



Photoelectric sensors W27-3 Ex, Photoelectric proximity sensor, Background suppression

WTB27X-3P1811



Photoelectric sensors W27-3 Ex, Photoelectric proximity sensor, Background suppression

Model Name > [WTB27X-3P1811](#)
Part No. > [1027988](#)



Illustration may differ

At a glance

- Classification: EX II 3D IP67 T70°C, EX II 3G EEx nA II T4 X according to Directive 94/9/EC (ATEX)
- Corresponds to category 3D/3G
- Conform to standards and ready-to-install: Sensor + protective housing (stainless steel 1.4301)
- Long sensing distances with IR LED
- Precise background suppression with no scanning distance drift
- Resistant to ambient light, optical reflections, and crosstalk from other photoelectric devices

Your benefits

- Ready-to-install sensors including metal housing conform with the 3G/3D category for explosive zones (ATEX)
- Very precise detection with resistance to vibrations
- Less downtime due to ASIC (application-specific integrated circuit) chip technology by SICK
- Resistant to ambient light, optical reflections, and immune to crosstalk from other photoelectric devices, reducing false detection



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	31.4 mm x 112.3 mm x 70.4 mm
Housing design (light emission):	Rectangular
Sensing range max.:	30 mm ... 1,600 mm ¹⁾
Sensing range:	100 mm ... 1,600 mm
Type of light:	Infrared light
Light source:	LED ²⁾
Wave length:	880 nm
Adjustment:	Potentiometer
Light spot size (distance):	Ø 25 mm (800 mm)

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

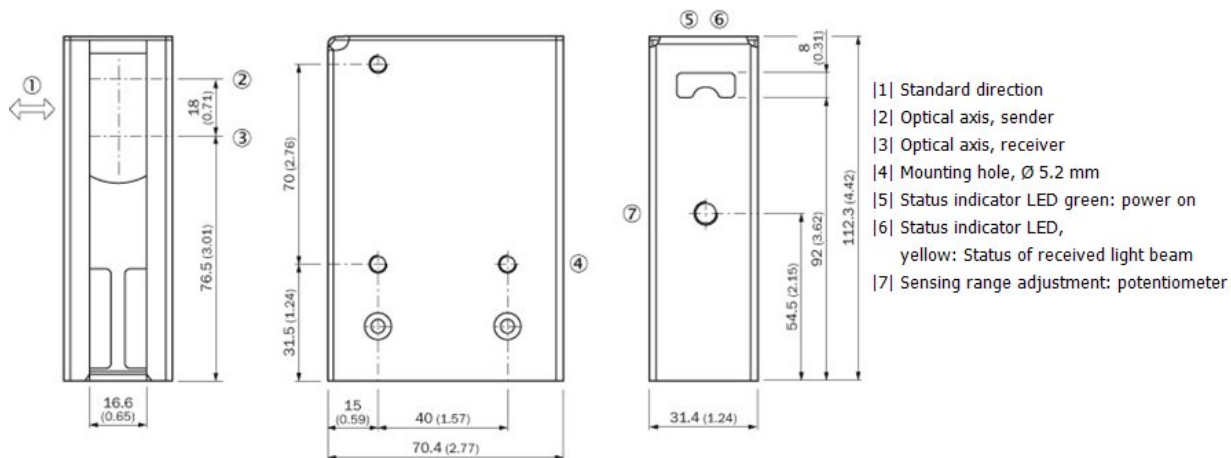
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Power consumption:	≤ 40 mA ²⁾

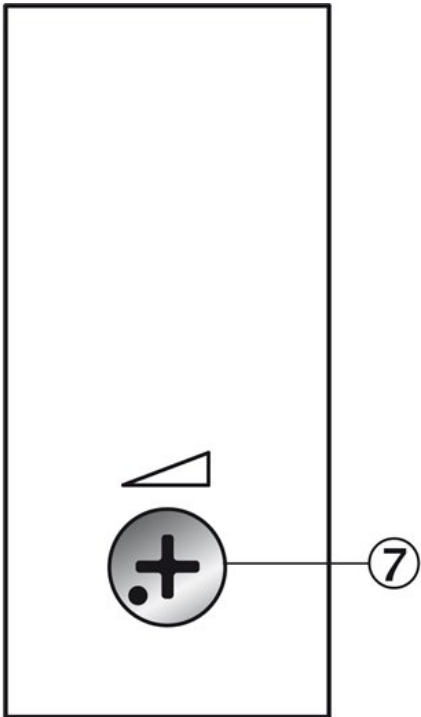
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark-switching
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.5 V / 0 V
Output current I _{max} :	≤ 100 mA
Response time:	≤ 1.5 ms ³⁾
Switching frequency:	350 Hz ⁴⁾
Connection type:	Cable, 4-wire, 10 m ⁵⁾
Cable material:	PVC
Circuit protection:::	A, B, C ⁶⁾ 7) 8)
Protection class:	II ⁹⁾
Weight:	750 g
Housing material:	ABS, Stainless steel V2A (1.4301), Plastic, Metal
Optics material:	PMMA
Enclosure rating:	IP 67
ATEX marking:	EX II 3D IP67 T70 °C Ex II 3G EEx nA II T4 X
Hazardous area category:	3D, 3G
Ambient operating temperature:	-20 °C ... 50 °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) B = inputs and output reverse-polarity protected 8) C = interference suppression 9) Reference voltage 50 V DC

Dimensional drawing

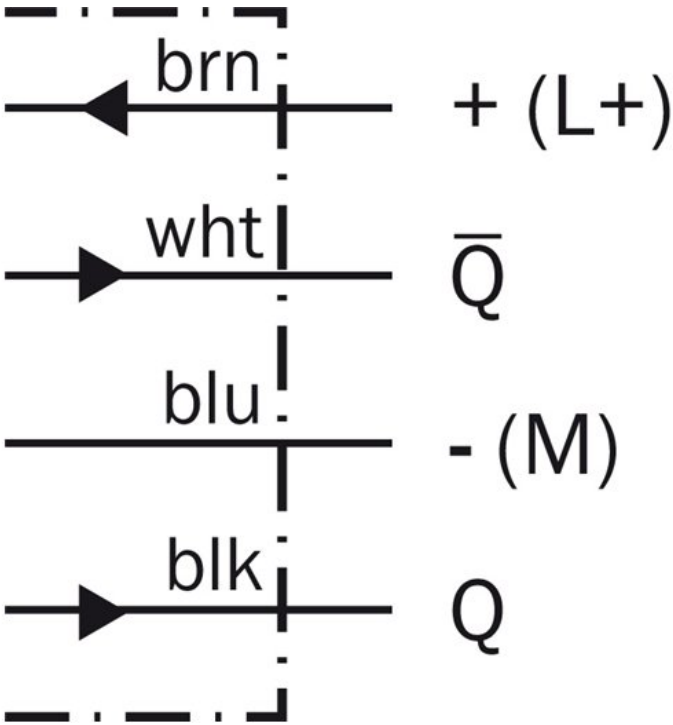


Adjustments possible

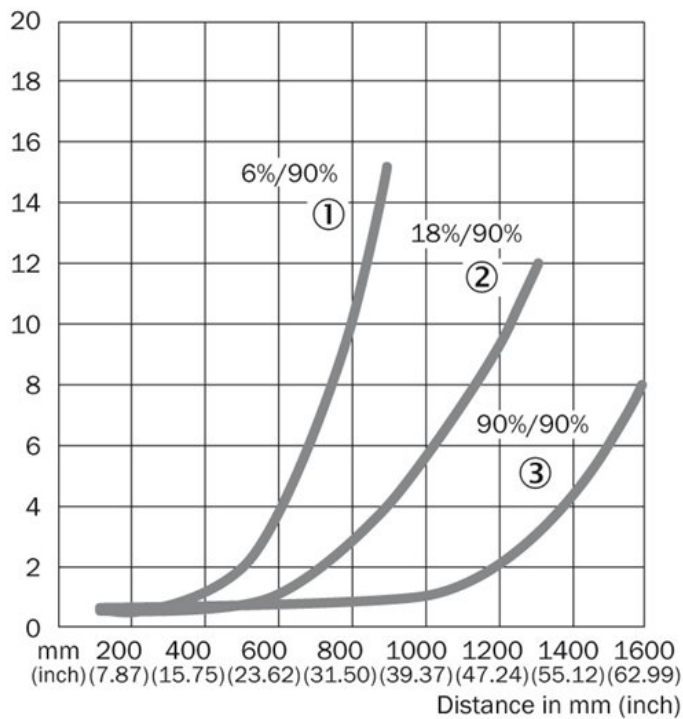


[7] Sensing range adjustment: potentiometer

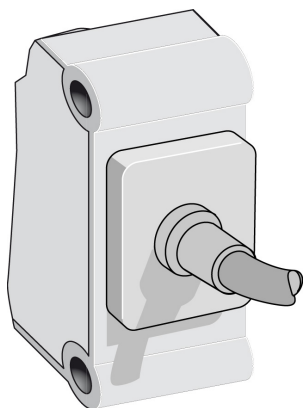
Connection diagram



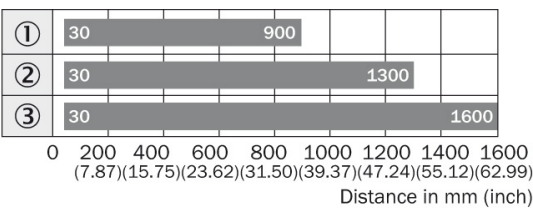
Characteristic curve



Connection type



Sensing range diagram



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

Australia

Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com