

Photoelectric sensors
W18-3 Ex, Photoelectric proximity sensor,
Background suppression



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Model Name > [WT18X-3P920](#)
Part No. > [1029901](#)



Illustration may differ

At a glance

- Best-in-class optical performance due to superior OES3 technology
- Background suppression with second sender LED
- Slim, durable plastic housing
- Sensors meet requirements of category 3G/3D

Your benefits

- Reliable object detection due to best-in-class background suppression and ambient light immunity
- Reliable use in potentially explosive atmospheres
- High availability in the field
- Quick and easy installation using SICK accessories saves time



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	17.6 mm x 75.5 mm x 33.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	10 mm ... 1,000 mm ¹⁾
Sensing range:	50 mm ... 1,000 mm ²⁾
Type of light:	Infrared light
Light source:	LED ³⁾
Wave length:	870 nm
Adjustment:	Potentiometer, 4-turn
Light spot size (distance):	Ø 30 mm (600 mm)
Continuous threshold adaption:	-

^{1) 2)} Object with 90 % reflectance (referred to standard white DIN 5033) ³⁾ Average service life of 100,000 h at T_A = +25 °C

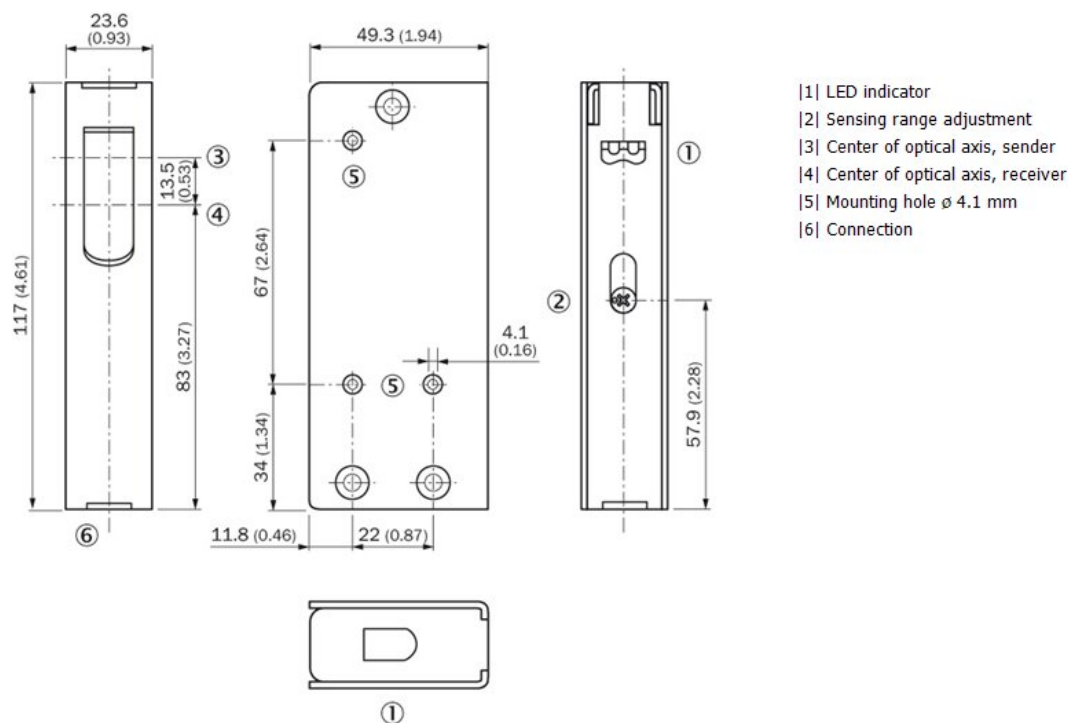
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Power consumption:	55 mA ²⁾
Output type:	PNP
Switching mode:	Light/dark-switching
Output current I _{max} :	100 mA
Response time:	< 700 µs ³⁾
Switching frequency:	± 700 Hz ⁴⁾

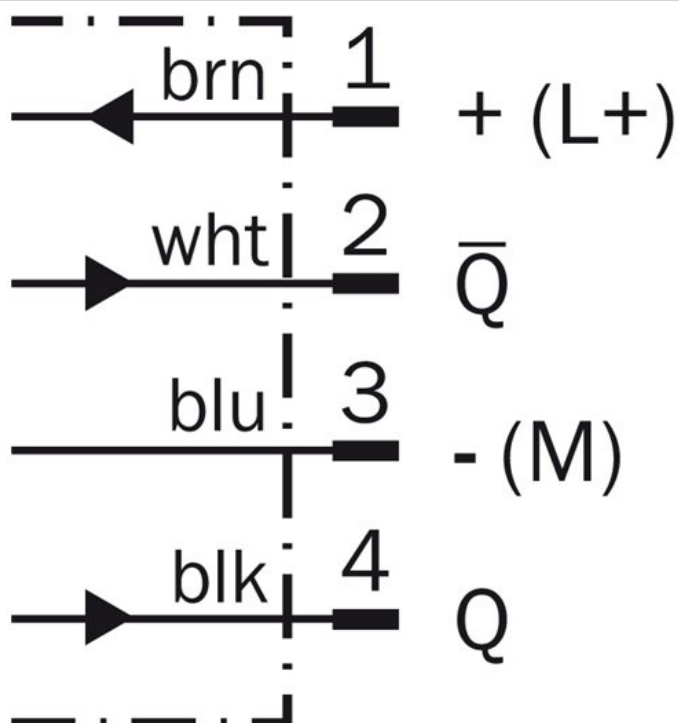
Connection type:	Cable with connector M12, 4-pin, 0.29 m ⁵⁾
Cable material:	PVC
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	300 g
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
ATEX marking:	EX II 3D IP67 T70 °C Ex II 3G EEx nA II T4 X ⁹⁾
Hazardous area category:	3D, 3G
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C

¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ Without load ³⁾ Signal transit time with resistive load ⁴⁾ With light/dark ratio 1:1 ⁵⁾ Do not bend below 0 °C ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾ Conformity with directives. Explosion prevention: Directive 94/9/EC

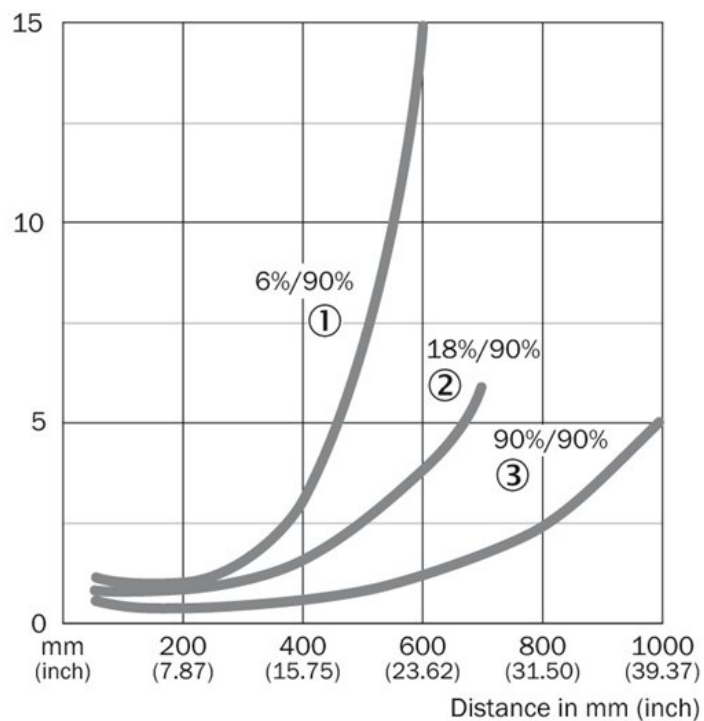
Dimensional drawing



Connection diagram

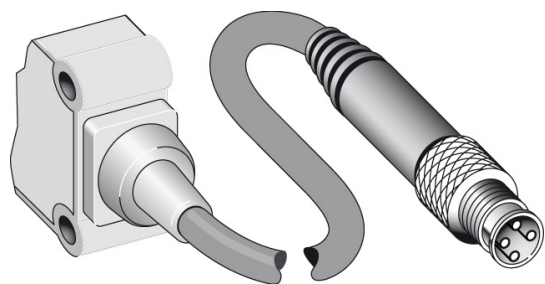


Characteristic curve

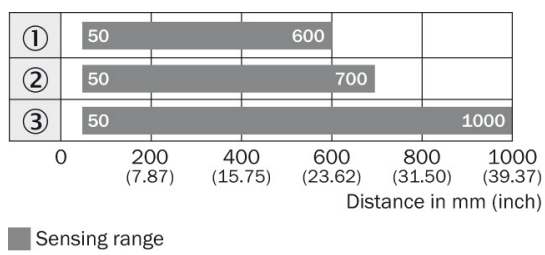


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



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