



Photoelectric sensors
W4S-3, Through-beam photoelectric sensor

WSE4SC-3P2230A70



Model Name > [WSE4SC-3P2230A70](#)
Part No. > [1067768](#)



Illustration may differ

At a glance

- Sensing range from 0 - 5 m
- PinPoint LED technology for highly visible, brilliant light spot
- Rugged plastic housing with M3 metal inserts
- Flexible sensor settings, monitoring, extended diagnostics, and visualization thanks to IO-Link
- Programmable functions as debouncing and time-measurement are included

Your benefits

- The PinPoint LED's sharply defined, intense light spot makes alignment quick and easy
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- 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:	Through-beam photoelectric sensor
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.:	0 m ... 5 m
Sensing range:	0 m ... 4.5 m
Type of light:	Visible red light
Light source:	PinPoint LED ¹⁾
Wave length:	650 nm
Light spot size (distance):	Ø 50 mm (2 m)
IO-Link functions:	Advanced functions, Standard functions
IO-Link advanced functions:	Decentralized debouncing, Time measurement/timer
Time measurement accuracy:::	IOL: - 0,9 ... + 0,9 ms ± 0,5 % of time measurement value, SIO Direct: ---, SIO Logic: - 0,7 ... + 0,7 ms ± 0,5 % of time measurement value ^{2) 3) 4) 5) 6) 7)}
Min. Time between two process events (switches):::	IOL: 700 µs, SIO Direct: ---, SIO Logic: 500 µs ^{5) 6) 7)}
Max. Debounce Range:::	IOL: 30.000 ms, SIO Direct: ---, SIO Logic: 30.000 ms ^{8) 9) 10)}
Time measurement accuracy (e.g. accuracy for time measurement):	IOL: - 5,9 ... + 5,9 ms, SIO Direct: ---, SIO Logic: - 5,7 ... + 5,7 ms

¹⁾ Average service life: 100,000 h at T_U = +25 °C ^{2) 5) 8)} 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"). ^{3) 6) 9)} SIO Logic: Sensor operation in standard I/O mode without IO-Link communication.

Sensor-internal logic or timing parameters plus Automation Functions used. ^{4) 7) 10)} IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Mechanics/electronics

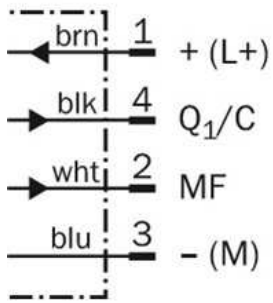
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	< 5 Vpp ²⁾
Power consumption::	≤ 20 mA ^{3) 4)}
Output type:	PNP
Switching mode:	Light/dark switching
Output current I _{max} ::	≤ 100 mA
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, C, D ^{5) 6) 7) 8)}
Protection class:	III
Weight:	40 g
IO-Link:	✓
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67 IP 66
Test input sender off:	TE to 0 V
Description:	IO-Link, COM2, 2.3 ms, SIO Mode
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::	300 μs ... 450 μs ^{9) 10)}
Switching frequency Q \ on Pin2:	1,000 Hz
Repeatability Q/ on Pin 2::	150 μs
IO-Link version:	1.0

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

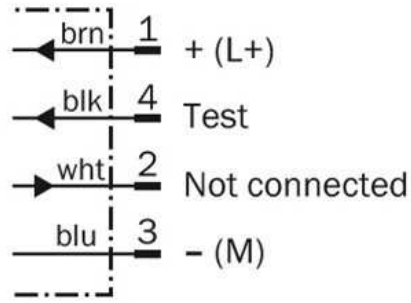
¹⁾ Limit values when operated in short-circuit protected network: max. 8 A ²⁾ May not exceed or fall below U_v tolerances ³⁾ Sender ⁴⁾ Receiver ⁵⁾ A = V_S connections reverse-polarity protected ⁶⁾ B = inputs and output reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾ Signal transit time with resistive load ¹⁰⁾ Valid for Q \ on Pin2, if configured with software

Connection diagram

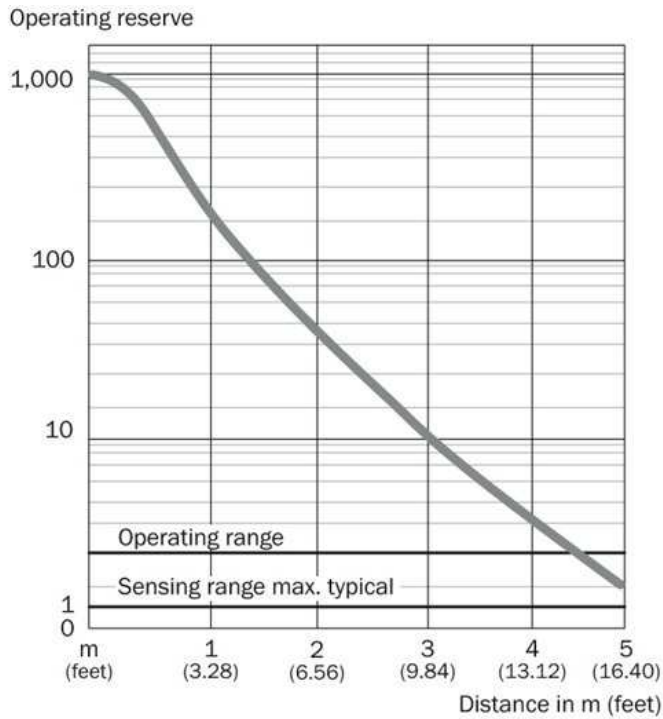
①



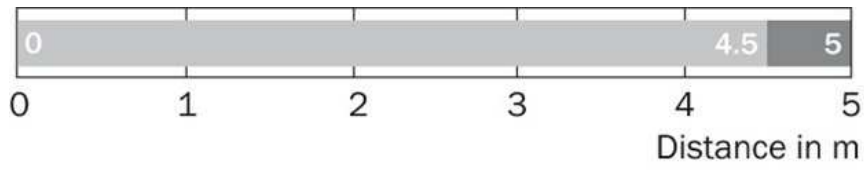
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Characteristic curve

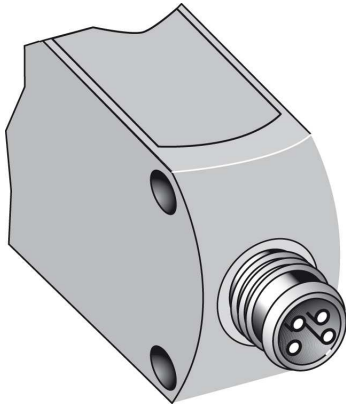


Sensing range diagram



■ Sensing range typ. max ■ Sensing range

Connection type



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