



Photoelectric sensors
W23-2, Photoelectric proximity sensor,
Background suppression

WTB23-2P2401S04



Model Name > [WTB23-2P2401S04](#)
Part No. > [1044160](#)



Illustration may differ

At a glance

- Model with PinPoint for intense, consistent red light spot
- WTB23-2 photoelectric proximity sensor with background suppression
- Enhanced crosstalk immunity from other sensors
- 360° visibility of indicating LEDs

Your benefits

- PinPoint technology provides quick alignment with an intense visible red light spot
- Consistent light spot improves detection reliability
- Less downtime due to ASIC chip technology by SICK
- High level of mechanical and electronic reliability in industrial environments
- Durable housing with reinforced mounting holes withstands harsh conditions
- 360° LEDs provide device status indication from multiple angles



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 |
| Special features: | Large sensing range |
| 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 °C

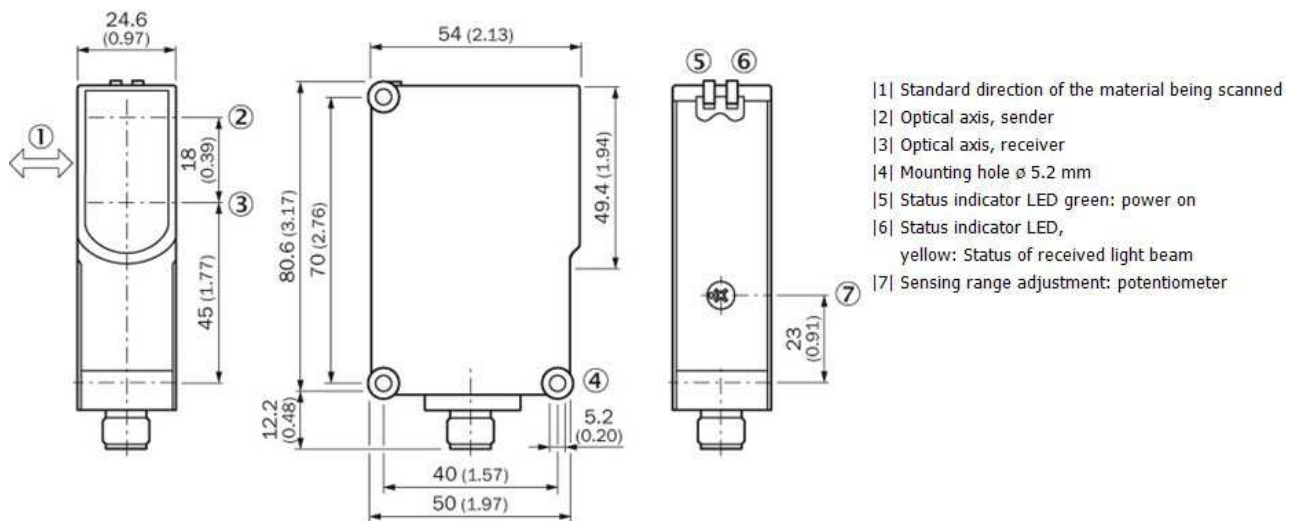
Mechanics/electronics

| | |
|------------------------------------|-----------------------------------|
| 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. VS - 2.5 V / 0 V |
| Output current I _{max.} : | ≤ 100 mA |

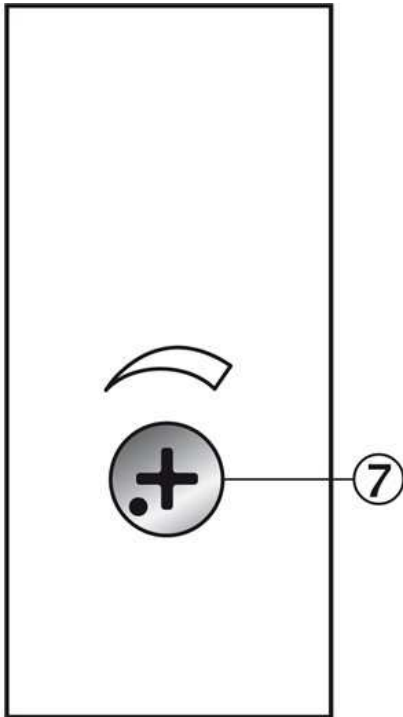
| | |
|--------------------------------|-------------------------------------|
| Response time: | $\leq 2.5 \text{ ms}$ ³⁾ |
| Switching frequency: | 200 Hz ⁴⁾ |
| Connection type: | Connector M12, 4-pin |
| Circuit protection::: | A, C, D ^{5) 6) 7)} |
| Protection class: | II ⁸⁾ |
| Weight: | 100 g |
| Special device: | ✓ |
| Housing material: | ABS, Plastic |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 |
| Ambient operating temperature: | -30 °C ... 60 °C |
| Ambient storage temperature: | -40 °C ... 70 °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⁾ C = interference suppression ⁷⁾ D = outputs overcurrent and short-circuit protected ⁸⁾ Reference voltage 50 V DC

Dimensional drawing

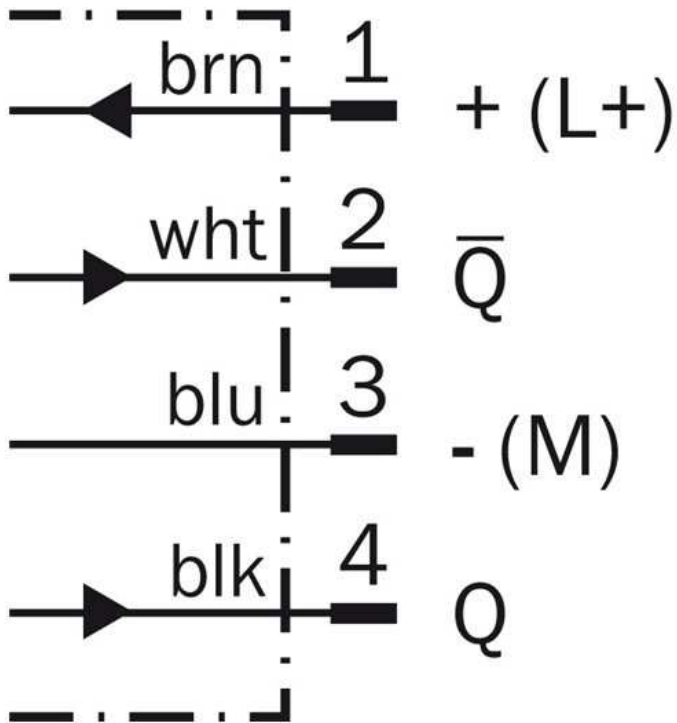


Adjustments possible

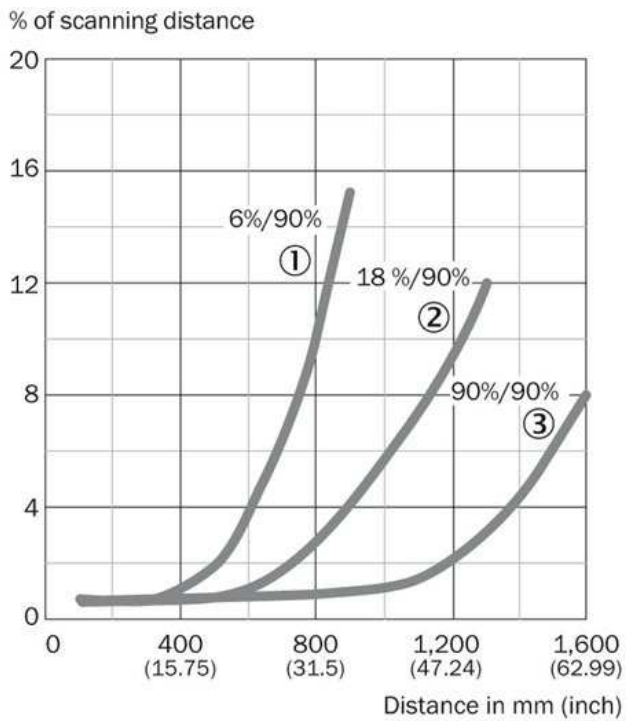


|1| Sensing range adjustment: potentiometer

Connection diagram



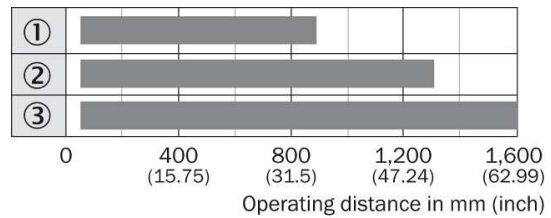
Characteristic curve



Connection type



Sensing range diagram



- ① Scanning range on black, 6 % remission
- ② Scanning range on grey, 18 % remission
- ③ Scanning range on white, 90 % remission

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