



Photoelectric sensors  
W27-3, Photoelectric retro-reflective sensor,  
Standard optics

WL27-3P2450



**Model Name** > [WL27-3P2450](#)  
**Part No.** > [1027771](#)



*Illustration may differ*

**At a glance**

- Long sensing range with a high operating reserve
- Quick alignment with red emitting LED
- Resistant to ambient noise such as crosstalk from another sensor
- Optional front screen heating and time delays
- Operating temperature: -40 °C - +60 °C
- UL approval

**Your benefits**

- Resistant to contamination due to high operating reserve
- Optional features, such as time delays, enhance functionality when needed
- Resistant to vibrations, reducing downtime
- Reliable operation in harsh environments with temperatures as low as -40 °C
- Durable housing with reinforced mounting holes withstands harsh conditions
- Quick alignment with red emitting LED



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.1 m ... 15 m <sup>1)</sup>
Sensing range:	0.1 m ... 11 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	660 nm
Angle of dispersion:	Ca. 1.5 °
Light spot size (distance):	Ø 220 mm (10 m)

<sup>1) 2)</sup> PL80A <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

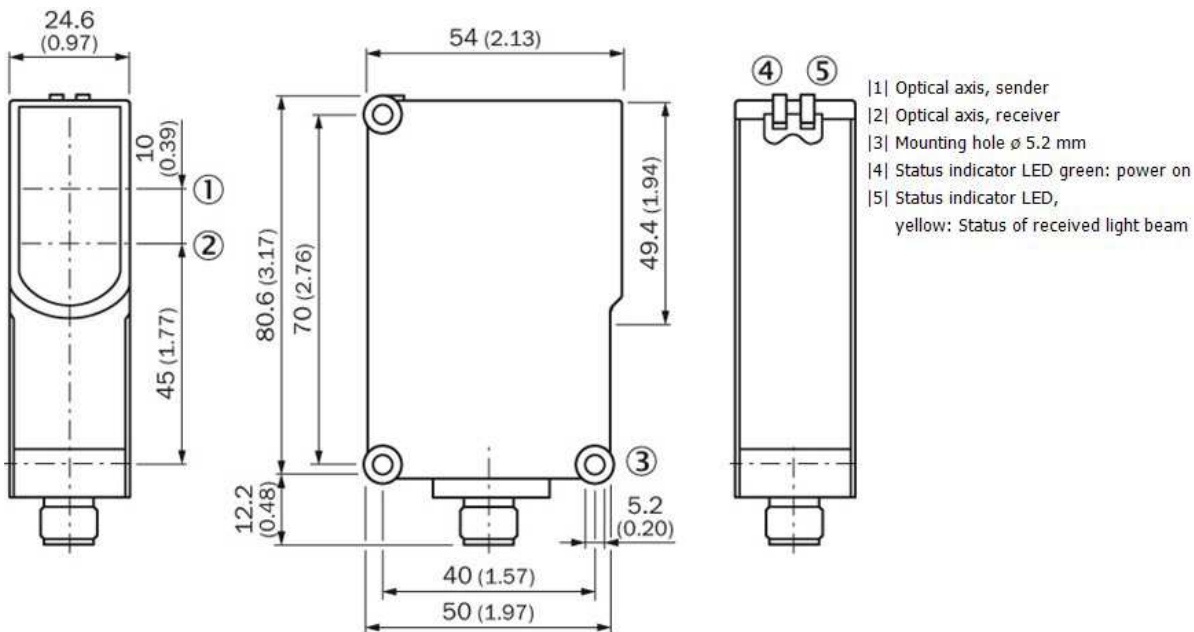
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Power consumption:	≤ 45 mA <sup>2)</sup>
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.5 V / 0 V

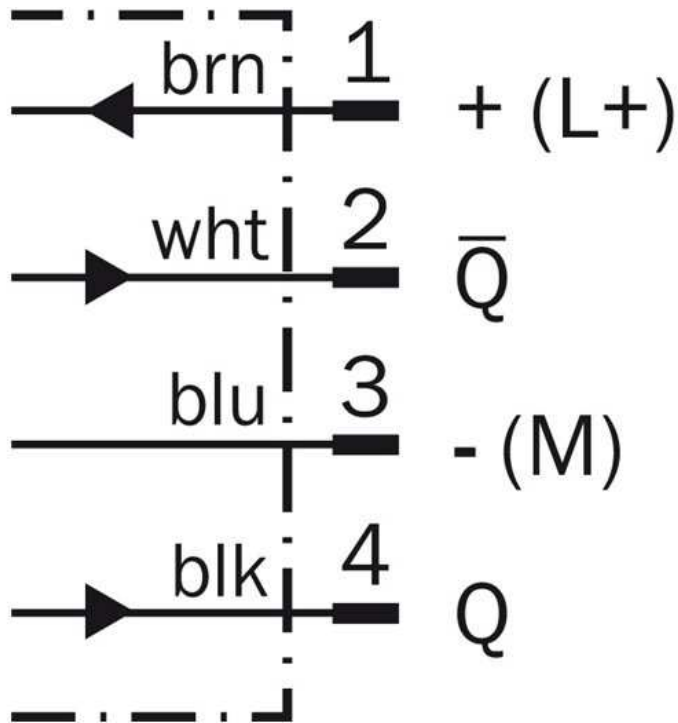
Output current I <sub>max</sub> ..:	≤ 100 mA
Response time:	≤ 500 μs <sup>3)</sup>
Switching frequency:	1,000 Hz <sup>4)</sup>
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, C <sup>5) 6) 7)</sup>
Protection class:	II <sup>8)</sup>
Weight:	100 g
Polarisation filter:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 69K
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

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<sub>S</sub>  
connections reverse-polarity protected 6) B = inputs and output reverse-polarity protected 7) C = interference suppression 8) Reference voltage 50 V DC

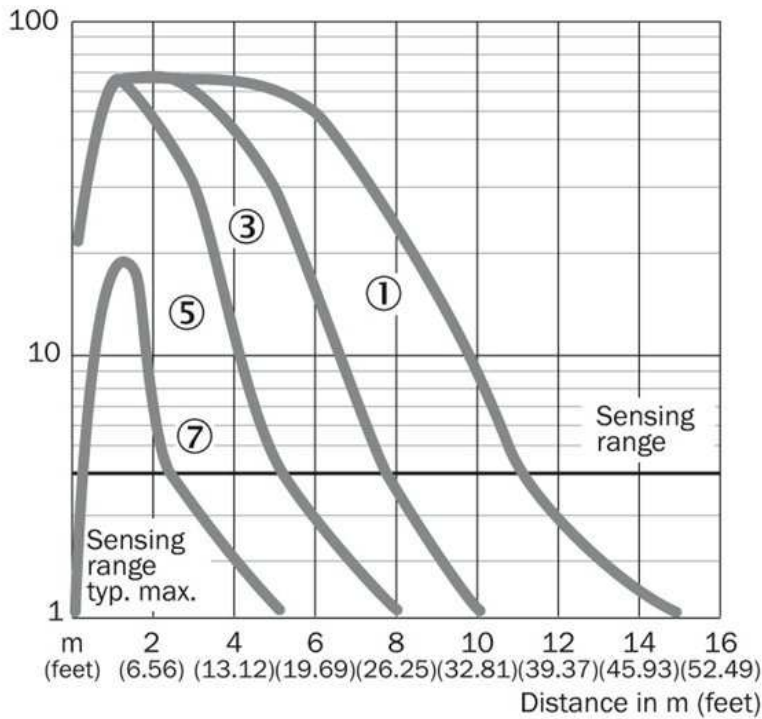
### Dimensional drawing



Connection diagram

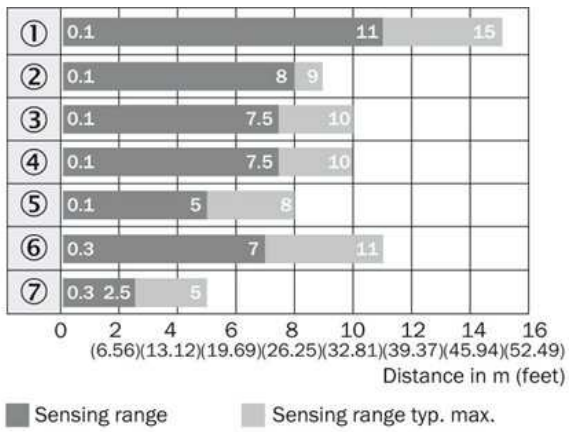


Characteristic curve



- [1] PL80A
- [3] PL40A
- [5] PL20A
- [7] Reflective tape Diamond Grade

## Sensing range diagram



- |1| PL80A
- |2| PL50A
- |3| PL40A
- |4| PL30A
- |5| PL20A
- |6| C110A
- |7| Reflective tape Diamond Grade

### 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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