

# WTB11-2P1131

W11-2

**SMALL PHOTOELECTRIC SENSORS** 





### **Ordering information**

Туре	Part no.
WTB11-2P1131	1041377

Other models and accessories → www.sick.com/W11-2

Illustration may differ



#### Detailed technical data

#### **Features**

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission)	Rectangular
Sensing range max.	20 mm 350 mm <sup>1)</sup>
Sensing range	20 mm 350 mm
Type of light	Visible red light
Light source	LED <sup>2)</sup>
Light spot size (distance)	Ø 6 mm (200 mm)
Wave length	640 nm
Adjustment	Potentiometer, 5 turns

 $<sup>^{1)}</sup>$  Object with 90% remission (based on standard white, DIN 5033).

# Mechanics/electronics

Supply voltage $\mathbf{U}_{\mathrm{B}}$	10 V DC 30 V DC <sup>1)</sup>

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

 $<sup>^{2)}</sup>$  Average service life: 100,000 h at  $T_{U}$  = +25  $^{\circ}\text{C}.$ 

 $<sup>^{2)}</sup>$  May not exceed or fall below  $\mathrm{U}_{\mathrm{V}}$  tolerances.

<sup>3)</sup> Without load.

<sup>&</sup>lt;sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>&</sup>lt;sup>6)</sup> Do not bend below 0 °C.

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Current consumption	30 mA <sup>3)</sup>
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Uv - 2.5 V / approx. 0 V
Output current I <sub>max.</sub>	≤ 100 mA
Response time	≤ 2.5 ms <sup>4)</sup>
Switching frequency	200 Hz <sup>5)</sup>
Connection type	Cable, 4-wire, 2 m <sup>6)</sup>
Cable material	PVC
Conductor cross section	0.25 mm <sup>2</sup>
Circuit protection	A <sup>7)</sup> C <sup>8)</sup> D <sup>9)</sup>
Protection class	II .
Weight	200 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Ambient operating temperature	-30 °C +60 °C
Ambient temperature, storage	-40 °C +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

 $<sup>^{1)}</sup>$  Limit values when operated in short-circuit protected network: max. 8 A.  $^{2)}$  May not exceed or fall below U  $_{\rm V}$  tolerances.

# Safety-related parameters

MTTF <sub>D</sub>	894 years
<b>DC</b> <sub>avg</sub>	0 %
T <sub>M</sub> (mission time)	20 years

### Classifications

eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904

<sup>3)</sup> Without load.

<sup>&</sup>lt;sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Do not bend below 0 °C.

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

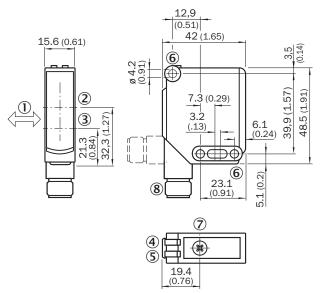
# WTB11-2P1131 | W11-2

# SMALL PHOTOELECTRIC SENSORS

eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

### Dimensional drawing (Dimensions in mm (inch))

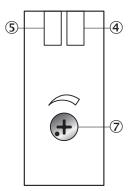
WTB11-2, WTF11-2



- ① Standard direction of the material being detected
- ② Optical axis, receiver
- 3 Optical axis, sender
- ④ LED indicator green: Supply voltage active
- (5) LED indicator yellow: Status of received light beam
- 6 Mounting hole ø 4.2 mm
- Sensing range adjustment: potentiometer
- 8 Connection

# Adjustments

### WTB11-2, WTF11-2



- LED indicator green: Supply voltage active
   LED indicator yellow: Status of received light beam
- Sensing range adjustment: potentiometer

# Connection type

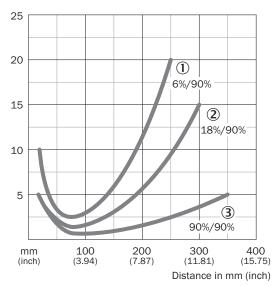


# Connection diagram

Cd-094

#### Characteristic curve

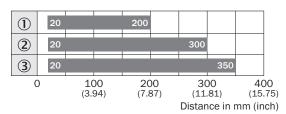
WTB11-2, 350 mm



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

# Sensing range diagram

WTB11-2, 350 mm



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

#### Recommended accessories

Other models and accessories → www.sick.com/W11-2

	Brief description	Туре	Part no.
Mounting bra	ckets and plates		
	Mounting bracket, large, stainless steel, mounting hardware included	BEF-WG-W12	2013942

	Brief description	Туре	Part no.
Plug connectors and cables			
	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

# 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:**

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