



WL18X-3P930

W18-3 Ex

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL18X-3P930	1029902

Other models and accessories → www.sick.com/W18-3_Ex

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	23.6 mm x 117 mm x 49.3 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 7 m ¹⁾
Sensing range	0 m ... 5 m ¹⁾
Focus	1.8°
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 40 mm (2 m)
Angle of dispersion	1.8°
Wave length	645 nm
Adjustment	Potentiometer, 1 turn
Special applications	Explosive areas

¹⁾ Reflector PL80A.

²⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	40 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Output current I_{max}	≤ 100 mA
Response time	< 500 μs ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Cable with M12 male connector, 4-pin, 290 mm ⁶⁾
Cable material	Plastic, PVC
Circuit protection	A ⁷⁾ C ⁸⁾ D ⁹⁾
Weight	300 g
Polarisation filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
ATEX marking	ATEX II 3G Ex nA op is IIB T4 Gc X ATEX II 3D Ex tc IIIB T135 °C Dc X In accordance with directive 2014/34 / EU
Ex area category	3D, 3G
Ambient operating temperature	-20 °C ... +50 °C
Ambient temperature, storage	-40 °C ... +75 °C

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_y tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ Do not bend below 0 °C.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ C = interference suppression.

⁹⁾ D = outputs overcurrent and short-circuit protected.

Safety-related parameters

MTTF_D	1,884 years
DC_{avg}	0 %

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

Photobiological safety (DIN EN 62471) certificate

✓

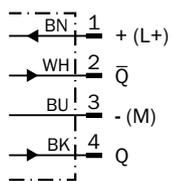
Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

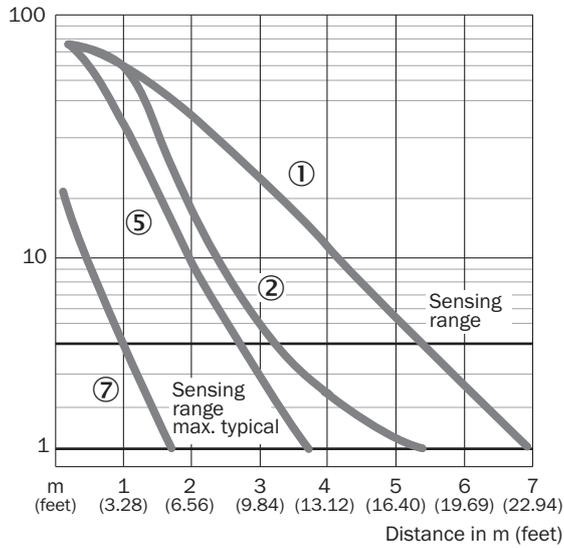
Connection type



Connection diagram Cd-083

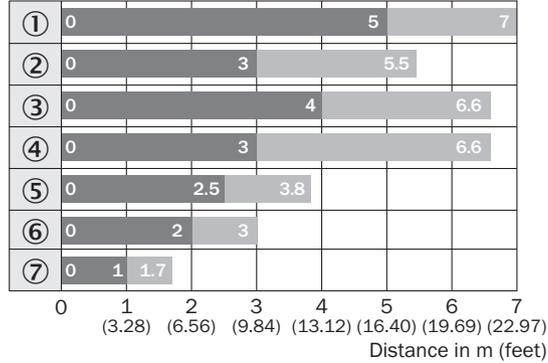


Characteristic curve WL18-3, WL18-3 Ex



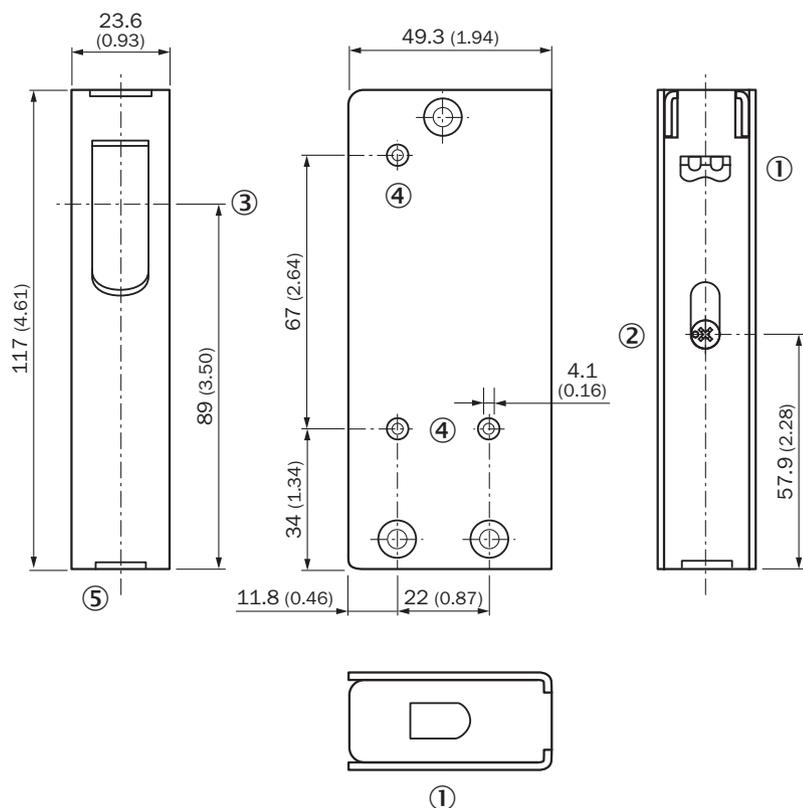
- ① Reflector PL80A
- ② Reflector C110A
- ⑤ Reflector PL30A
- ⑦ Reflective tape Diamond Grade

Sensing range diagram WL18-3, WL18-3 Ex



- Sensing range
- Sensing range max.
- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflector PL50A
- ④ Reflector PL40A
- ⑤ Reflector PL30A
- ⑥ Reflector PL20A
- ⑦ Reflective tape Diamond Grade

Dimensional drawing WL18-3 Ex



Dimensions in mm (inch)

- ① Display LED
- ② Adjustment of sensing range
- ③ Center of optical axis, sender
- ④ Mounting hole \varnothing 4.1 mm
- ⑤ Connection

Recommended accessories

Other models and accessories → www.sick.com/W18-3_Ex

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • 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 • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> • 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 • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-050UB3XLEAX	2095608
Mounting systems			
	<ul style="list-style-type: none"> • Description: Mounting bracket with hinged arm • Material: Steel • Details: Steel, zinc coated • Items supplied: Mounting hardware included • Suitable for: W14-2, W18-3 	BEF-WN-W18	2009317
	<ul style="list-style-type: none"> • Description: Mounting bracket • Material: Steel • Details: Steel, zinc coated • Items supplied: Mounting hardware included • Suitable for: W14-2, W18-3 	BEF-WN-W14	2019084
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Description: Universal mounting bracket for reflectors • Dimensions (W x H x L): 85 mm x 90 mm x 35 mm • Material: Steel • Details: Steel, zinc coated • Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A 	BEF-WN-REFX	2064574
reflectors and optics			
	<ul style="list-style-type: none"> • Description: Rectangular, screw connection • Dimensions: 51 mm 61 mm • Ambient operating temperature: -30 °C ... +65 °C 	P250	5304812

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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