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Product data sheet



WTB9-3P3461S08

W9

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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SMALL PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WTB9-3P3461S08	1091757

Other models and accessories → www.sick.com/W9

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	12.2 mm x 50 mm x 23.6 mm
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max.	50 mm ... 175 mm [1]
Sensing range	50 mm ... 100 mm [2]
Type of light	Visible red light
Light source	PinPoint LED [3]
Light spot size (distance)	Ø 4.5 mm (75 mm)
Wave length	650 nm
Adjustment	Potentiometer, 5 turns

[1] Object with 90% remission (based on standard white, DIN 5033).
[2] Object with 6% remission (based on standard white, DIN 5033).
[3] Average service life: 100,000 h at T_U = +25 °C.

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Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	30 mA [3]
Switching output	PNP [4]
Output function	Complementary
Switching mode	Light/dark switching [4]
Output current $I_{max.}$	≤ 100 mA [5]
Response time	< 0.666 ms [6]
Switching frequency	750 Hz [7]
Connection type	Cable with M12 male connector, 4-pin, 120 mm [8]
Cable material	PVC
Conductor cross section	0.14 mm²
Circuit protection	A [9] B [10] C [11]
Protection class	III
Weight	80 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493

[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] Q = light switching.
[5] At and above Tu 50 °C, a max. load current of Imax. = 50 mA is permitted.
[6] Signal transit time with resistive load.
[7] With light/dark ratio 1:1.
[8] Do not bend below 0 °C.
[9] A = V_S connections reverse-polarity protected.
[10] B = inputs and output reverse-polarity protected.
[11] C = interference suppression.

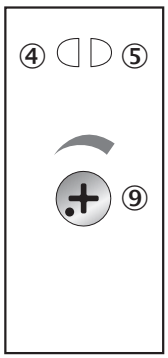
Classifications

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

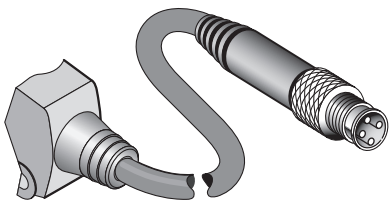
Adjustments

Potentiometer



④ LED indicator yellow: Status of received light beam
⑤ LED indicator green: power on
⑨ Adjustment of sensing range

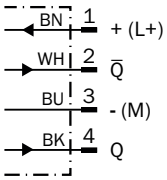
Connection type



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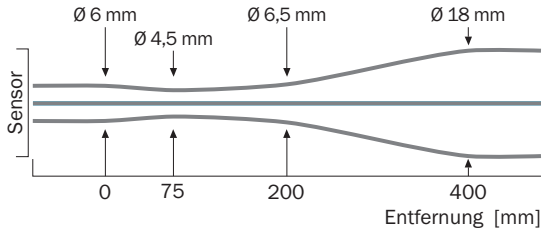
Connection diagram

Cd-084



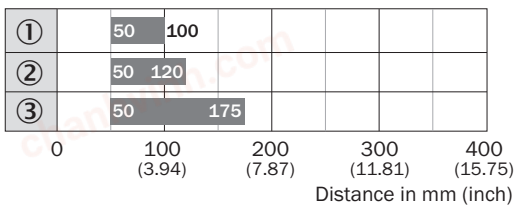
Light spot size

WT9-3, red light, 350 mm



Sensing range diagram

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Sensing range

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

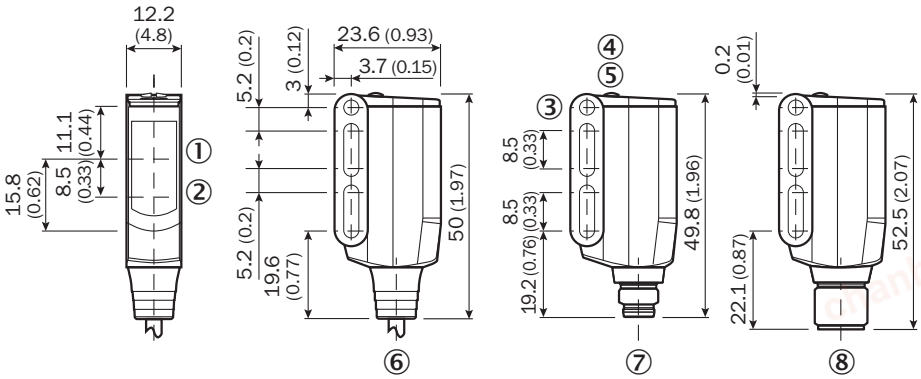
① Sensing range on black, 6% remission factor
② Sensing range on gray, 18% remission factor
③ Sensing range on white, 90% remission factor

WTB9-3P3461S08 | W9

SMALL PHOTOELECTRIC SENSORS

Dimensional drawing (Dimensions in mm (inch))

WT9-3



① Center of optical axis, receiver
② Center of optical axis, sender
③ Mounting hole M3 (Ø 3.1 mm)
④ LED indicator yellow: Status of received light beam
⑤ LED indicator green: power on
⑥ Connection cable 2 m
⑦ Male connector M8, 4-pin
⑧ Male connector M12, 4-pin

Recommended accessories

Other models and accessories ➜ www.sick.com/W9

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-WN-W9-2	2022855
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

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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."

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