



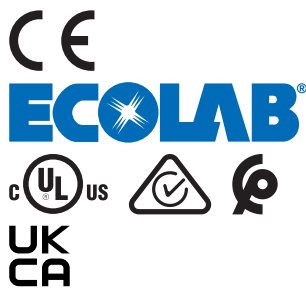
WTB4S-3P3234H
W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WTB4S-3P3234H	1048097

Other models and accessories → www.sick.com/W4

Detailed technical data

Features

Functional principle		Photoelectric proximity sensor
Functional principle detail		Background suppression
Sensing range max.		4 mm ... 120 mm ¹⁾
Emitted beam		
	Light source	PinPoint LED ²⁾
	Type of light	Visible red light
	Light spot size (distance)	Ø 2.5 mm (50 mm)
Key LED figures		
	Wave length	650 nm
Adjustment		Cable, Single teach-in button ³⁾
Special applications		Hygienic and washdown zones
Housing design		Hygiene

¹⁾ Object with 90% remission (based on standard white, DIN 5033).
²⁾ Average service life: 100,000 h at T_U = +25 °C.
³⁾ External teach-in: pulse > 2 s with voltage U_v with PNP and M with NPN.

Safety-related parameters

MTTF_D	1,211 years
DC_{avg}	0 %
T_M (mission time)	20 years

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Protection class	III
Digital output	Type PNP
	Switching mode Light switching
	Output current I _{max.} ≤ 100 mA
	Response time < 0.5 ms ⁴⁾
	Switching frequency 1,000 Hz ⁵⁾
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾

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

²⁾ May not fall below or exceed U_y 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⁾ C = interference suppression.

Mechanics

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	15.3 mm x 48.5 mm x 22.3 mm
Connection	Cable with M8 male connector, 4-pin ^{1) 2)}
Connection detail	
	Length of cable (L) 150 mm ²⁾
Material	
	Housing Metal, Stainless steel V4A (1.4404, 316L)
	Front screen Plastic, PMMA
	Cable Plastic, PVC
Weight	40 g

¹⁾ Max. tightening torque: 0.6 Nm.

²⁾ Do not bend below 0 °C.

Ambient data

Enclosure rating	IP66 IP67 IP69K
Ambient operating temperature	-30 °C ... +70 °C ¹⁾ -30 °C ... +60 °C

¹⁾ At UV ≤ 24 V and IA < 30 mA.

Ambient temperature, storage	-30 °C ... +75 °C
UL File No.	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

¹⁾ At UV ≤ 24 V and IA < 30 mA.

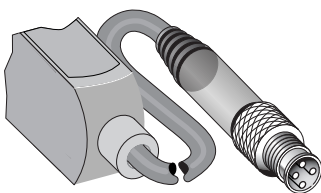
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

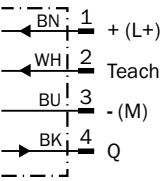
Classifications

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

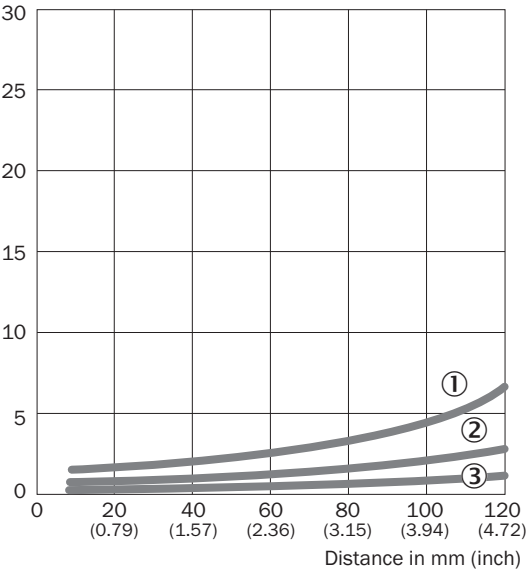
Connection type



Connection diagram Cd-092

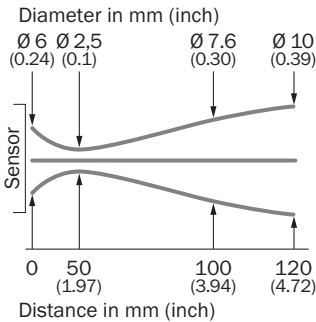


Characteristic curve WTB4S-3, 120 mm

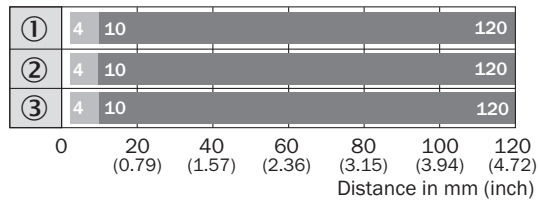


- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Light spot size



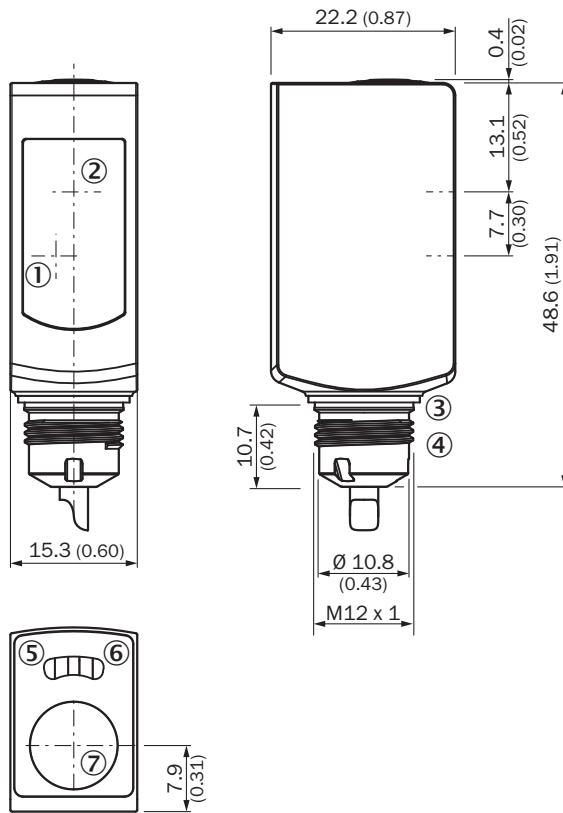
Sensing range diagram WTB4S-3, 120 mm



■ Sensing range ■ Sensing range max.

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

Dimensional drawing WTB4S-3H, WTF4S-3H, with single teach-in button



Dimensions in mm (inch)

- ① Center of optical axis, receiver
- ② Center of optical axis, sender
- ③ Sealing ring (tightening torque 6 Nm)
- ④ Connector M12
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Teach-in button

Recommended accessories

Other models and accessories → www.sick.com/W4

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Female connector, M8, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones	DOL-0804-G05MNI	6059194
	• Connection type head A: Female connector, M8, 4-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation	DOL-0804-G05MRN	6058511

SICK AT A GLANCE

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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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