WTB4S-3P3432S05

W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WTB4S-3P3432S05 | W4

PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	part no.
WTB4S-3P3432S05	1051765

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.	3 mm ... 280 mm [1]
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Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 2 mm (100 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Single teach-in button
Special features	Small light spot diameter of 2 mm at distance of 100 mm

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

Safety-related parameters

MTTF$_D$	1,375 years
DC$_{avg}$	0 %

Electronics

Supply voltage U$_B$	10 V DC ... 30 V DC [1]
Ripple	< 5 V$_{pp}$ [2]
Current consumption	20 mA [3]
Protection class	III
Digital output	
Type	PNP
Switching mode	Light/dark switching
Output current I$_{max.}$	≤ 100 mA
Response time	< 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Output function	Complementary
Circuit protection	A [6]
	C [7]
	D [8]

[1] Limit values.

[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] A = V$_S$ connections reverse-polarity protected.

[7] C = interference suppression.

[8] D = outputs overcurrent and short-circuit protected.

Mechanics

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	12.2 mm x 41.8 mm x 17.3 mm
Connection	Cable with M12 male connector, 4-pin [1]
Connection detail	
Conductor size	0.14 mm²
Cable diameter	Ø 3.4 mm
Length of cable (L)	150 mm [1]
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Cable	Plastic, PVC

[1] Do not bend below 0 °C.

Ambient data

Enclosure rating	IP67
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB 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-083

```
   BN   1   + (L+)
   WH   2   Q̄
   BU   3   - (M)
   BK   4   Q
```
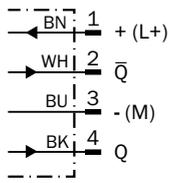
Characteristic curve WTB4S-3, sensing range 280 mm

% of sensing distance

6 %/90 %
①

18 %/90 %
②

90 %/90 % ③

Distance in mm (inch)

mm (inch): 100 (3.94), 200 (7.87), 300 (11.81)
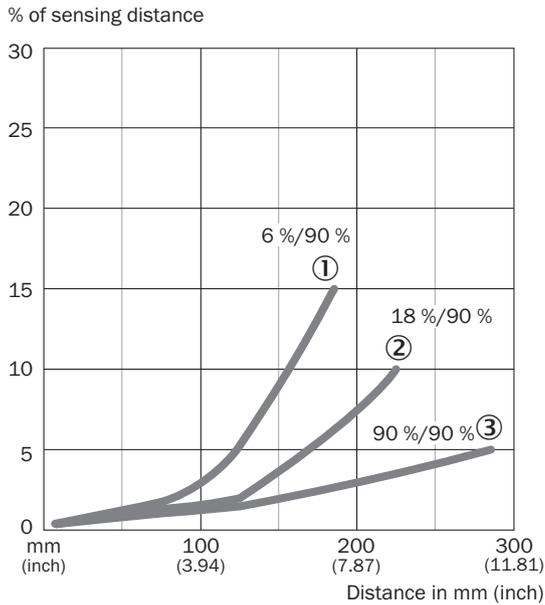
Sensing range diagram WTB4S-3, sensing range 280 mm

①	4 10	150[1]	180
②	4 10	150[1]	225
③	4 10	150[1]	280

0   50 (1.97)   100 (3.94)   150 (5.91)   200 (7.87)   250 (9.84)   300 (11.81)
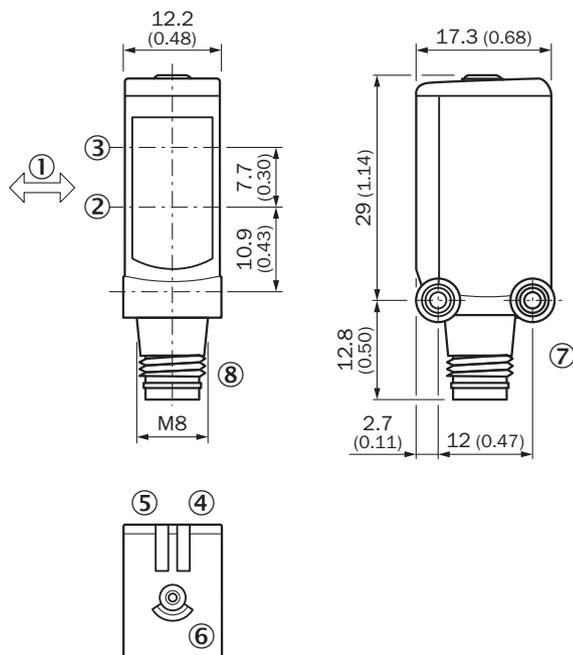Distance in mn (inch)
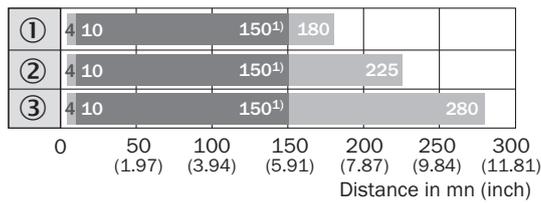
▓ Operating distance   ▒ Sensing distance typ. max.

① Sensing distance on black, 6 % remission
② Sensing distance on grey, 18 % remission
③ Sensing distance on whitw, 90 % remission

[1] Due to the focus of the light spot at 100 mm (3.94 inch)

Dimensional drawing WTB4S-3, Single teach-in button

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 Teach-in button
⑦ Threaded mounting hole M3
⑧ Connection

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket for wall mounting • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 • **Items supplied:** Mounting hardware included • **Suitable for:** W4S, W4F, W4S	BEF-W4-A	2051628
	• **Description:** Plate N08 for universal clamp bracket • **Material:** Steel, zinc diecast • **Details:** Zinc plated steel (sheet), Zinc die cast (clamping bracket) • **Items supplied:** Universal clamp (5322626), mounting hardware • **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	BEF-KHS-N08	2051607

Brief description	Type	part no.
connectors and cables		
• **Description:** Sensor/actuator cable, unshielded • **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, PVC • **Application:** Uncontaminated zones, Zones with chemicals	YF2A14-050VB3XLEAX	2096235
• **Description:** Unshielded • **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932
• **Description:** Sensor/actuator cable, unshielded • **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 • **Application:** Drag chain operation, 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."

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