WSE4S-3F3130

W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
WSE4S-3F3130	1052881

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

Illustration may differ

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Sensing range max.	0 m ... 5 m
Sensing range	0 m ... 4.5 m
Emitted beam	
Light source	PinPoint LED [1]
Type of light	Visible red light
Light spot size (distance)	Ø 50 mm (2 m)
Key LED figures	
Wave length	650 nm
Adjustment	None
Part number of individual components	2058689 WS4S-3D3130 2058690 WE4S-3F3130

[1] Average service life: 100,000 h at T_U = +25 °C.

Safety-related parameters

$MTTF_D$	968 years
DC_{avg}	0 %
T_M (mission time)	20 years

Electronics

Supply voltage U$_B$	10 V DC ... 30 V DC [1]
Ripple	< 5 V$_{pp}$ [2]
Current consumption	20 mA [3] 20 mA [4]
Protection class	III
Digital output	
Type	PNP
Switching mode	Dark switching
Output current I$_{max.}$	≤ 100 mA
Response time	< 0.5 ms [5]
Switching frequency	1,000 Hz [6]
Circuit protection	A [7] C [8] D [9]
Test input sender off	TE to 0 V

[1] Limit values.

[2] May not fall below or exceed U$_V$ tolerances.

[3] Sender.

[4] Receiver.

[5] Signal transit time with resistive load.

[6] With light/dark ratio 1:1.

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

[8] C = interference suppression.

[9] 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 connector M8, 3-pin [1]
Connection detail	
Conductor size	0.14 mm²
Cable diameter	Ø 3.4 mm
Length of cable (L)	100 mm [1]
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Cable	Plastic, PVC
Weight	40 g

[1] Do not bend below 0 °C.

Ambient data

Enclosure rating	IP67 IP66

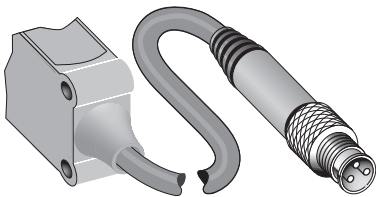|	
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

Certificates

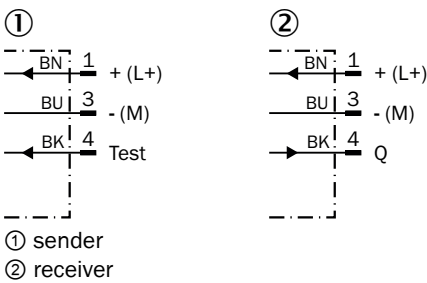|	
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type

Connection diagram

①
BN 1 + (L+)
BU 3 - (M)
BK 4 Test

②
BN 1 + (L+)
BU 3 - (M)
BK 4 Q

① sender
② receiver

Characteristic curve WSE4S-3

Operating reserve

Operating range
Sensing range max. typical

m (feet) | 1 (3.28) | 2 (6.56) | 3 (9.84) | 4 (13.12) | 5 (16.40)

Distance in m (feet)
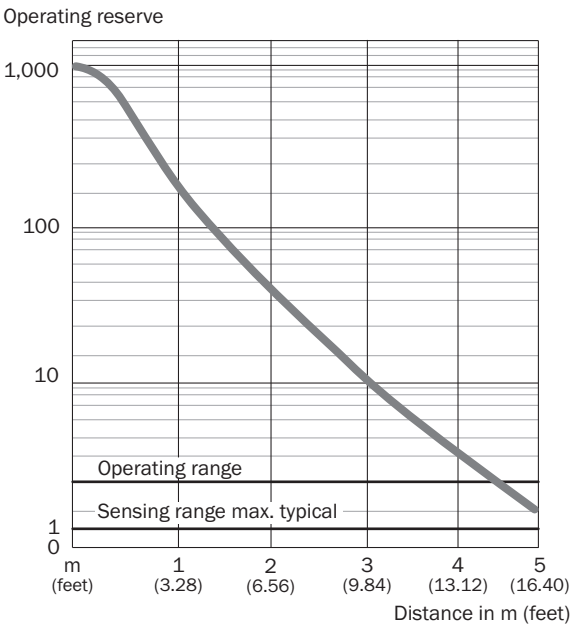
Sensing range diagram WSE4S-3

0 ... 4.5 ... 5

0 | 1 | 2 | 3 | 4 | 5
Distance in m

■ Sensing range typ. max   ■ Sensing range
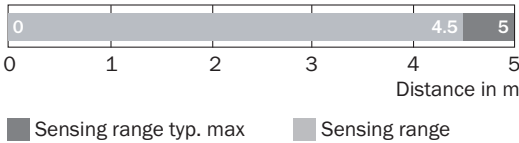
Dimensional drawing WL4S-3, WSE4S-3, potentiometer
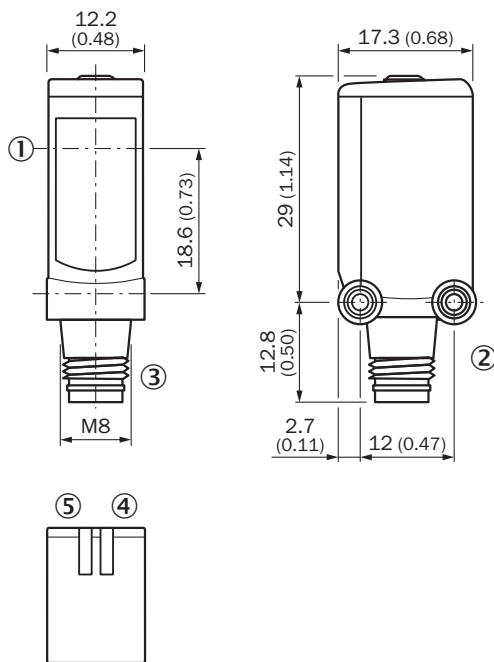
Dimensions in mm (inch)
① Center of optical axis
② Threaded mounting hole M3
③ Connection
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam

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
	• **Description:** Plate N11N for universal clamp bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081
connectors and cables			
	• **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF8U13-050VA1XLEAX	2095884
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U13-050UA1XLEAX	2094788

SICK AT A GLANCE

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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.

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