



WTF9-3P2261P03

W9

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WTF9-3P2261P03	1053767

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

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Foreground suppression
Dimensions (W x H x D)	12.2 mm x 49.8 mm x 23.6 mm
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max.	20 mm ... 350 mm ¹⁾
Sensing range	20 mm ... 200 mm
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 4.5 mm (75 mm)
Wave length	650 nm
Adjustment	Potentiometer, 5 turns
Special features	With cable DOL-0804-W02 Sensing range max. on aluminum: 500 mm

¹⁾ Object with 90% remission (based on standard white, DIN 5033).²⁾ Average service life: 100,000 h at $T_U = +25^\circ\text{C}$.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	$< 5 \text{ V}_{\text{pp}}$ ²⁾

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⁾ Q = light switching.⁵⁾ At and above $T_U 50^\circ\text{C}$, a max. load current of $I_{\text{max.}} = 50 \text{ mA}$ is permitted.⁶⁾ Signal transit time with resistive load.⁷⁾ With light/dark ratio 1:1.⁸⁾ $A = V_S$ connections reverse-polarity protected.⁹⁾ B = inputs and output reverse-polarity protected.¹⁰⁾ C = interference suppression.

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	< 2.5 ms ⁶⁾
Switching frequency	200 Hz ⁷⁾
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾
Protection class	III
Weight	13 g
Special device	✓
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

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³⁾ Without load.

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⁵⁾ At and above T_U 50 °C, a max. load current of I_{max.} = 50 mA is permitted.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ B = inputs and output reverse-polarity protected.

¹⁰⁾ C = interference suppression.

Safety-related parameters

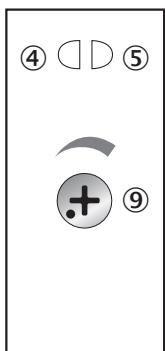
MTTF_D	1,030 years
DC_{avg}	0 %
T_M (mission time)	20 years

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 possible Potentiometer

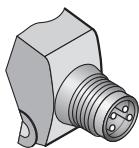


④ LED indicator yellow: Status of received light beam

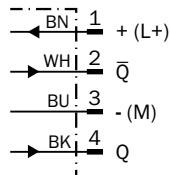
⑤ LED indicator green: power on

⑨ Adjustment of sensing range

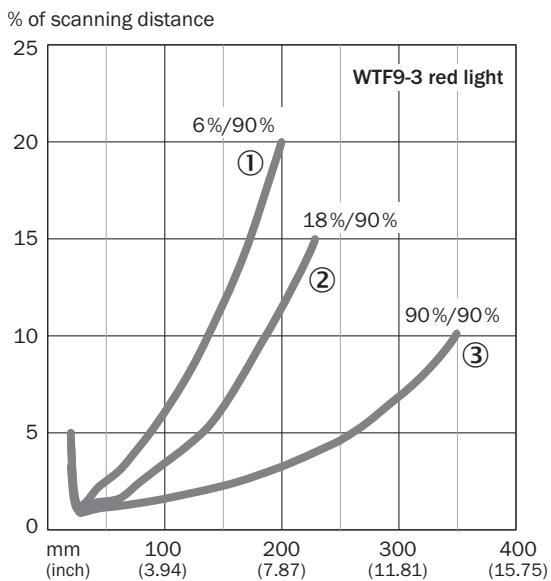
Connection type



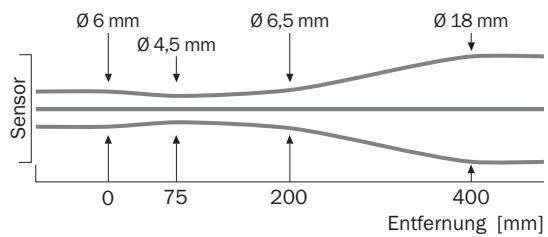
Connection diagram Cd-084



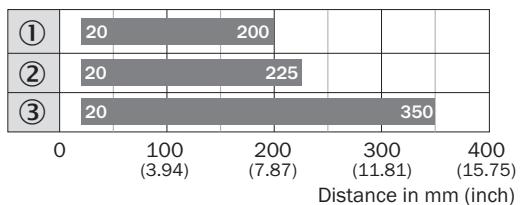
Characteristic curve



Light spot size WTF9-3, red light, 350 mm



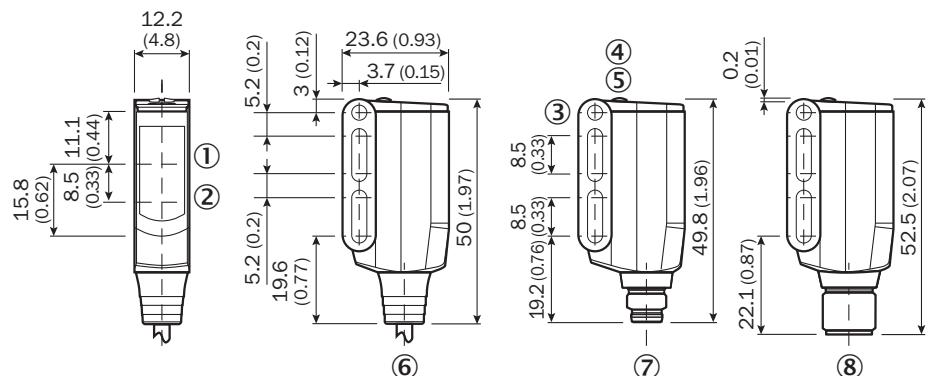
Sensing range diagram WTF9-3, red light, 350 mm



Sensing range

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

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
- ⑧ male connector M12, 4-pin

Recommended accessories

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

Brief description	Type	part no.
connectors and cables		
	YF8U14-050VA3XLEAX	2095889
<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones  <ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0804-G	6037323
Mounting systems		
	BEF-WN-W9-2	2022855

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."

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