WL100L-F2131S06

W100 Laser

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WL100L-F2131S06 | W100 Laser

PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	part no.
WL100L-F2131S06	6073189

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

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.	0.08 m ... 12 m [1]
Sensing range	0.08 m ... 10 m [1]
Type of light	Visible red light
Light source	Laser [2]
Wave length	650 nm
Laser class	1
Adjustment	Potentiometer, 270 °
Special applications	Detecting small objects, Detection of objects moving at high speeds

[1] Reflector P250F.

[2] Average service life: 50,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC … 30 V DC [1]
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 V / ca. 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	< 0.25 ms [4]
Switching frequency	2,000 Hz [5]
Connection type	Cable with connector M8, 3-pin, 200 mm [6]
Circuit protection	A [7] B [8] D [9]
Weight	10 g
Polarisation filter	✓
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP65
Ambient operating temperature	−10 °C … +50 °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] 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.

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓
Laser safety (IEC 60825-1) certificate	✓

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	27270901
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments WT100L, WL100L
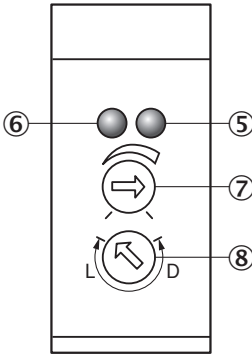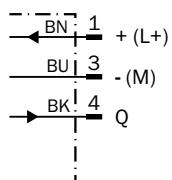
⑤ Orange LED indicator : switching output active
⑥ LED indicator green: power on
⑦ Sensing range (WT) / sensitivity (WL) adjustment: potentiometer, 270°
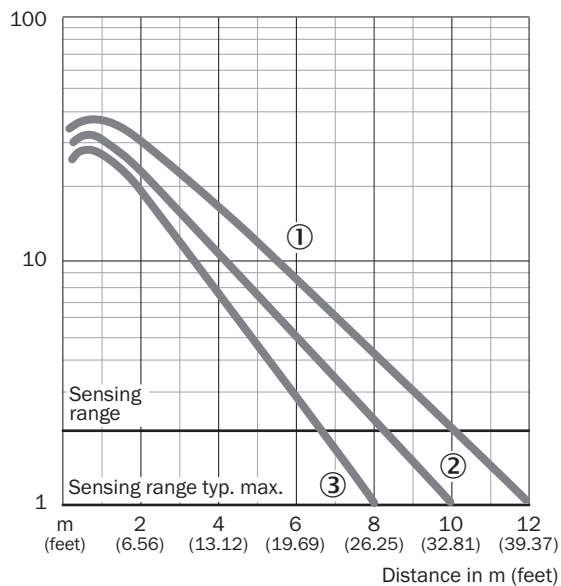⑧ Light/ dark rotary switch: L = light switching, D = dark switching

Connection type
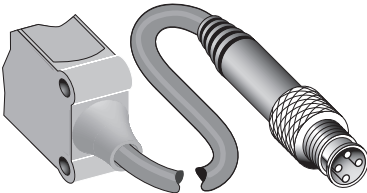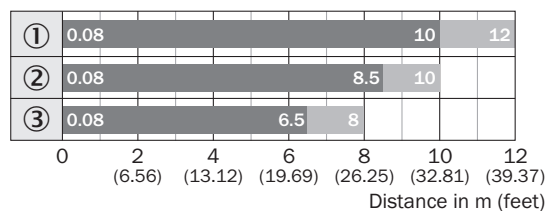
Connection diagram Cd-045

```
BN   1   + (L+)
BU   3   - (M)
BK   4   Q
```

Characteristic curve WL100L

```
100

 10

Sensing
range

  1                Sensing range typ. max.
     m      2      4      6      8      10     12
   (feet) (6.56)(13.12)(19.69)(26.25)(32.81)(39.37)
                Distance in m (feet)
```

① Reflector P250F
② Reflector PL20F
③ PL10F reflector

Sensing range diagram WL100L

```
①  0.08              10   12
②  0.08           8.5  10
③  0.08        6.5  8
   0     2      4      6      8      10     12
       (6.56)(13.12)(19.69)(26.25)(32.81)(39.37)
                Distance in m (feet)
```
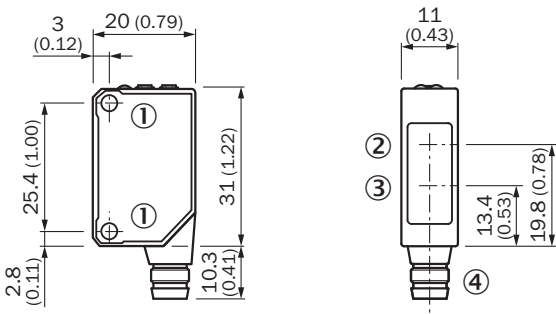
■ Sensing range   ■ Sensing range max.
① Reflector P250F
② Reflector PL20F
③ PL10F reflector

Dimensional drawing WT100L, WL100L

Dimensions in mm (inch)
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.
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
reflectors and optics			
	• **Description:** Fine triple reflector, screw connection, suitable for laser sensors • **Dimensions:** 52 mm 62 mm • **Ambient operating temperature:** −30 °C ... +65 °C	P250F	5308843

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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.

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