



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

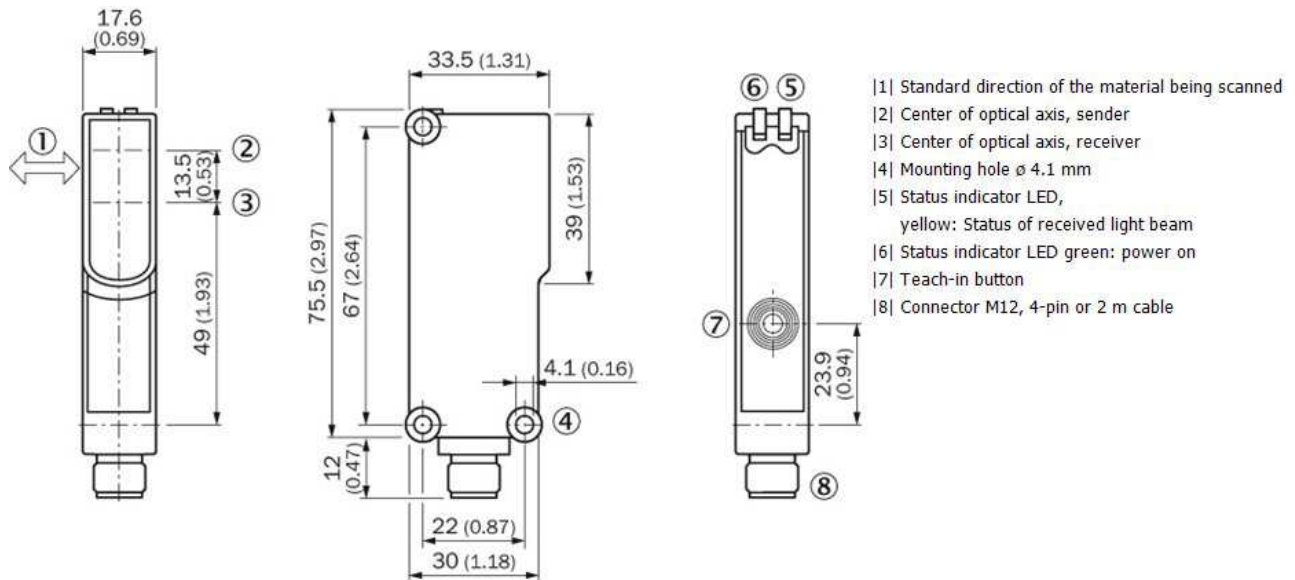
Mechanics/electronics

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

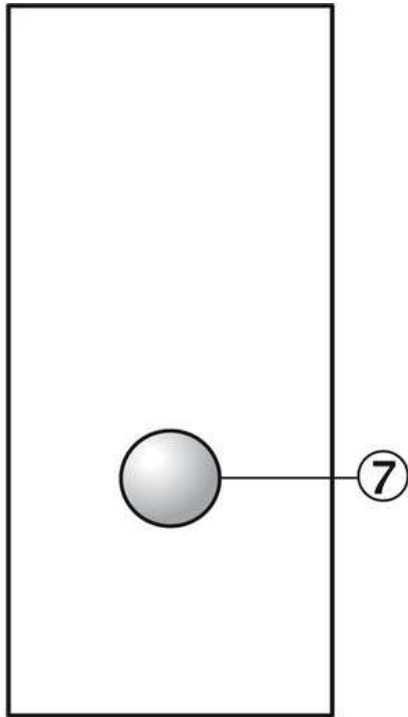
Response time:	≤ 2.5 ms ³⁾
Switching frequency:	200 Hz ⁴⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ^{5) 6) 7)}
Weight:	40 g
Special device:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-25 °C ... 60 °C
Ambient 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

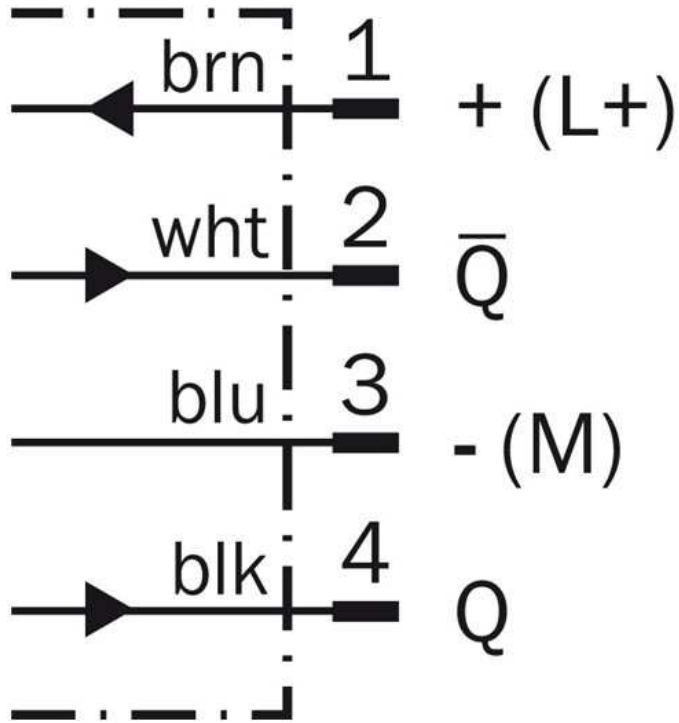


Adjustments possible

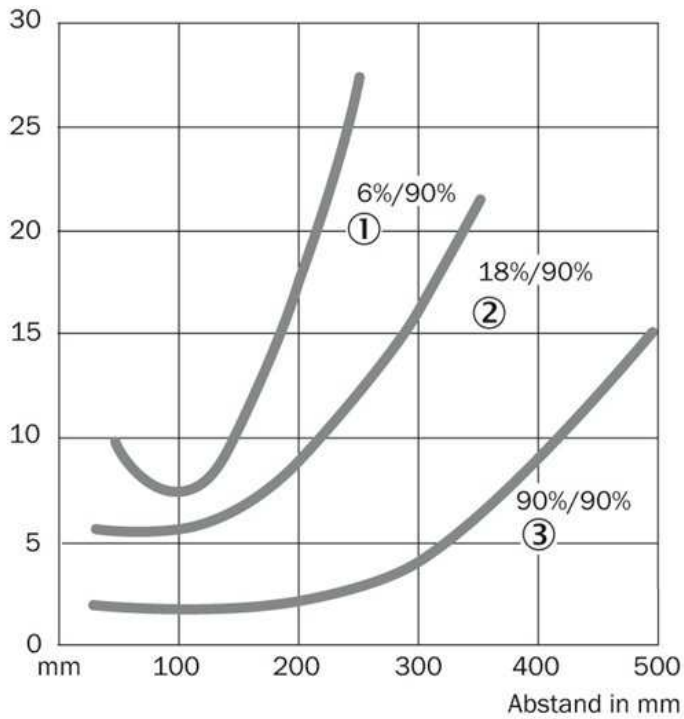


|1| Teach-in button

Connection diagram

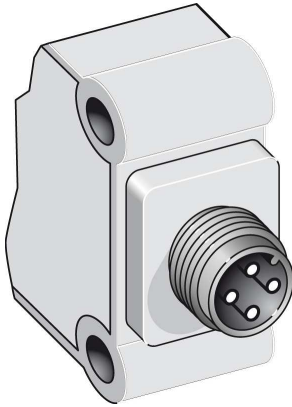


Characteristic curve

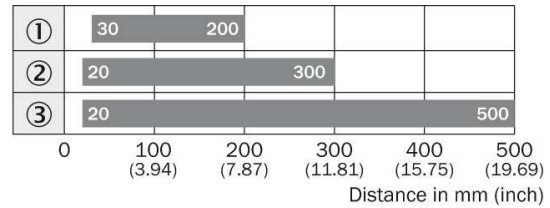


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

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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