



Photoelectric sensors
W14-2, Photoelectric proximity sensor,
Background suppression

WT14-2P401S09



Model Name > [WT14-2P401S09](#)
Part No. > [1045105](#)

At a glance

- Emitter LED with infrared light
- Background suppression
- Adjustable sensing range
- High immunity to ambient light
- Rugged plastic housing

Your benefits

- Reliable object detection with background suppression
- Quick and easy sensing range adjustment due to 4-speed potentiometer
- Crosstalk and ambient light immunity reduces false trips and downtime
- High availability in the field



Illustration may differ



Features

| | |
|----------------------------------|--|
| Sensor/detection principle: | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D): | 17.6 mm x 75.5 mm x 33.5 mm |
| Housing design (light emission): | Rectangular |
| Sensing range max.: | 20 mm ... 500 mm ¹⁾ |
| Sensing range: | 80 mm ... 500 mm ²⁾ |
| Type of light: | Infrared light |
| Light source: | LED ³⁾ |
| Wave length: | 870 nm |
| Teach-in: | Single teach-in button |
| Alarm output: | - |
| Health output: | - |
| Adjustment: | Teach-in |
| Light spot size (distance): | Ø 14 mm (300 mm) |

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

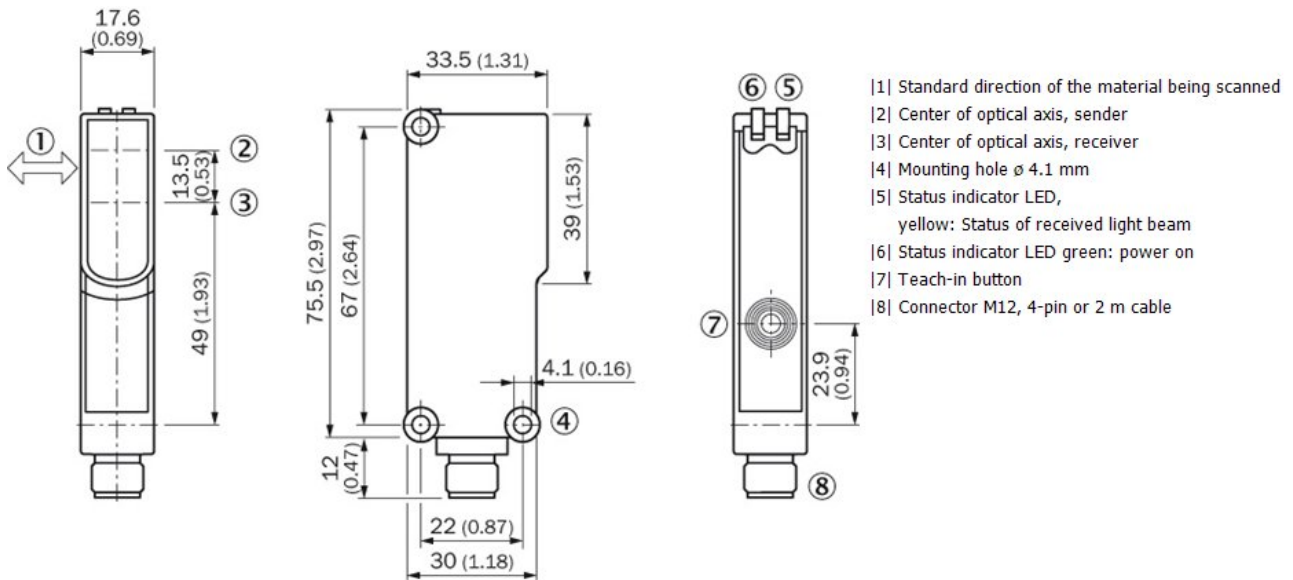
Mechanics/electronics

| | |
|------------------------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Power consumption: | ≤ 30 mA ²⁾ |
| Output type: | PNP |
| Output function: | Complementary |
| Switching mode: | Light/dark-switching |
| Output current I _{max.} : | ≤ 100 mA |

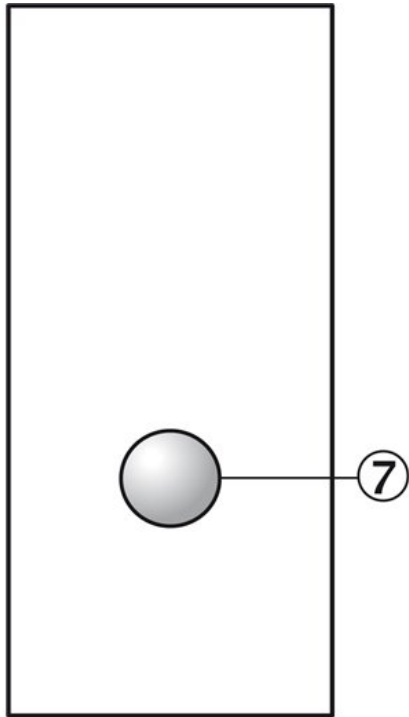
| | |
|--------------------------------|------------------------------|
| Response time: | ≤ 2.5 ms ³⁾ |
| Switching frequency: | 200 Hz ⁴⁾ |
| Connection type: | Connector M12, 4-pin |
| Circuit protection::: | A, C, D ^{5) 6) 7)} |
| Weight: | 40 g |
| Special device: | ✓ |
| Housing material: | ABS, Plastic |
| Optics material: | PMMA |
| Enclosure rating: | IP 67 |
| Ambient operating temperature: | -25 °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 A²⁾ Without load³⁾ Signal transit time with resistive load⁴⁾ With light/dark ratio 1:1⁵⁾ A = V_S
connections reverse-polarity protected⁶⁾ C = interference suppression⁷⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

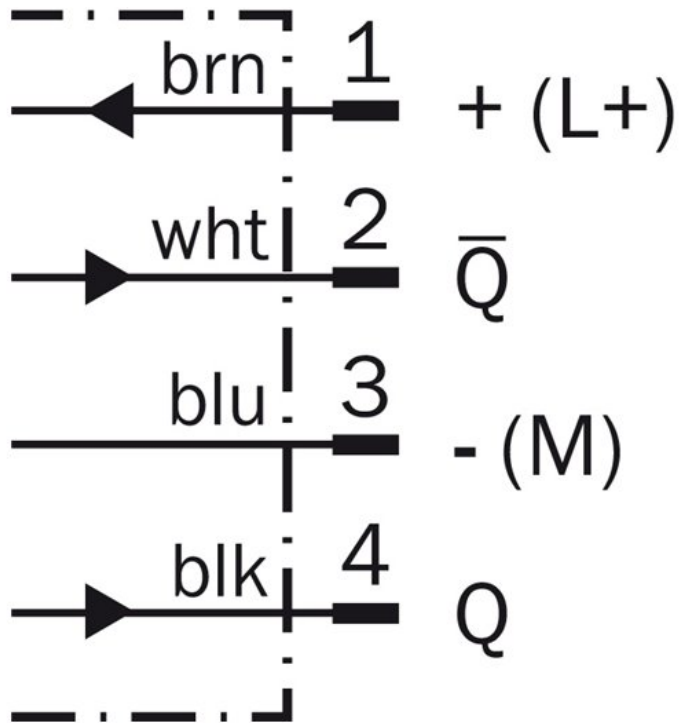


Adjustments possible

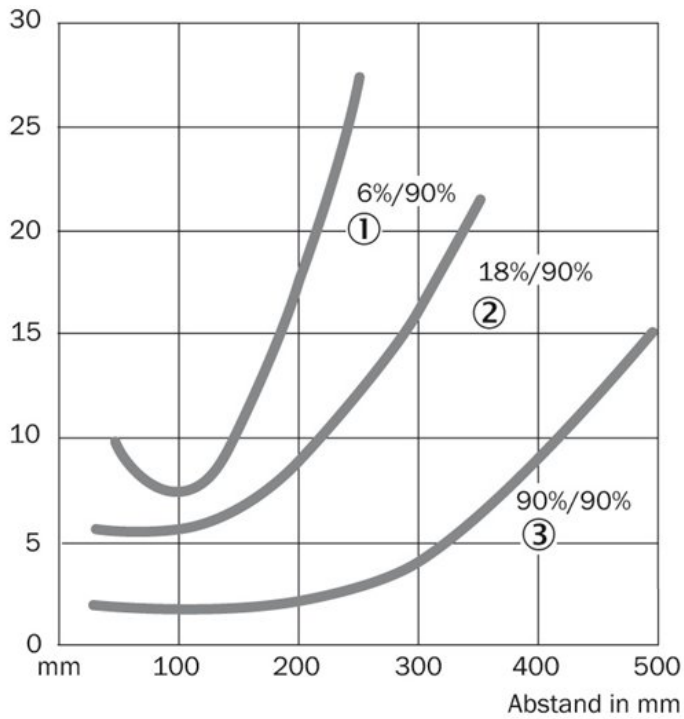


[1] Teach-in button

Connection diagram

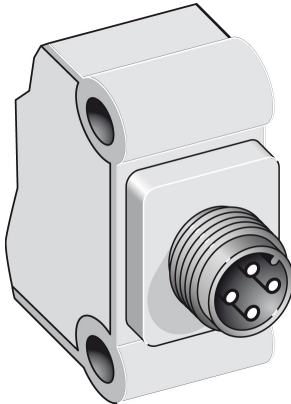


Characteristic curve

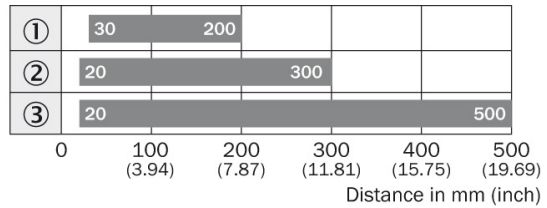


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

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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