



Photoelectric sensors
W27-3, Photoelectric proximity sensor,
Background suppression

WTB27-3F2411



Model Name > [WTB27-3F2411](#)
Part No. > [1027753](#)



Illustration may differ

At a glance

- Precise background suppression with no scanning distance drift
- PinPoint technology: intense red LED with consistent light spot
- Resistant to ambient light, optical reflections, and crosstalk from other photoelectric devices
- Sensing range adjustment with potentiometer or teach-in
- Operating temperature: -40 °C to +60 °C
- Flexible sensing ranges and hysteresis settings
- Key lock function, remote teach, quality monitoring
- Diagnostics messages (contamination and short-circuit)

Your benefits

- PinPoint technology can replace laser photoelectric proximity sensors in some applications. No laser safety regulations and a longer operating life due to PinPoint technology
- Less downtime due to ASIC (application-specific integrated circuit) chip technology by SICK
- Resistant to ambient light, optical reflections, and immune to crosstalk from other photoelectric devices, reducing false detection
- Durable housing with reinforced mounting holes withstands harsh conditions
- Reliable operation in harsh environments with temperatures as low as -40 °C
- Quick and easy format adjustment
- Easy monitoring of sensor status
- Key lock function and parameter download prevent incorrect settings
- Simple sensor cloning



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	24.6 mm x 80.6 mm x 54 mm
Housing design (light emission):	Rectangular
Sensing range max.:	30 mm ... 1,600 mm ¹⁾
Sensing range:	100 mm ... 1,600 mm
Type of light:	Infrared light
Light source:	LED ²⁾
Wave length:	880 nm
Time type:	Switch on delay time delay off switch on delay and time delay off
Delay time:	0.5 ... 10 s, Adjustable via time delay selector switch: 0.02 ... 0.5 s

Adjustment: Potentiometer
Light spot size (distance): Ø 25 mm (800 mm)

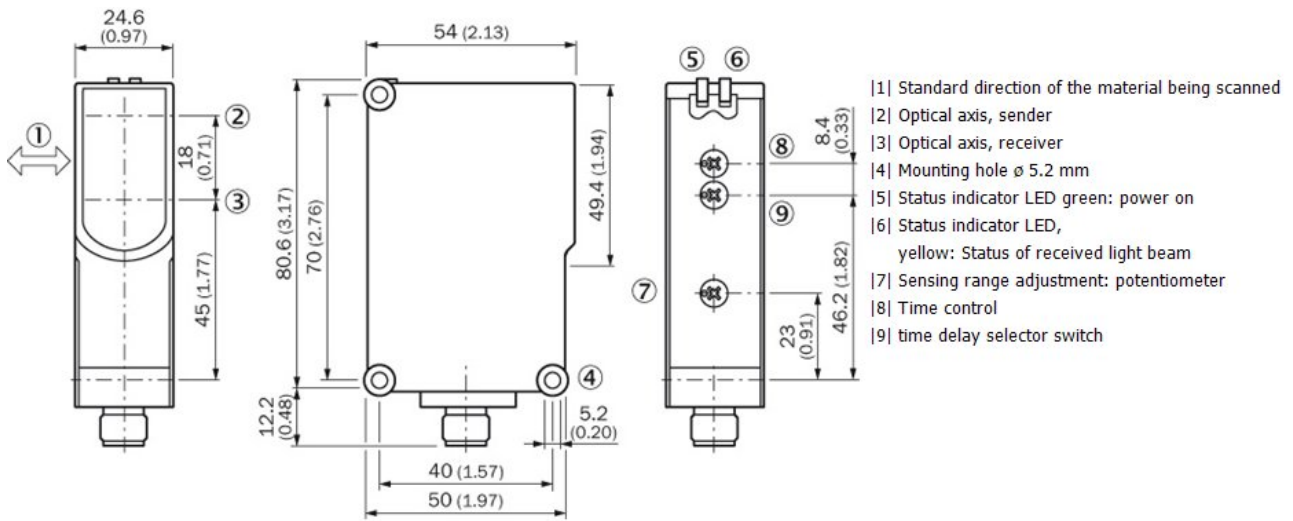
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

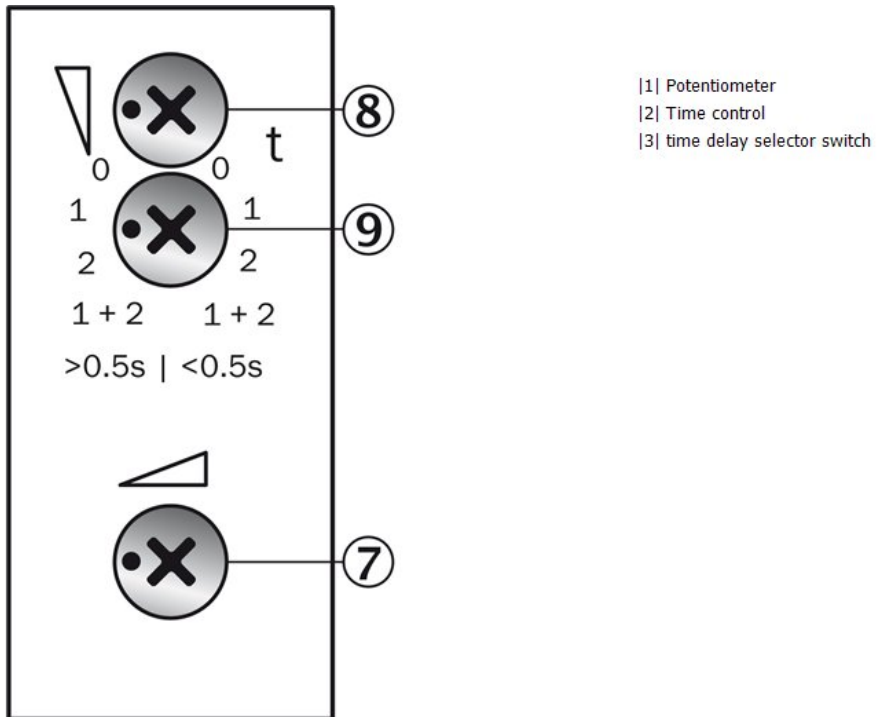
Supply voltage: 10 V DC ... 30 V DC ¹⁾
Power consumption: ≤ 40 mA ²⁾
Output type: PNP
Output function: Complementary
Switching mode: Light/dark-switching
Signal voltage PNP HIGH/LOW: Approx. $V_S - 2.5\text{ V}/0\text{ V}$
Output current I_{max.}: ≤ 100 mA
Response time: ≤ 1.5 ms ³⁾
Switching frequency: 350 Hz ⁴⁾
Connection type: Connector M12, 4-pin
Circuit protection::: A, B, C ^{5) 6) 7)}
Protection class: II ⁸⁾
Weight: 100 g
Front screen heating: -
IO-Link: -
Special device: -
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⁾ $A = V_S$
connections reverse-polarity protected ⁶⁾ B = inputs and output reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ Reference voltage 50 V DC

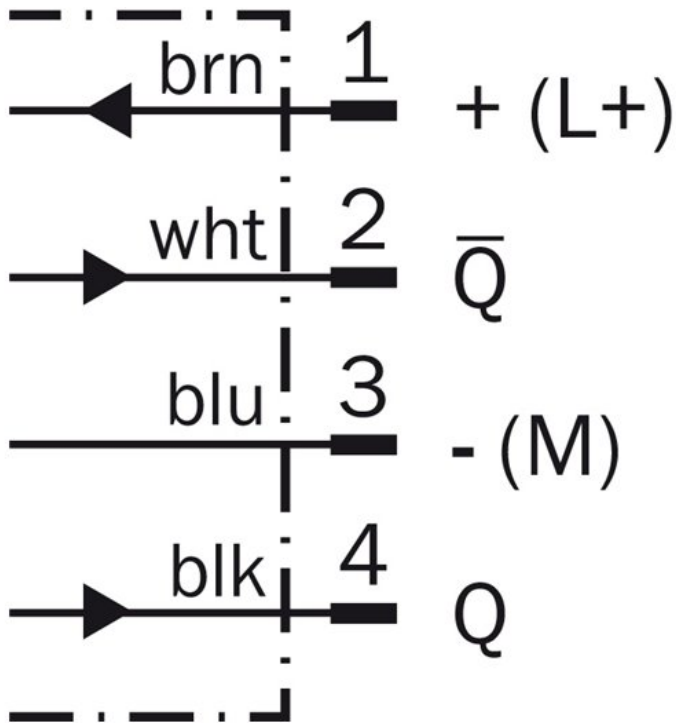
Dimensional drawing



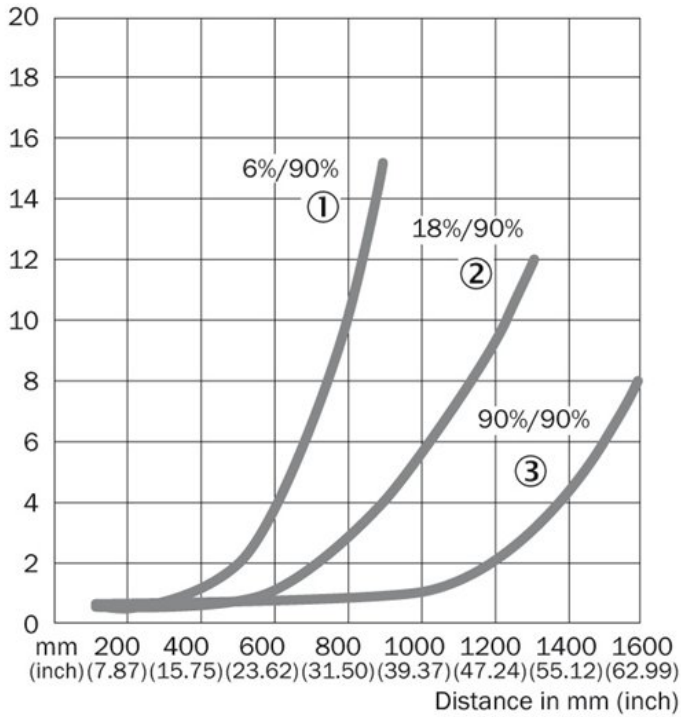
Adjustments possible



Connection diagram

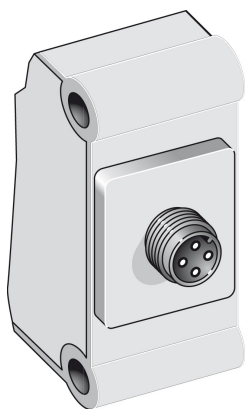


Characteristic curve

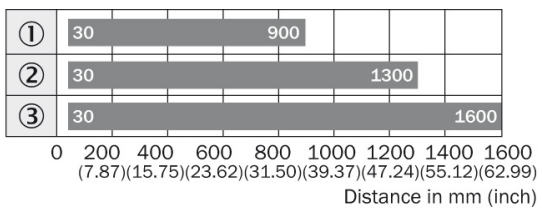


- [1] Sensing range on black, 6 % remission
- [2] Sensing range on grey, 18 % remission
- [3] Sensing range on white, 90 % remission

Connection type



Sensing range diagram



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission

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