



WT18X-3P920P01

W18-3

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
WT18X-3P920P01	1029240

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

Illustration may differ



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_J = +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, 0.29 m ⁶⁾
Cable material	Plastic, PVC
Circuit protection	A ⁷⁾ C ⁸⁾ D ⁹⁾
Weight	300 g
Special device	✓
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	3G, 3D
Ambient operating temperature	-20 °C ... +50 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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.

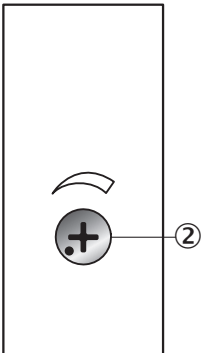
9) D = outputs overcurrent and short-circuit protected.

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

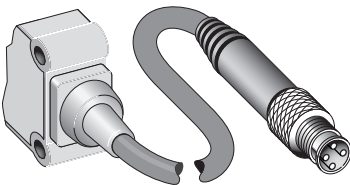
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments



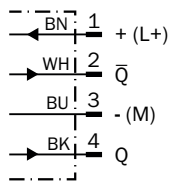
② Setting of the sensing range: potentiometer, 4 revolutions

Connection type



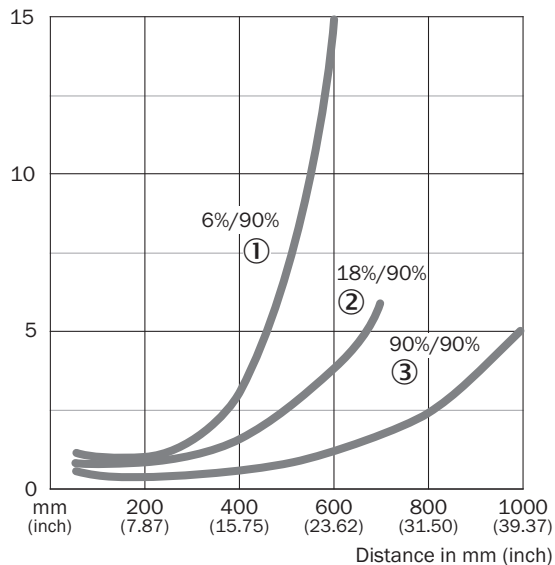
Connection diagram

Cd-083

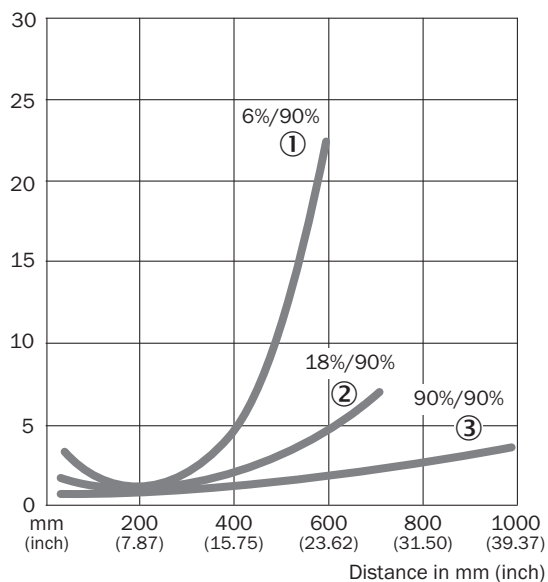


Characteristic curve

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

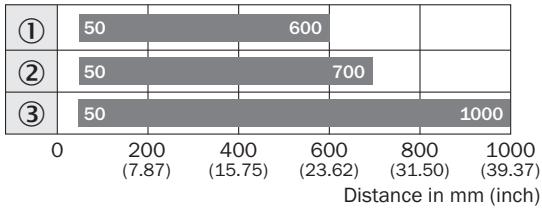


- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor



Sensing range diagram

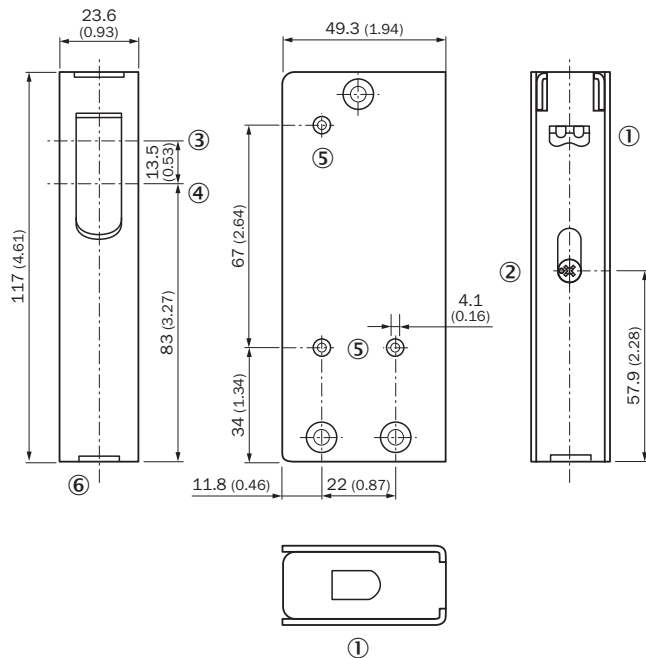
WT18-3 (Ex), infrarret, 1,000 mm



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

Dimensional drawing (Dimensions in mm (inch))



WT18-3 Ex



- 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

	Brief description	Type	Part no.
Others			
	<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 	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

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.”

WORLDWIDE PRESENCE:

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