Product data sheet

WTB4SC-3P3232S10

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WTB4SC-3P3232S10	1079436

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 ... 280 mm [1]
Sensing range	10 mm ... 150 mm [1]
Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 6.5 mm (150 mm)
Key LED figures	
Wave length	650 nm
Adjustment	IO-Link, Single teach-in button
Special features	Sensing range: preset 104 mm

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

Communication interface

IO-Link	✓

Electrical data

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 [4]
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 100 mA
Repeatability (response time)	130 µs [5]
Switching frequency	1,000 Hz
Circuit protection	A [6] B [7] C [8] D [9]
Response time Q/ on Pin 2	280 µs ... 410 µs [10]
Switching frequency Q / to pin 2	1,000 Hz [11]

[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] Pin 4: This switching output must not be connected to another output.
[5] Valid for Q \ on Pin2, if configured with software.
[6] A = V_S connections reverse-polarity protected.
[7] B = inputs and output reverse-polarity protected.
[8] C = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.
[10] Signal transit time with resistive load.
[11] With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

Mechanical data

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 M8 male connector, 4-pin
Connection detail	
Conductor size	0.14 mm²
Cable diameter	Ø 3.4 mm
Length of cable (L)	100 mm
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Cable	PVC
Weight	20 g

Ambient data

Enclosure rating	IP67

	IP66
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

Smart Task

Switching frequency	SIO Direct: 1000 Hz SIO Logic: 900 Hz IOL: 700 Hz
Response time	[1] [2]
Repeatability	SIO Direct: 130 µs [3] SIO Logic: 130 µs [1] IOL: 310 µs [2]

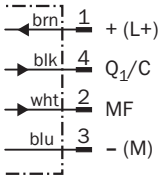
[1] SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.
[2] IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.
[3] SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

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

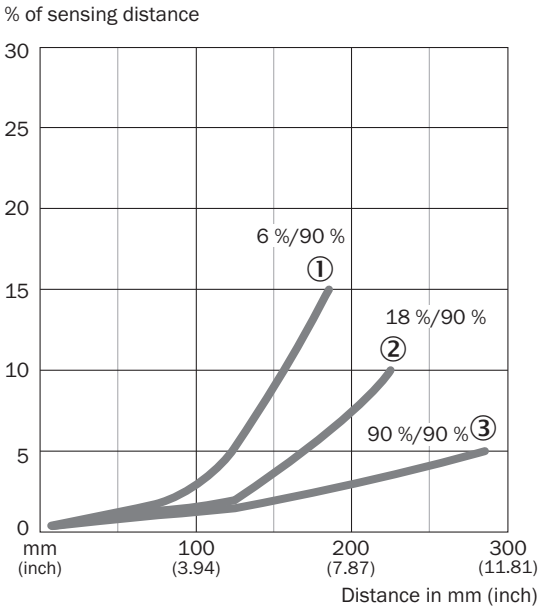
Connection diagram

Cd-273



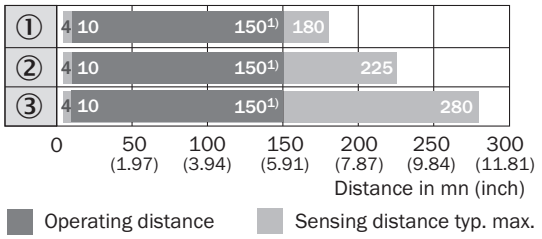
Characteristic curve

WTB4S-3, sensing range 280 mm



Sensing range diagram

WTB4S-3, sensing range 280 mm

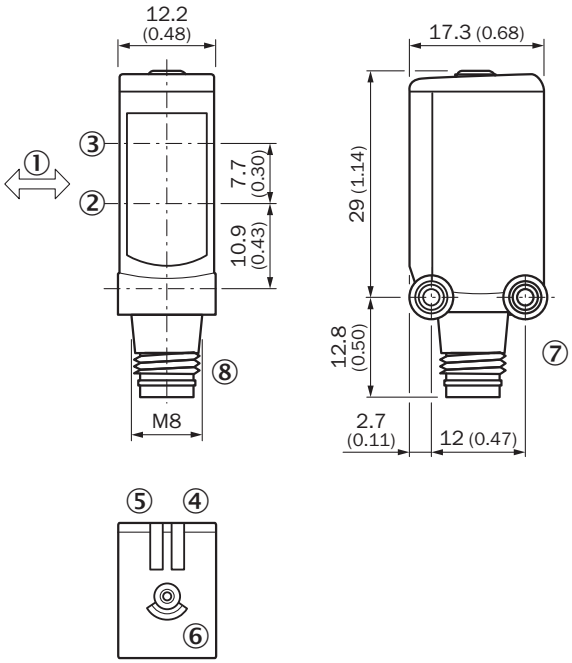


① Sensing distance on black, 6 % remission
② Sensing distance on grey, 18 % remission
③ Sensing distance on whitw, 90 % remission

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

Dimensional drawing (Dimensions in mm (inch))

WTB4S-3, Single teach-in button



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.
Distributors			
	• **Connection type head A:** Male connector, M12, 4-pin, A-coded • **Connection type head B:** Female connector, M8, 4-pin, A-coded • **Connection type head C:** Female connector, M8, 4-pin, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 0.11 m, PVC • **Description:** Sensor/actuator cable, Y-distribution, 2 x M8 female connectors, 4-pin, straight, 0.11 m, PVC cable, 1 x M12 male connector, 4-pin, straight, connects a SICK sensor to a SICK Smart sensor; Female connector brassed (A): Auxiliary sensor; Female connector nickel-plated (B): Smart Sensor; Male connector nickel-plated (C): IO-Link master/ PLC • **Note:** Slimline T-piece, 2 x M8 female connector + M12 male connector with cable	SYL-8204-G0M11-X2	6055012
Mounting brackets and plates			
	Mounting bracket for wall mounting, Stainless steel 1.4571, mounting hardware included	BEF-W4-A	2051628

	Brief description	Type	Part no.
Others			
	• **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	YF8U14-050VA3XLEAX	2095889
	• **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 4-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals	YF8U14-050VA3M2A14	2096609

Recommended services

Additional services ➜ www.sick.com/W4

	Type	Part no.
Function Block Factory		
• **Description:** The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here. • **Note:** You can configure your function block at Function Block Factory. As a login please use your SICK ID.	Function Block Factory	On request

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