



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

WL27-3P2461



Model Name > [WL27-3P2461](#)
Part No. > [1044166](#)



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 ... 19 m ¹⁾
Sensing range:	0.1 m ... 14 m ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Angle of dispersion:	Ca. 0.6 °
Adjustment:	Potentiometer
Light spot size (distance):	Ø 60 mm (6 m)

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

Mechanics/electronics

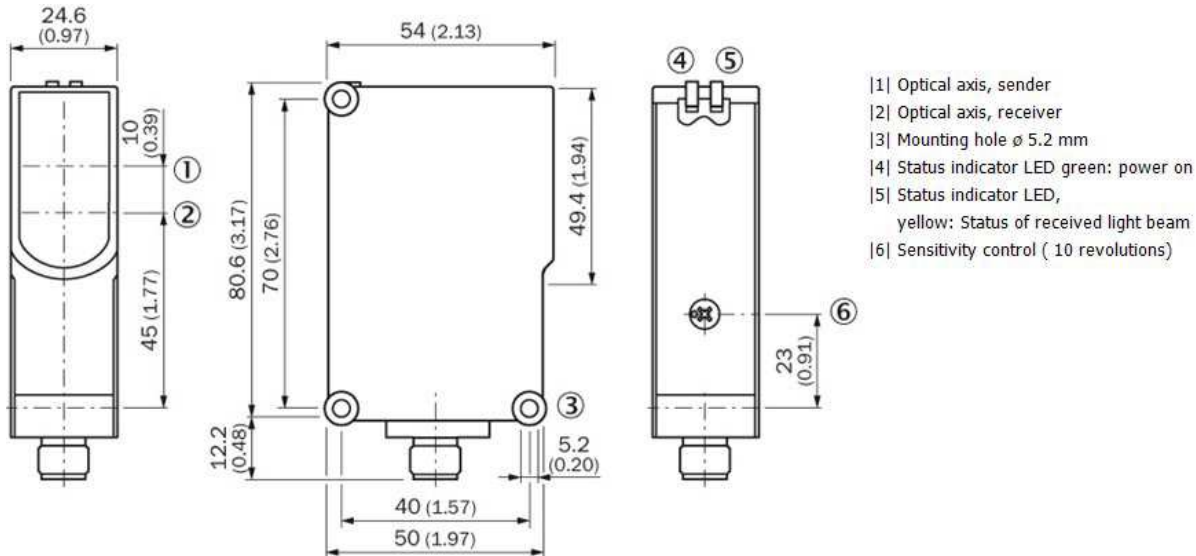
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching

Output current I _{max} ::	≤ 100 mA
Response time:	≤ 500 μs ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, C ⁶⁾ 7) 8)
Protection class:	II ⁹⁾
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
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.5 V/0 V

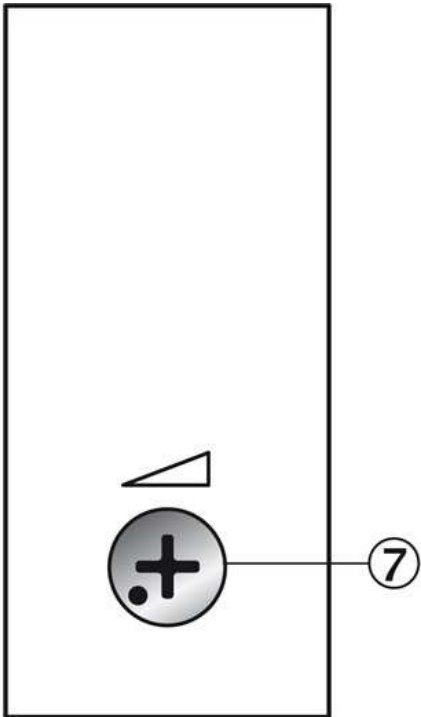
1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of V_S tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A = V_S connections reverse-polarity protected 7) B = inputs and output reverse-polarity protected 8) C = interference suppression 9)

Reference voltage: 50 V DC

Dimensional drawing

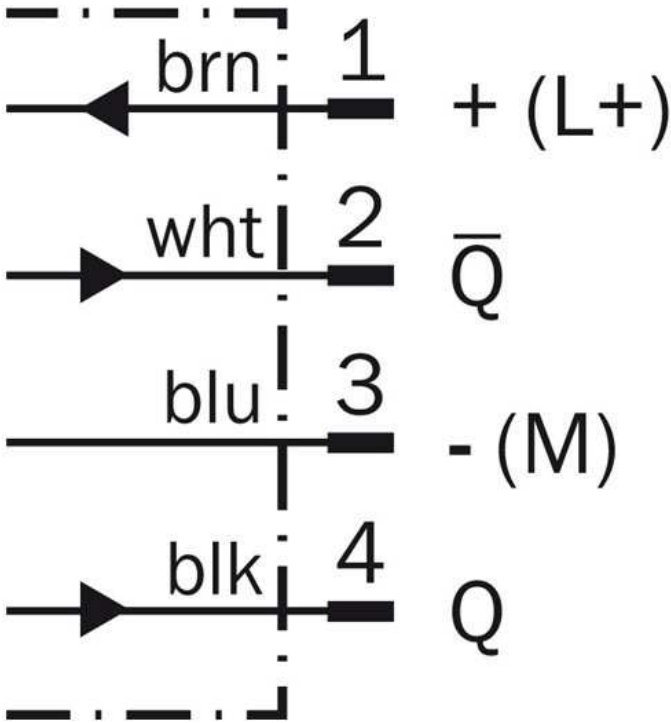


Adjustments possible

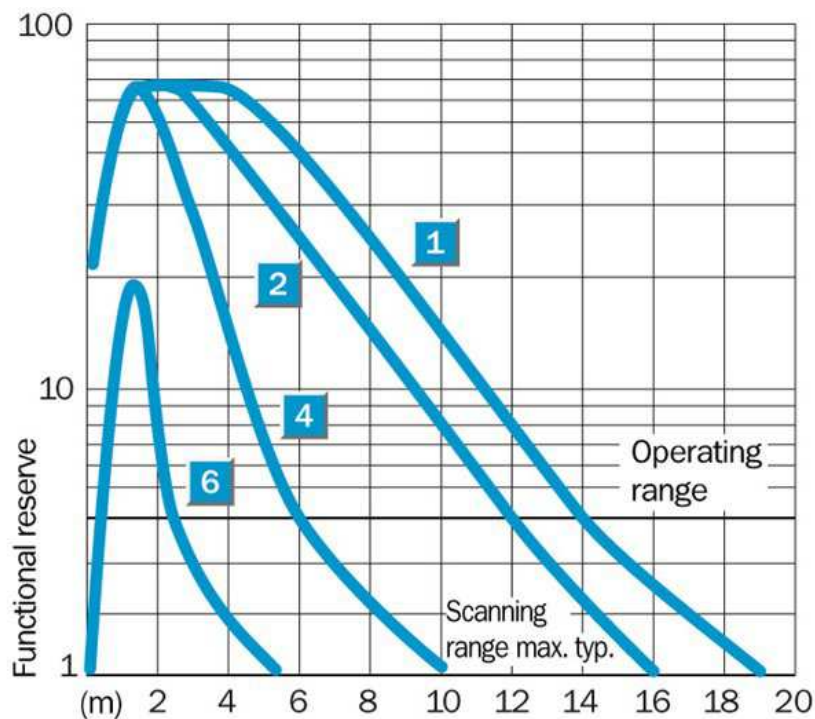


|1| Potentiometer

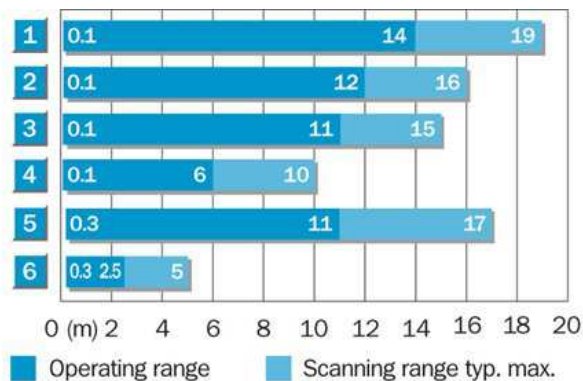
Connection diagram



Characteristic curve



Sensing range diagram



	Reflector type	Operating range
1	PL80A	0.1 ... 14.0 m
2	PL40A	0.1 ... 12.0 m
3	P250	0.1 ... 11.0 m
4	PL20A	0.1 ... 6.0 m
5	C110A	0.3 ... 11.0 m
6	Reflective tape Diamond Grade	0.3 ... 2.5 m

Connection type



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