



WTB11-2N1131

W11-2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
WTB11-2N1131	1041379

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 ¹⁾
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Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 6 mm (200 mm)
Wave length	640 nm
Adjustment	Potentiometer, 5 turns

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	40 mA ³⁾
Switching output	NPN
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. VS / < 2.5 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 2.5 ms ⁴⁾
Switching frequency	200 Hz ⁵⁾
Connection type	Cable, 4-wire, 2 m ⁶⁾
Cable material	Plastic, PVC
Conductor cross section	0.25 mm ²
Circuit protection	A ⁷⁾ C ⁸⁾ D ⁹⁾
Protection class	III
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

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⁾ C = interference suppression.

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

Safety-related parameters

MTTF_D	894 years
DC_{avg}	0 %
T_M (mission time)	20 years

Certificates

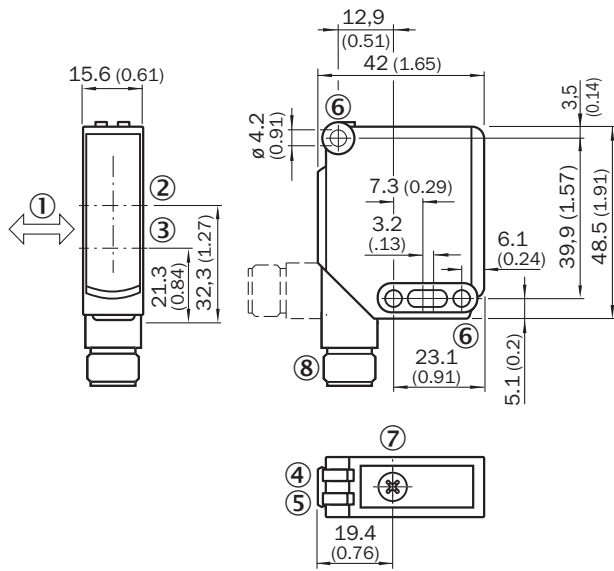
EU declaration of conformity	✓
UK declaration of conformity	✓

ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓
EAC certificate / DoC	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

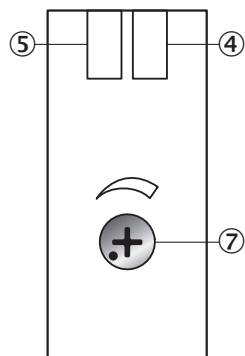
Dimensional drawing WTB11-2, WTF11-2



Dimensions in mm (inch)

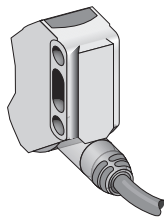
- ① Standard direction of the material being detected
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Mounting hole $\varnothing$ 4.2 mm
- ⑦ Sensing range adjustment: potentiometer
- ⑧ Connection

Adjustments WTB11-2, WTF11-2

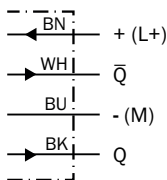


- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensing range adjustment: potentiometer

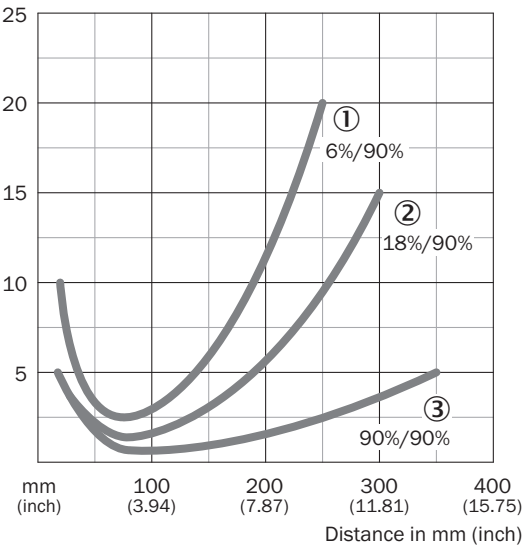
Connection type



Connection diagram Cd-094

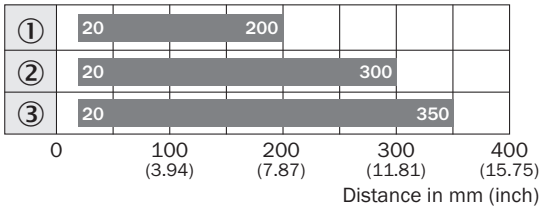


Characteristic curve WTB11-2, 350 mm



- 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	Type	part no.
Mounting systems			
	• Description: Mounting bracket, large • Material: Stainless steel • Details: Stainless steel • Items supplied: Mounting hardware included • Suitable for: W11-2, W12-3, W16	BEF-WG-W12	2013942
	• Description: Plate N11N for universal clamp bracket • Material: Stainless steel • Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • Items supplied: Universal clamp (5322627), mounting hardware • Usable for: DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081
connectors and cables			
	• Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm²	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:

Contacts and other locations –www.sick.com