



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

WTB27-3P2441S03



Model Name > [WTB27-3P2441S03](#)
Part No. > [1028070](#)



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.: | ≤ 420 mm, 30 mm ... 1,100 mm ^{1) 2)} |
| Sensing range: | 100 ... 420 mm, 100 mm ... 1,100 mm |
| Type of light: | Visible red light |
| Light source: | LED ³⁾ |
| Wave length: | 660 nm |
| Adjustment: | Potentiometer |
| Light spot size (distance): | Ø 15 mm (500 mm) |

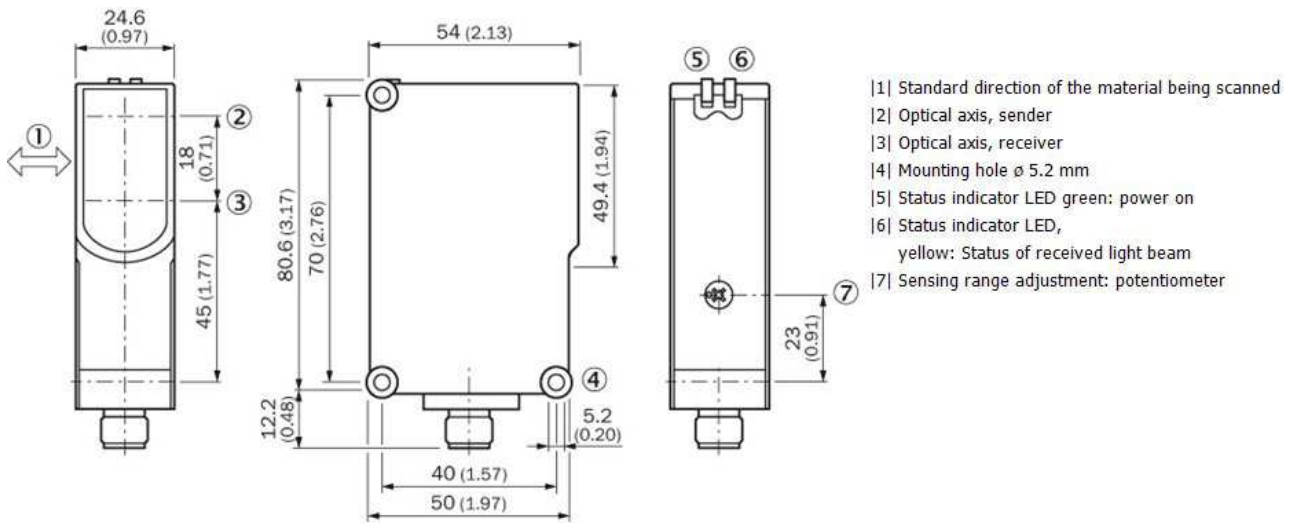
1) Object with 90 % reflectance (referred to standard white DIN 5033) 2) Object with 18 % reflectance (referred to grey) 3) Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

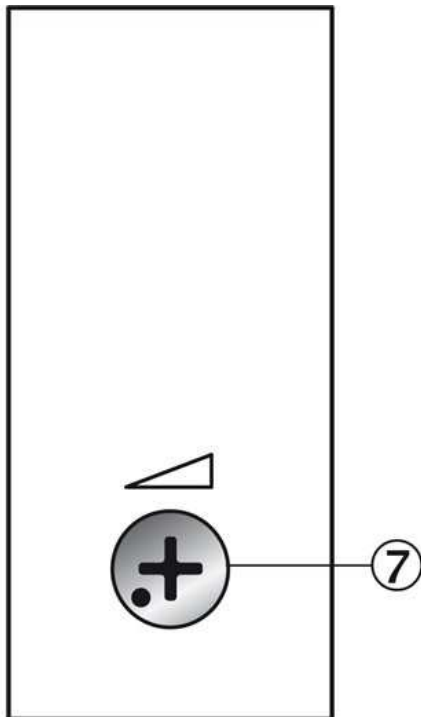
| | |
|-----------------------------------|--------------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Power consumption: | ≤ 35 mA ²⁾ |
| Output type: | PNP |
| Output function: | Complementary |
| Switching mode: | Light/dark switching |
| Signal voltage PNP HIGH/LOW: | Approx. V _S - 2.5 V / 0 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 |
| 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

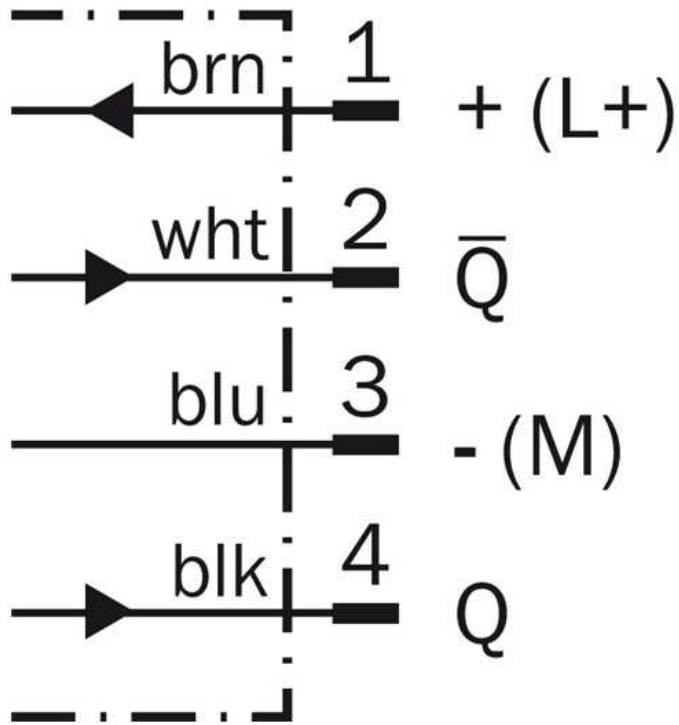


Adjustments possible



|1| Potentiometer

Connection diagram



Connection type



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