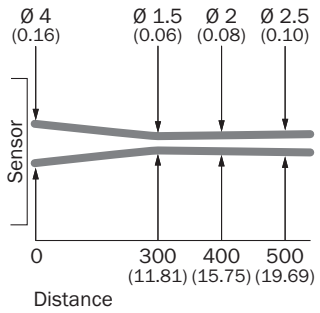
WT100L



① Sensing range on black, 6% remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90% remission

Light spot size

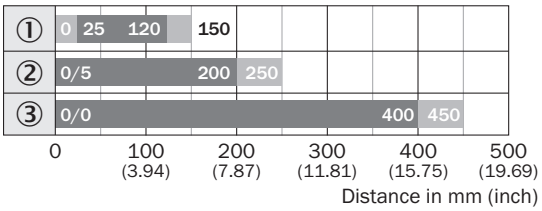
WT100L



All dimensions in mm (inch)

Sensing range diagram

WT100L



① Sensing range on black, 6% remission
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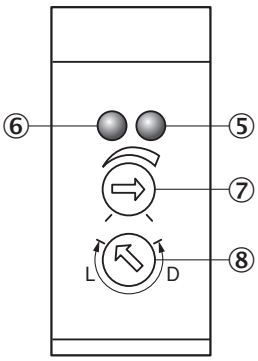
③ Sensing range on white, 90% remission

Adjustments

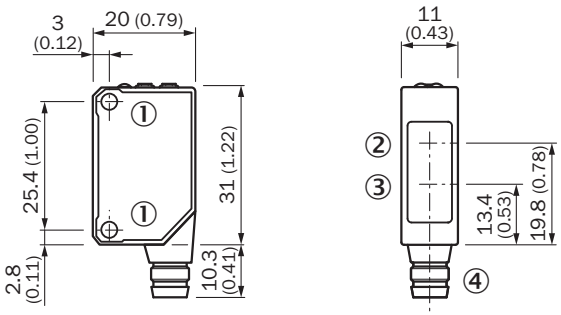
WT100L, WL100L



⑤ Orange LED indicator : switching output active
⑥ LED indicator green: power on
⑦ Sensing range (WT) / sensitivity (WL) adjustment: potentiometer, 270°
⑧ Light/ dark rotary switch: L = light switching, D = dark switching

Dimensional drawing (Dimensions in mm (inch))

WT100L, WL100L



① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/W100_Laser

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: female connector, M8, 4-pin, straight Cable: unshielded	DOS-0804-G	6009974

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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