

WTB9-3P3461S08

PHOTOELECTRIC SENSORS

**SICK**Sensor Intelligence.



#### Ordering information

Туре	part no.
WTB9-3P3461S08	1091757

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

Illustration may differ



#### 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 <sup>1)</sup>
Sensing range	50 mm 100 mm <sup>2)</sup>
Type of light	Visible red light
Light source	PinPoint LED <sup>3)</sup>
Light spot size (distance)	Ø 4.5 mm (75 mm)
Wave length	650 nm
Adjustment	Potentiometer, 5 turns

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

 $<sup>^{2)}</sup>$  Object with 6% remission (based on standard white, DIN 5033).

 $<sup>^{3)}</sup>$  Average service life: 100,000 h at TU = +25 °C.

#### Mechanics/electronics

Supply voltage U <sub>B</sub>	10 V DC 30 V DC <sup>1)</sup>
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Current consumption	30 mA <sup>3)</sup>
Switching output	PNP <sup>4)</sup>
Output function	Complementary
Switching mode	Light/dark switching <sup>4)</sup>
Output current I <sub>max</sub> .	≤ 100 mA <sup>5)</sup>
Response time	< 0.666 ms <sup>6)</sup>
Switching frequency	750 Hz <sup>7)</sup>
Connection type	Cable with M12 male connector, 4-pin, 120 mm $^{8)}$
Cable material	Plastic, PVC
Conductor cross section	0.14 mm <sup>2</sup>
Circuit protection	A <sup>9)</sup> B <sup>10)</sup> C <sup>11)</sup>
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

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

#### Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓

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

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

<sup>4)</sup> Q = light switching.

 $<sup>^{5)}</sup>$  At and above Tu  $^{50}$  °C, a max. load current of Imax. =  $^{50}$  mA is permitted.

<sup>&</sup>lt;sup>6)</sup> Signal transit time with resistive load.

<sup>7)</sup> With light/dark ratio 1:1.

<sup>8)</sup> Do not bend below 0 °C.

 $<sup>^{9)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

 $<sup>^{10)}</sup>$  B = inputs and output reverse-polarity protected.

<sup>&</sup>lt;sup>11)</sup> C = interference suppression.

## WTB9-3P3461S08 | W9

#### PHOTOELECTRIC SENSORS

cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

#### Classifications

<b>TOURS TO</b>	07070004
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 possible Potentiometer

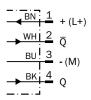


- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: power on
- Adjustment of sensing range

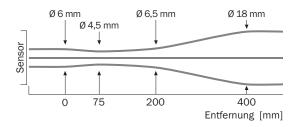
#### Connection type



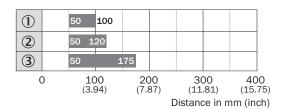
#### Connection diagram Cd-084



#### Light spot size WT9-3, red light, 350 mm



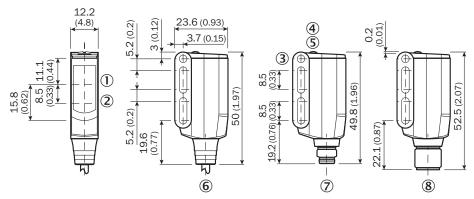
#### Sensing range diagram WTB9-3P3461S08



#### Sensing range

- $\bigcirc$  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

#### Dimensional drawing WT9-3



Dimensions in mm (inch)

- 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
- ® male connector M12, 4-pin

#### Recommended accessories

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

	Brief description	Туре	part no.	
Mounting sys	Mounting systems			
6	<ul> <li>Description: Plate N08 for universal clamp bracket</li> <li>Material: Steel, zinc diecast</li> <li>Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li>Items supplied: Universal clamp (5322626), mounting hardware</li> <li>Usable for: W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8</li> </ul>	BEF-KHS-N08	2051607	
2-1	<ul> <li>Description: Mounting bracket</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Items supplied: Mounting hardware included</li> <li>Suitable for: W9-3</li> </ul>	BEF-WN-W9-2	2022855	
	<ul> <li>Description: Plate N11N for universal clamp bracket</li> <li>Material: Stainless steel</li> <li>Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li>Items supplied: Universal clamp (5322627), mounting hardware</li> <li>Usable for: DeltaPac, Glare, WTD20E</li> </ul>	BEF-KHS-N11N	2071081	

	Brief description	Туре	part no.
connectors and cables			
	<ul> <li>Connection type head A: Female connector, M12, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PVC</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul> <li>Connection type head A: Male connector, M12, 4-pin, straight, A-coded</li> <li>Description: Unshielded</li> <li>Connection systems: Screw-type terminals</li> <li>Permitted cross-section: ≤ 0.75 mm²</li> </ul>	STE-1204-G	6009932
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608

## 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

