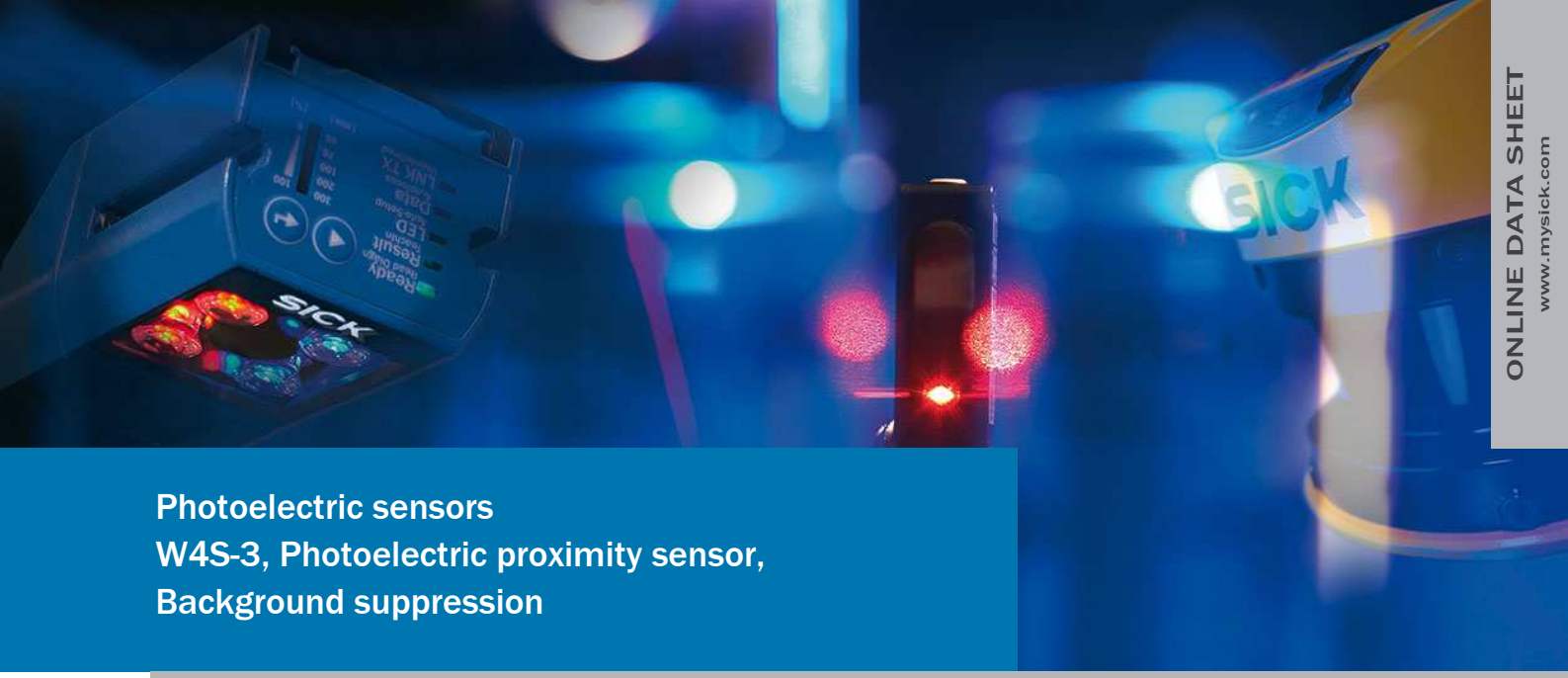

ONLINE DATA SHEET
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Photoelectric sensors
W4S-3, Photoelectric proximity sensor, Background suppression

WTB4SC-3P2262A91

SICK
Sensor Intelligence.

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Photoelectric sensors
W4S-3, Photoelectric proximity sensor, Background suppression

Model Name > WTB4SC-3P2262A91
Part No. > 1067758

Illustration may differ

At a glance

- Best background suppression in its class
- Setting either via teach-in pushbutton, 5-turn potentiometer cable or by IO-Link
- All models with PinPoint LED technology
- Versions with laser-like LED light spots
- High immunity to ambient light
- Flexible sensor settings, monitoring, extended diagnostics, and visualization thanks to IO-Link
- Programmable functions as debouncing and time-measurementare included

Your benefits

- Less downtime due to reliable detection of all types of objects
- Laser-like light spot provides quick and easy alignment
- Smart machine design makes it possible to mount the sensor in the tightest spaces
- Reliable object detection due to best-in-class background suppression and high immunity to ambient light
- IO-Link provides easy data access from the PLC
- Quick and easy configuration
- Quick and easy integration using function blocks
- Easy device replacement and identification

Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	12.2 mm x 41.8 mm x 17.3 mm
Housing design (light emission):	Rectangular
Sensing range max.:	4 mm ... 180 mm [1)]
Sensing range:	10 mm ... 180 mm [2)]
Type of light:	Visible red light
Light source:	PinPoint LED [3)]
Wave length:	650 nm
Adjustment:	Single teach-in button
Light spot size (distance):	Ø 6.5 mm (150 mm)
IO-Link functions:	Advanced functions, Standard functions
IO-Link advanced functions:	Decentralized debouncing, Timestamp
Gen. Response Time:::	IOL: ---, SIO Direct: 280 µs ... 410 µs, SIO Logic: 920 µs ... 1050 µs [4) 5) 6)]
Gen. Repeatability:::	IOL: ---, SIO Direct: 130 µs, SIO Logic: 130 µs [7) 8) 9)]

Min. Time between two process events (switches)::::	IOL: 930 µs, SIO Direct: 450 µs, SIO Logic: 640 µs [10) 11) 12)]
Max. Debounce Range::::	IOL: 52 ms, SIO Direct: ---, SIO Logic: 52 ms [13) 14) 15)]
Max. TimeStamp Buffer:	IOL: 8, SIO Direct: ---, SIO Logic: ---
Max. TimeStamp Range:	IOL: 260 ms, SIO Direct: ---, SIO Logic: ---
TimeStampAccuracy::::	IOL: - 0,9 ... + 0,9 ms + 0,5 % of time measurement value, SIO Direct: ---, SIO Logic: --- [16) 17) 18)]

1) 2) Object with 90 % reflectance (referred to standard white, DIN 5033) 3) Average service life of 100,000 h at T_A = +25 °C 4) 7) 10) 13) 16) SIO Direct: Sensor operation in standard I/O mode without IO-Link communication and without usage of sensor-internal logic or timing parameters (set to "direct"/"deactivated"). 5) 8) 11) 14) 17) SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used. 6) 9) 12) 15) 18) IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

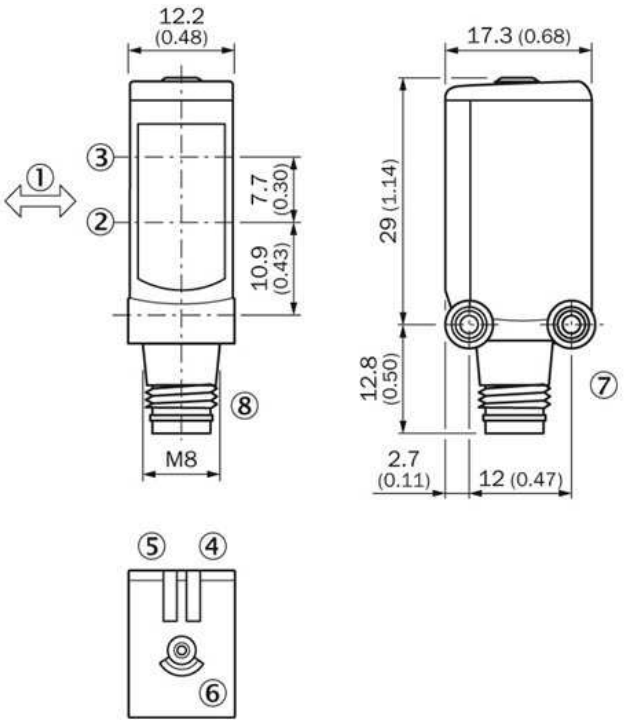
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1)]
Residual ripple:	< 5 Vpp [2)]
Power consumption:	≤ 30 mA [3)]
Output type:	PNP
Switching mode:	Light/dark switching
Output current Imax.:	≤ 100 mA
Electrical connection:	Connector M8, 4-pin
Circuit protection::::	A, B, C, D [4) 5) 6) 7)]
Protection class:	III
Weight:	20 g
IO-Link:	✓
Optics material:	PMMA
Enclosure rating:	IP 67 IP 66
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Housing material:	ABS, Plastic
Response time Q/ on Pin 2:	280 µs ... 410 µs [8)]
Switching frequency Q \ on Pin2:	1,000 Hz
Repeatability Q/ on Pin 2::	130 µs
IO-Link version:	1.0
Transmission rate:	COM2

With light/dark ratio 1:1, valid for Q \ on Pin2, if configured with software; Valid for Q \ on Pin2, if configured with software;

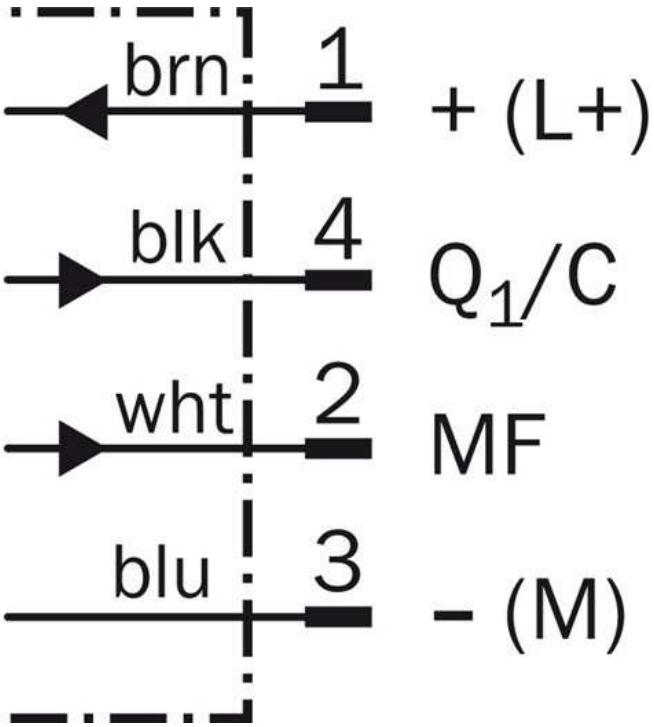
1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of V_S tolerances 3) Without load 4) A = V_S connections reverse-polarity protected 5) B = inputs and output reverse-polarity protected 6) C = interference suppression 7) D = outputs overcurrent and short-circuit protected 8) Signal transit time with resistive load

Dimensional drawing

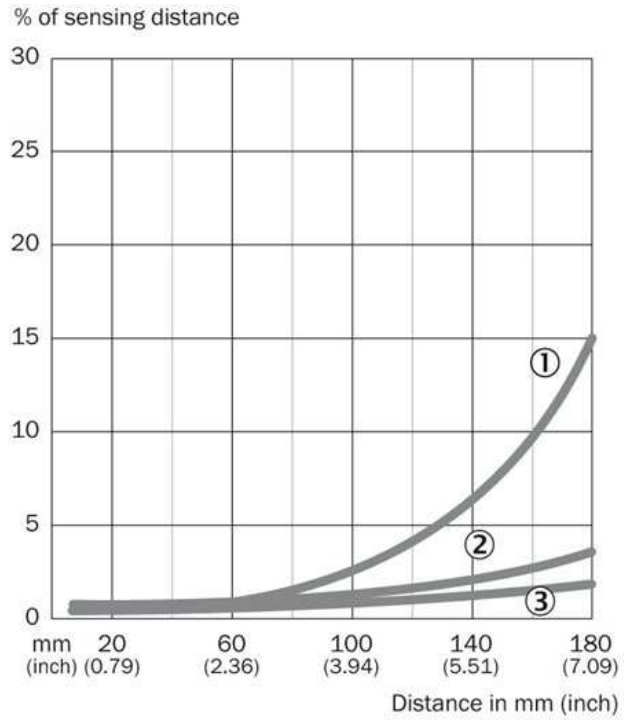


|1| Standard direction of the material being detected
|2| Optical axis receiver
|3| Optical axis sender
|4| Status indicator LED green: supply voltage on
|5| Status indicator LED,
yellow: Status of received light beam
|6| Teach-in button
|7| Threaded mounting hole M3
|8| Connection

Connection diagram

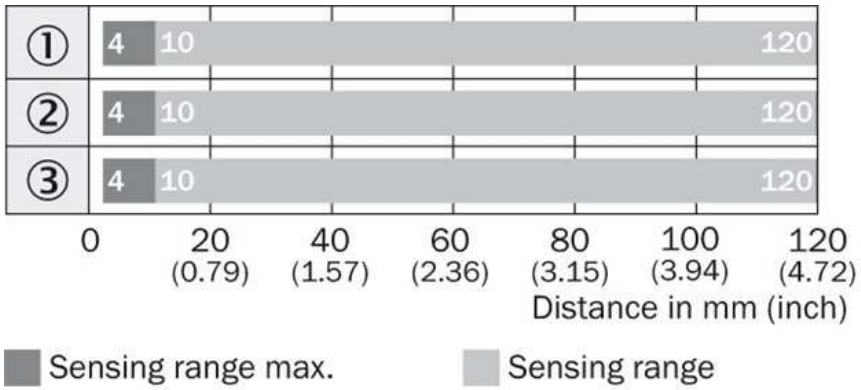


Characteristic curve



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

Sensing range diagram



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

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