



Photoelectric sensors W27-3 Ex, Photoelectric retro-reflective sensor

WL27X-3P3431



Model Name > [WL27X-3P3431](#)
Part No. > [1029955](#)



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 and additional protective housing (stainless steel 1.4301)
- Long sensing range with a high operating reserve
- Red light for easy alignment
- Reliable operation in industrial environments, even when devices are mounted opposite one another

Your benefits

- Ready-to-install sensors conform to the 3G/3D category for explosive zones (ATEX)
- Less contamination due to high operating reserves, reducing downtime
- Resistant to vibrations, reducing downtime
- Withstands harsh environments, making it suitable for a wide range of applications with operating temperatures from -40 °C - +60 °C



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor
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.:	0.1 m ... 15 m ¹⁾
Sensing range:	0.1 m ... 11 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	660 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer
Light spot size (distance):	Ø 220 mm (10 m)

^{1) 2)} PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

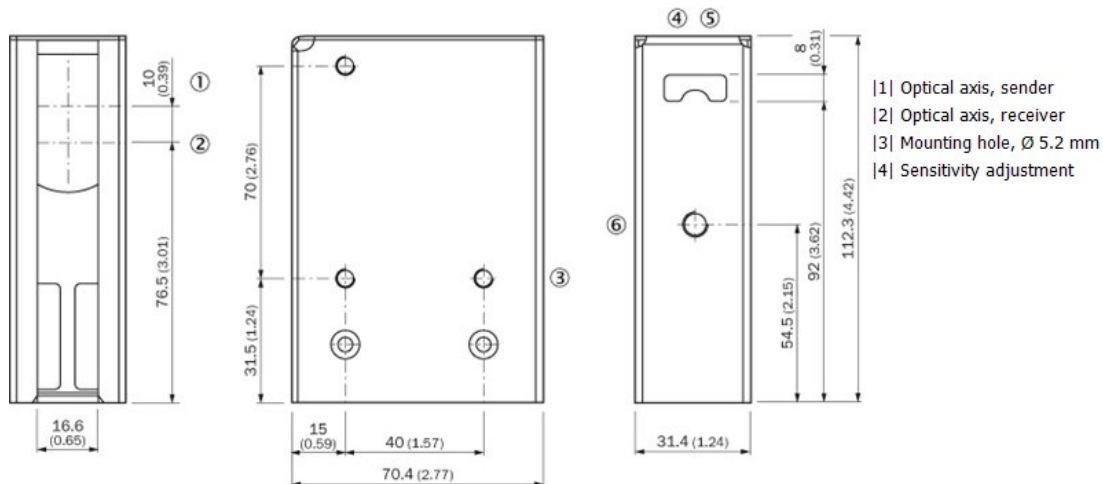
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Power consumption:	≤ 35 mA ²⁾
Output type:	PNP

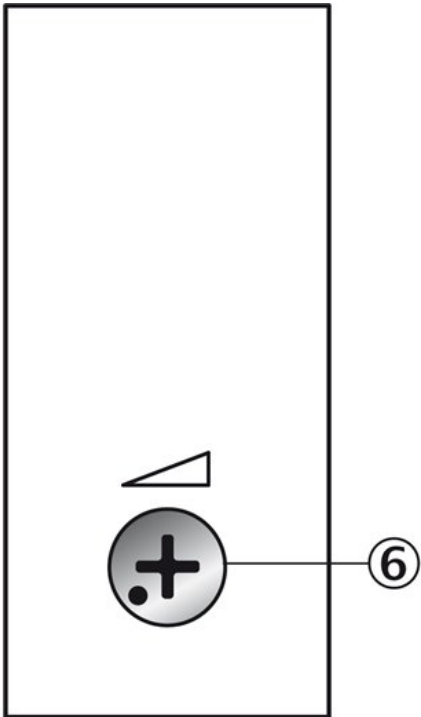
Output function:	Complementary
Switching mode:	Light/dark-switching
Signal voltage PNP HIGH/LOW:	Approx. $V_S - 2.5\text{ V} / 0\text{ V}$
Output current I_{max} :	$\leq 100\text{ mA}$
Response time:	$\leq 500\text{ }\mu\text{s}$ ³⁾
Switching frequency:	1,000 Hz ⁴⁾
Connection type:	Cable with connector M12, 4-pin
Circuit protection:::	A, B, C ⁵⁾ ⁶⁾ ⁷⁾
Protection class:	II ⁸⁾
Weight:	750 g
Polarisation filter:	✓
Housing material:	ABS, Stainless steel, Stainless steel V2A (1.4301), Plastic
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⁾ $A = V_S$
connections reverse-polarity protected ⁶⁾ B = inputs and output reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ Reference voltage 50 V DC

Dimensional drawing

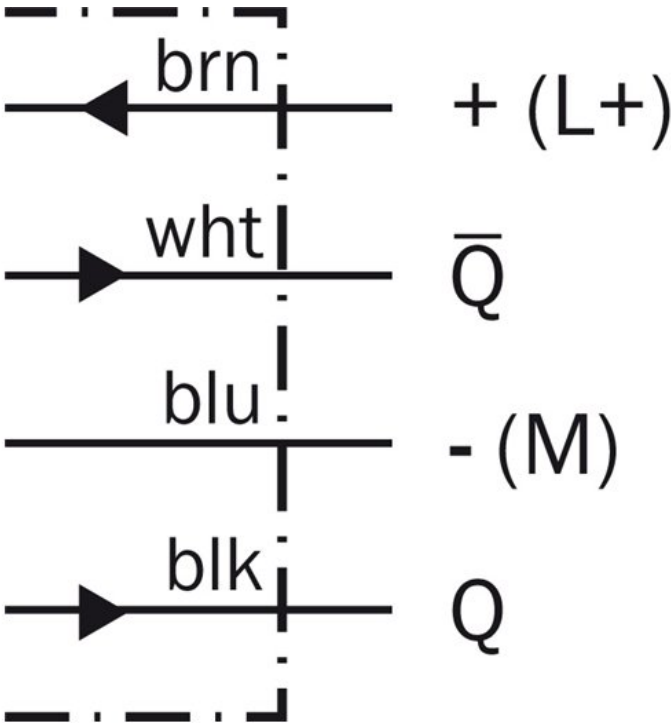


Adjustments possible

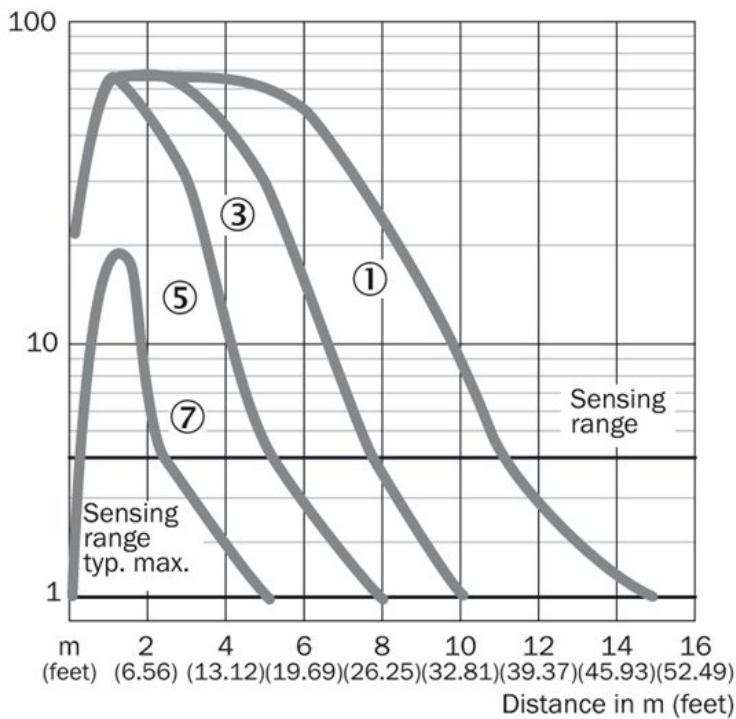


|6| Sensitivity adjustment: poti

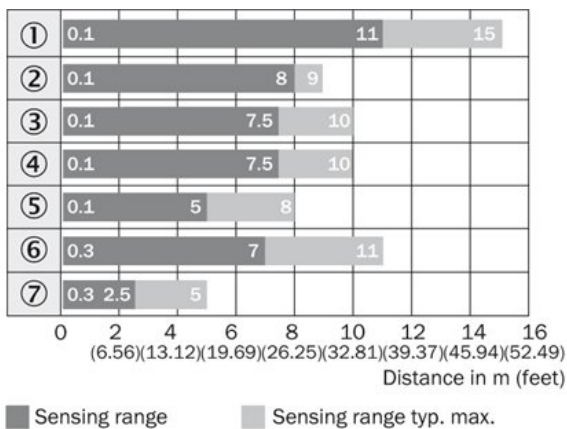
Connection diagram



Characteristic curve



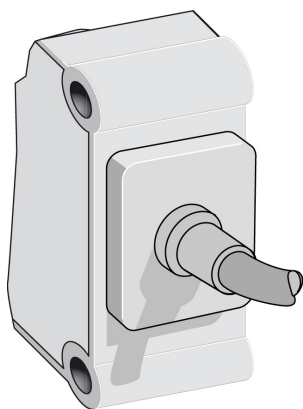
Sensing range diagram



Reflector type

- ① PL80A
- ② PL50A
- ③ PL40A
- ④ PL30A
- ⑤ PL20A
- ⑥ C110
- ⑦ Reflective tape
Diamond Grade

Connection type



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