



WT18X-3P920

W18-3 Ex

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WT18X-3P920	1029901

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

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	23.6 mm x 117 mm x 49.3 mm
Housing design (light emission)	Rectangular
Sensing range max.	10 mm ... 1,000 mm ¹⁾
Sensing range	50 mm ... 1,000 mm ¹⁾
Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 30 mm (600 mm)
Wave length	870 nm
Adjustment	Potentiometer, 4 turns
Special applications	Explosive areas

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
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¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_V 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.

Ripple	< 5 V _{pp} ²⁾
Current consumption	55 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Output current I_{max.}	≤ 100 mA
Response time	< 700 μs ⁴⁾
Switching frequency	700 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
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.

Certificates

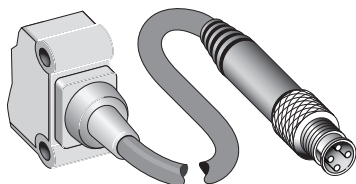
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

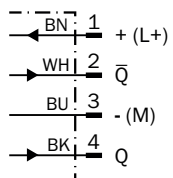
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904

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
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ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

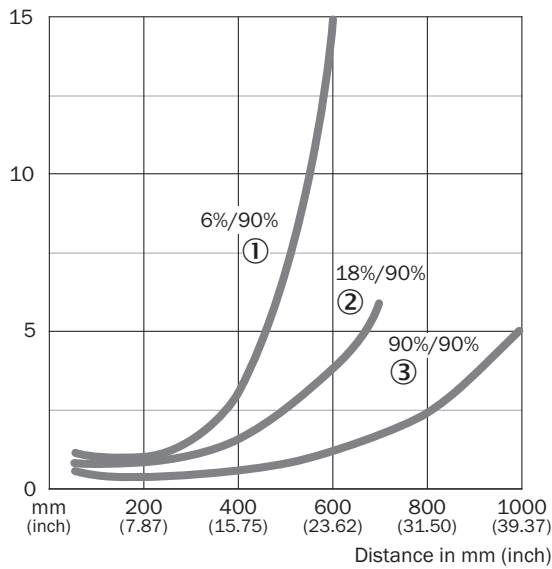
Connection type



Connection diagram Cd-083

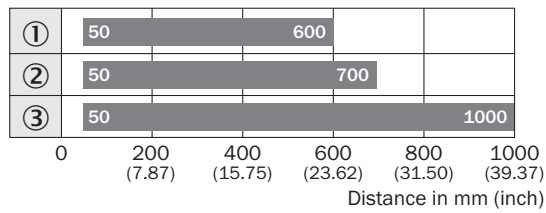


Characteristic curve WT18-3 (Ex), infrarret, 1,000 mm



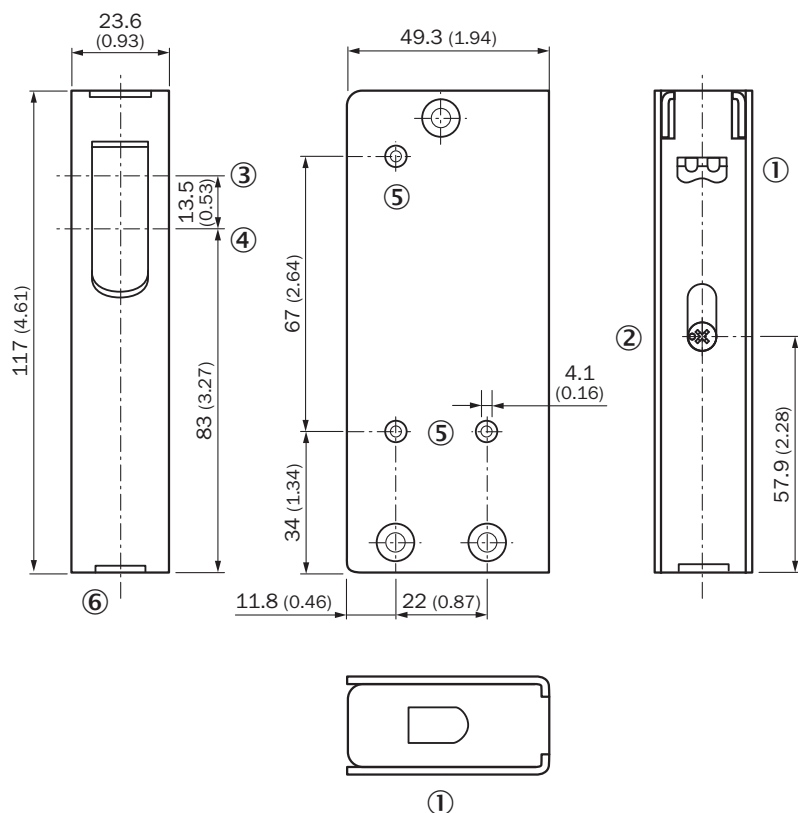
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Sensing range diagram WT18-3 (Ex), infrarret, 1,000 mm



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

Dimensional drawing WT18-3 Ex



Dimensions in mm (inch)

- ① Display LED
- ② Adjustment of sensing range
- ③ Center of optical axis, sender
- ④ Center of optical axis, receiver
- ⑤ Mounting hole \varnothing 4.1 mm
- ⑥ 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"> Description: Sensor/actuator cable, unshielded 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 Application: Uncontaminated zones, Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> Description: Unshielded Connection type head A: Male connector, M12, 4-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, 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

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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