



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

WL27-3F2631S04



Model Name > [WL27-3F2631S04](#)
Part No. > [1028064](#)



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
Delay time:	≤70 ms, Adjustable via time delay selector switch: ≤30 ms
Angle of dispersion:	1.5 °

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

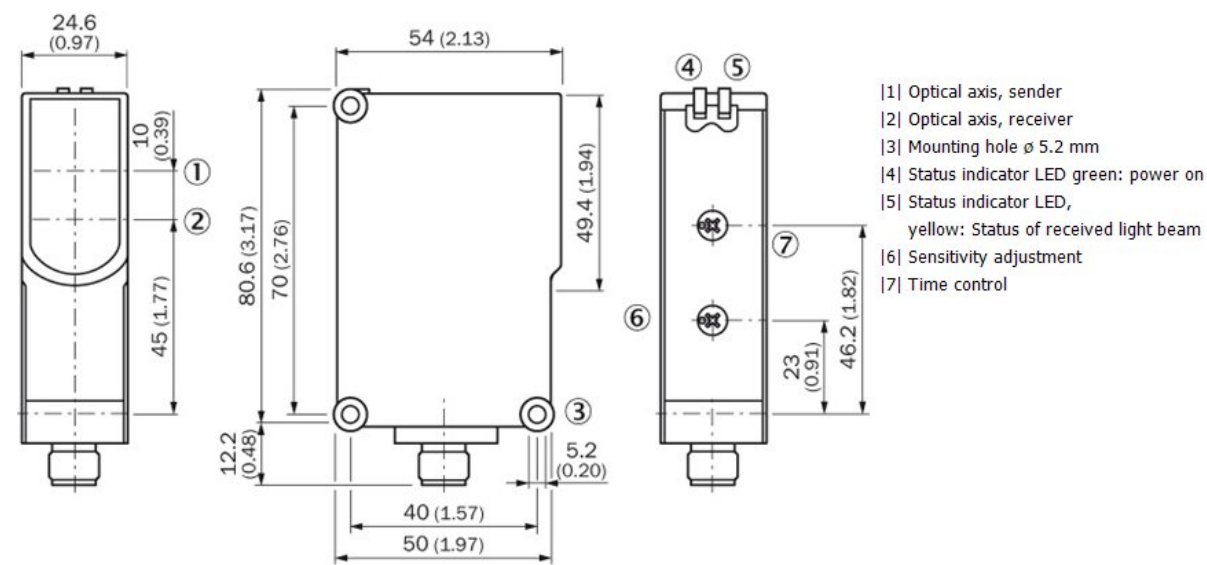
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾

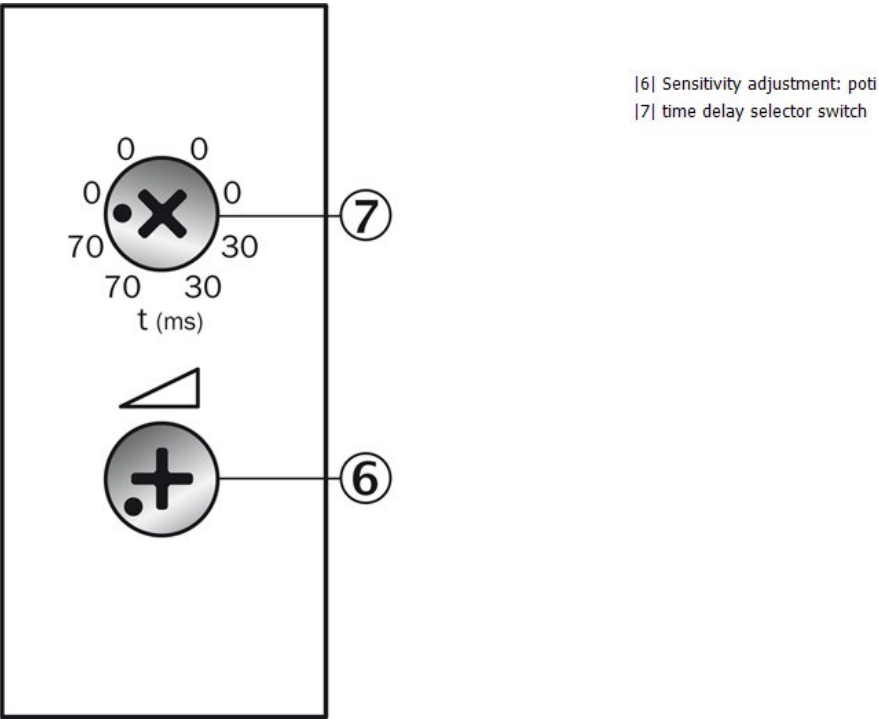
Power consumption:	$\leq 30 \text{ mA}$ ³⁾
Output type:	PNP, Light/dark-switching, Complementary
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.5 V / 0 V
Output current I _{max} :	$\leq 100 \text{ mA}$
Response time:	$\leq 200 \mu\text{s}$ ⁴⁾
Switching frequency:	2,500 Hz ⁵⁾
Connection type:	Connector Q6, 6-pin, DC-coding
Circuit protection:::	A, B, C ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	II ⁹⁾
Weight:	100 g
Polarisation filter:	✓
Special device:	✓
Housing material:	ABS
Optics material:	PMMA
Enclosure rating:	IP 65
Special features:	Higher switching frequency, Time delay: switch on delay of 30 ms or 70 ms
Test input sender off:	TE to 0 V
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

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 and inactive time delay 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

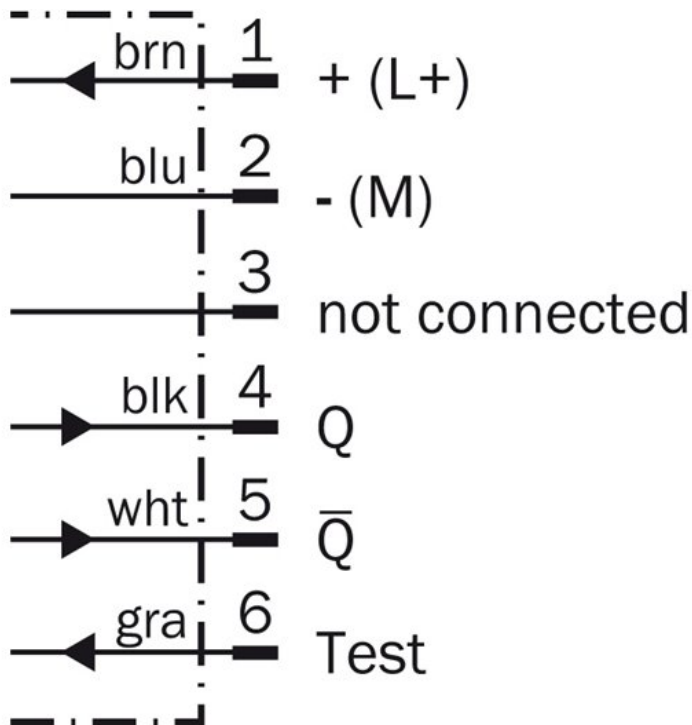
Dimensional drawing



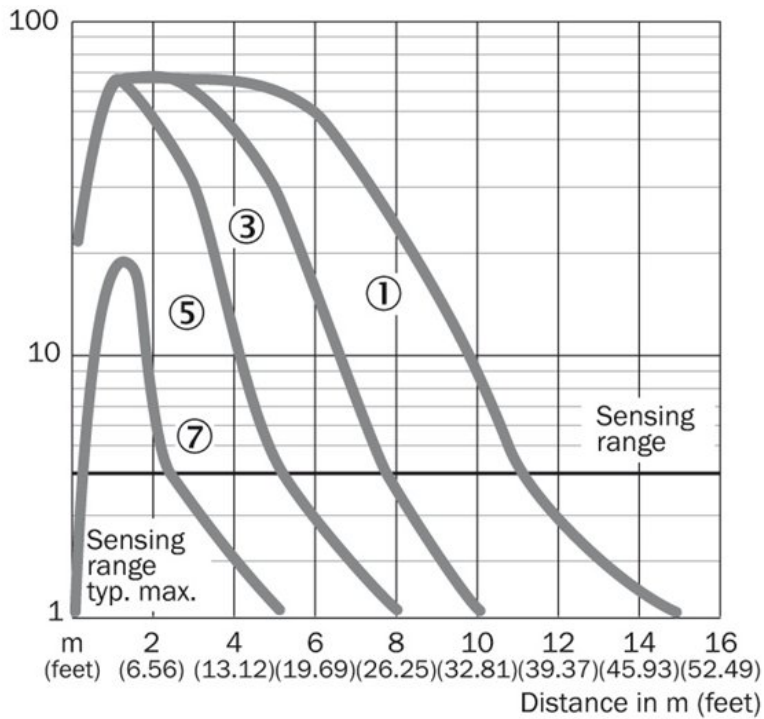
Adjustments possible



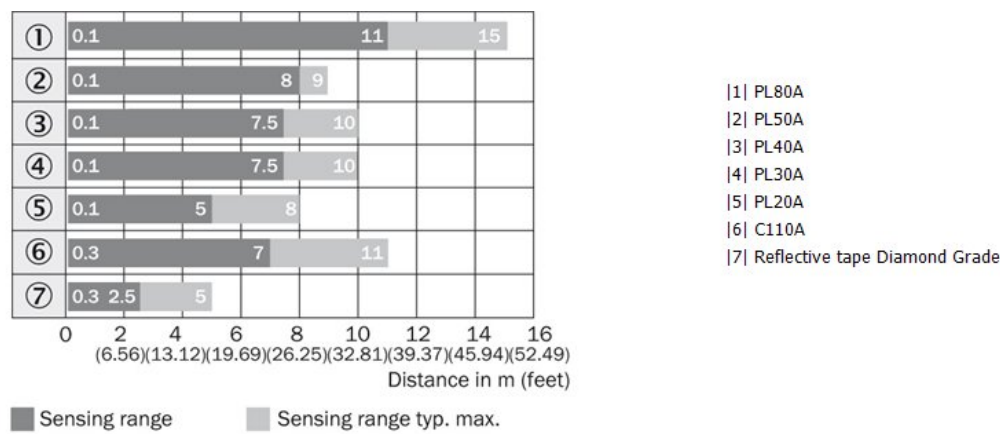
Connection diagram



Characteristic curve



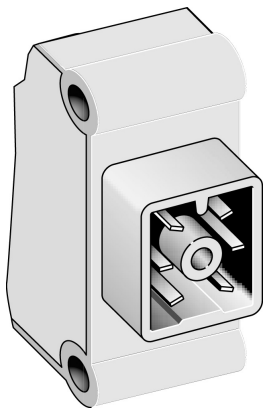
Sensing range diagram



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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