



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

WL27-3R2631



Model Name > [WL27-3R2631](#)
Part No. > [1027776](#)



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 ¹⁾
Sensing range:	0.1 m ... 11 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Light spot (distance):	220 mm (10 m)
Wave length:	660 nm
Sensitivity adjustment:	Potentiometer
Time type:	Switch on delay time delay off switch on delay and time delay off
Delay time:	Adjustable via time delay selector switch: 0.5 ... 10 s
Angle of dispersion:	1.5 °

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

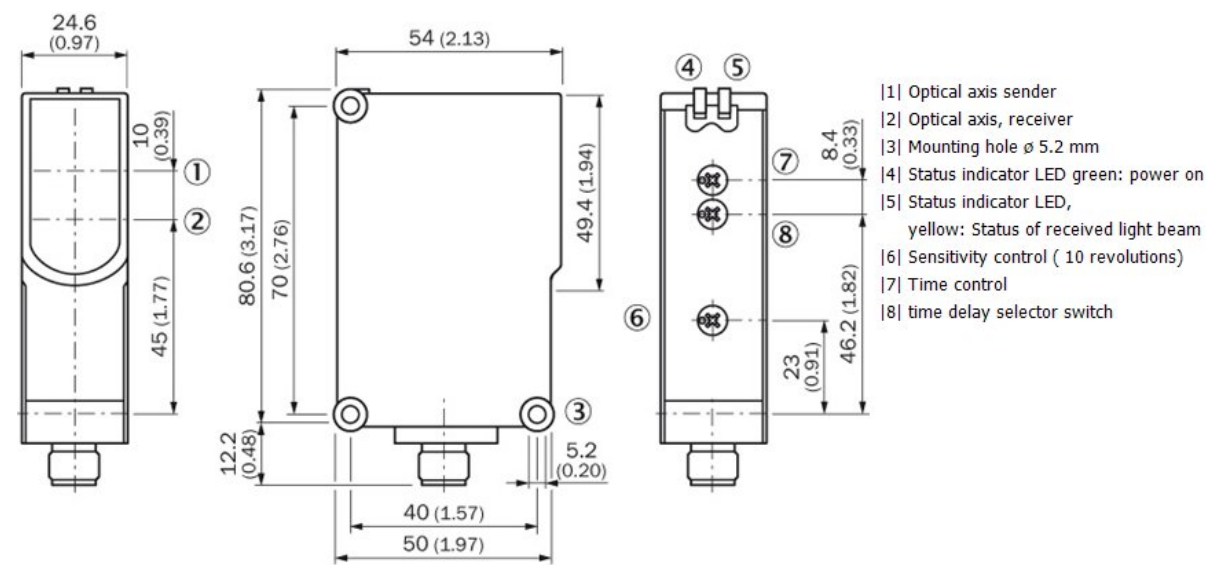
Mechanics/electronics

Supply voltage:	24 V AC/DC ... 240 V AC/DC ¹⁾
Power consumption:	≤ 2.5 VA
Output type:	Relay, Light/dark-switching, selectable via time delay selector switch, change-over contacts, electrically isolated ²⁾
Switching current (switching voltage):	0.11 A (250 V DC), 3 A (24 V DC), 3 A (250 V AC)
Response time:	≤ 10 ms
Switching frequency:	10 Hz ³⁾
Connection type:	Connector Q6, 6-pin, AC/UC-coding
Circuit protection:	A, C ⁴⁾ ⁵⁾
Protection class:	II ⁶⁾
Weight:	120 g
Polarisation filter:	✓
Housing material:	ABS
Optics material:	PMMA
Enclosure rating:	IP 65
Usage category:	AC-15, DC-13, According to EN 60947-1
Ambient operating temperature:	-40 °C ... 60 °C ⁷⁾
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

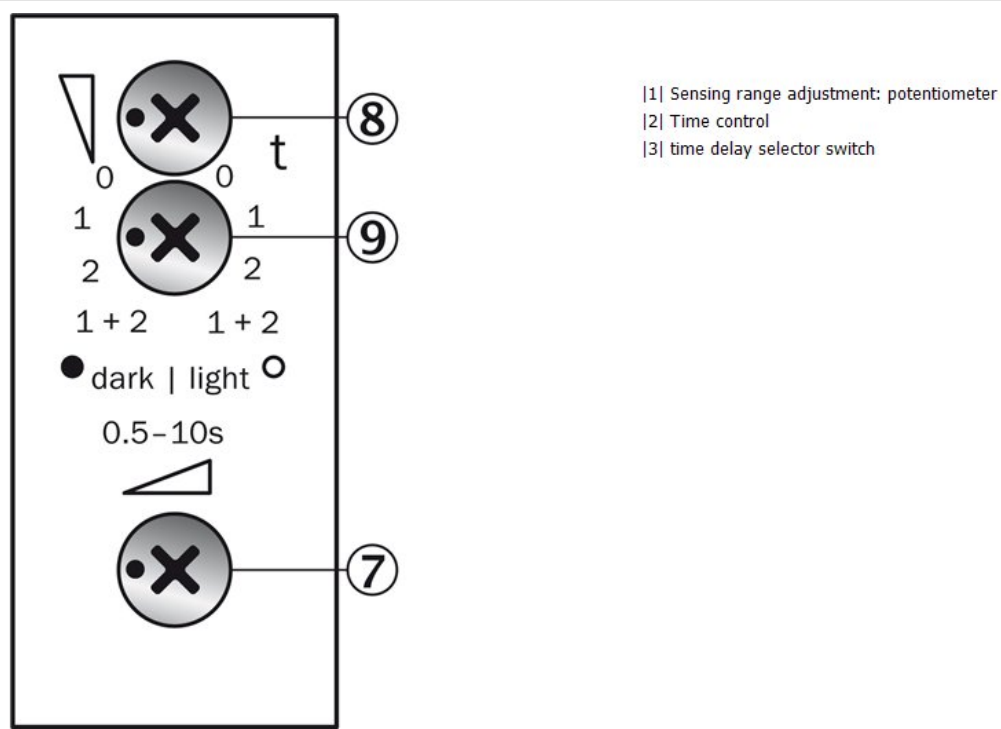
Provide suitable spark suppression for inductive or capacitive loads. Relay contacts are separated from the power supply by a basic isolation of 3 mm. Depending on the application, additional isolation might have to be applied in the user's circuit.;

¹⁾ +- 10 % ²⁾ Provide suitable spark suppression for inductive or capacitive loads. Relay contacts are separated from the power supply by a basic isolation of 3 mm. Depending on the application, additional isolation might have to be applied in the user's circuit. ³⁾ With light/dark ratio 1:1 ⁴⁾ A = V_S connections reverse-polarity protected ⁵⁾ C = interference suppression ⁶⁾ Reference voltage 250 V AC ⁷⁾ UL: 0 °C ... +60 °C

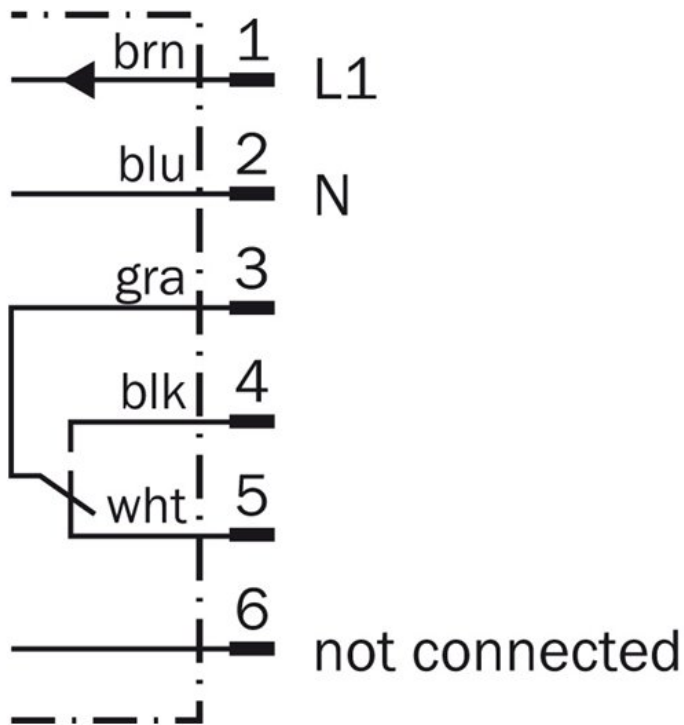
Dimensional drawing



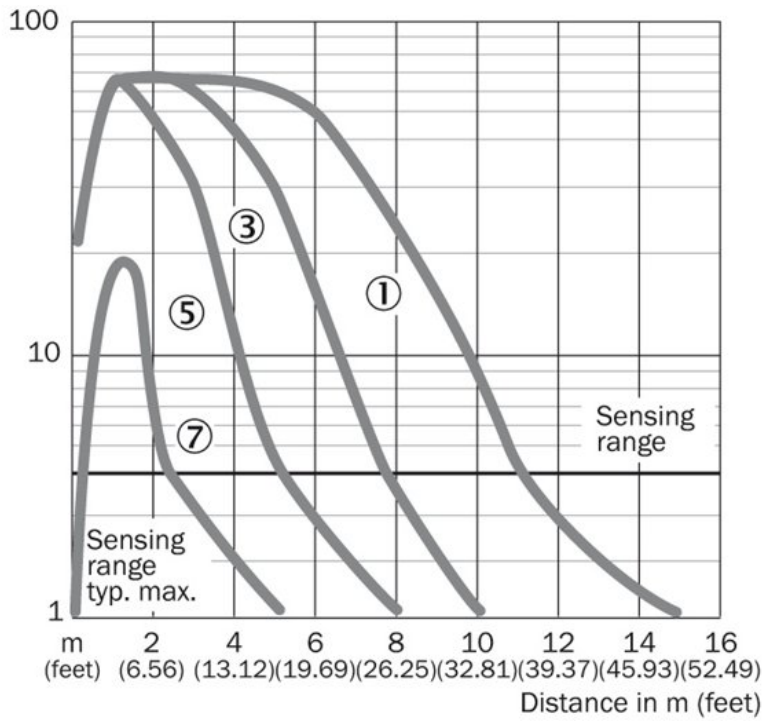
Adjustments possible



Connection diagram

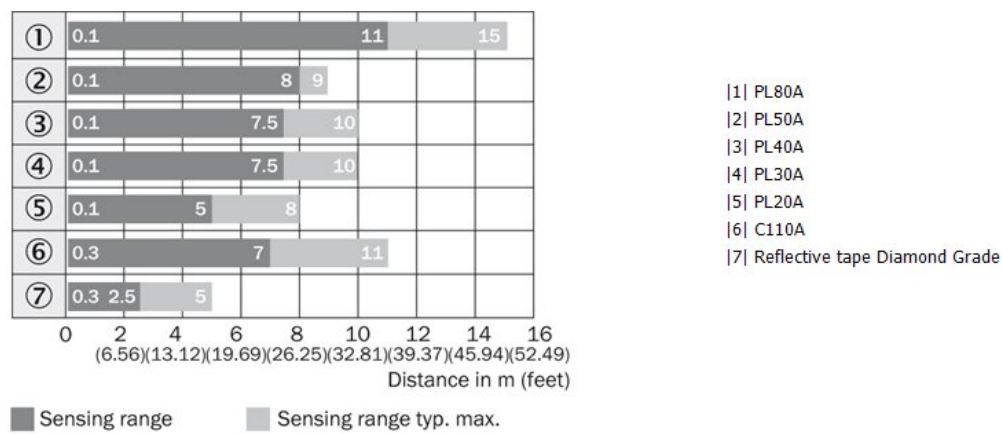


Characteristic curve



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

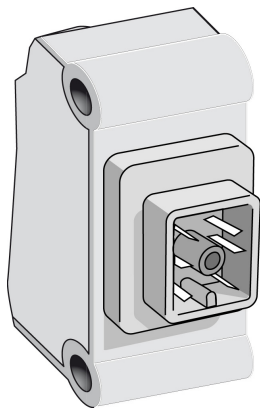
Sensing range diagram



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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