



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

WT14-20422S01



**Model Name** > [WT14-20422S01](#)  
**Part No.** > [1027586](#)

**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, Slim
Sensing range max.:	20 mm ... 500 mm <sup>1)</sup>
Sensing range:	80 mm ... 500 mm <sup>2)</sup>
Type of light:	Infrared light
Light source:	LED <sup>3)</sup>
Wave length:	870 nm
Alarm output:	-
Health output:	✓
Adjustment:	Potentiometer, 4 turns
Light spot size (distance):	Ø 14 mm (300 mm)

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

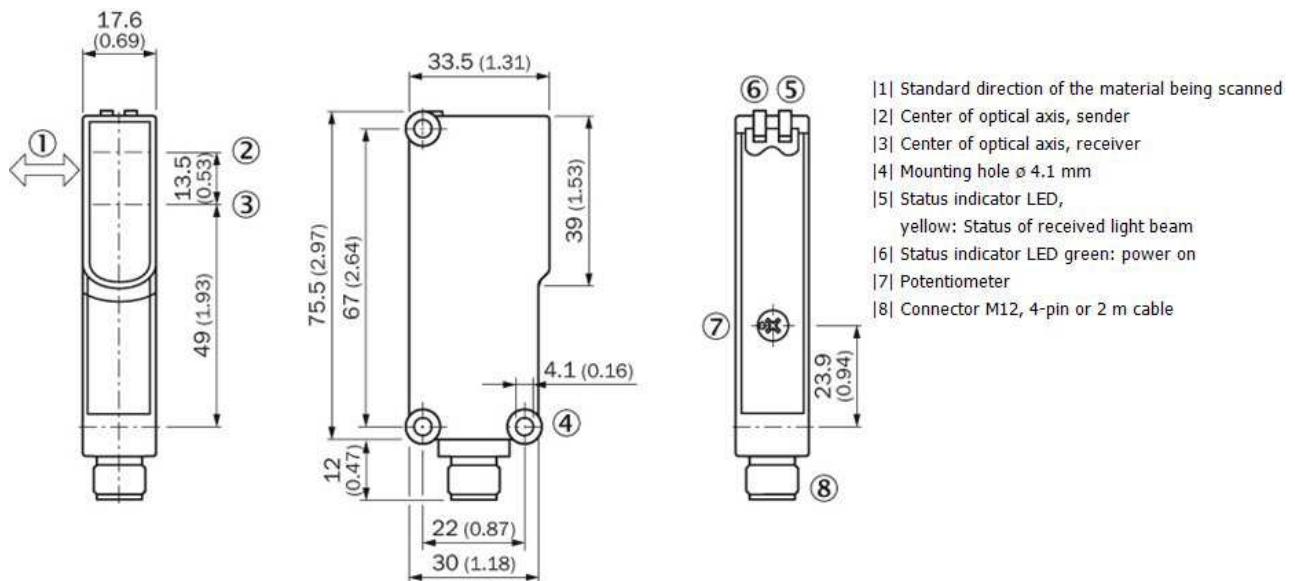
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	5 V <sub>pp</sub> <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>
Output type:	NPN
Switching mode:	Dark switching
Output current I <sub>max.</sub> :	≤ 100 mA
Response time:	≤ 2.5 ms <sup>4)</sup>

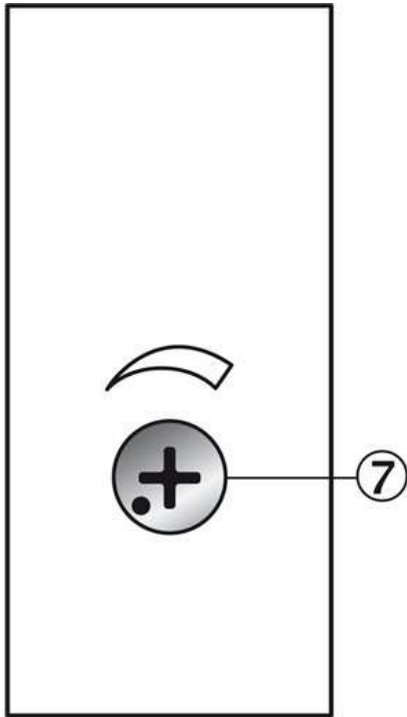
Switching frequency:	200 Hz <sup>5)</sup>
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Weight:	40 g
Special device:	✓
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-25 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 70 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

1) Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> A =  $V_S$  connections reverse-polarity protected <sup>7)</sup> C = interference suppression <sup>8)</sup> D = outputs overcurrent and short-circuit protected

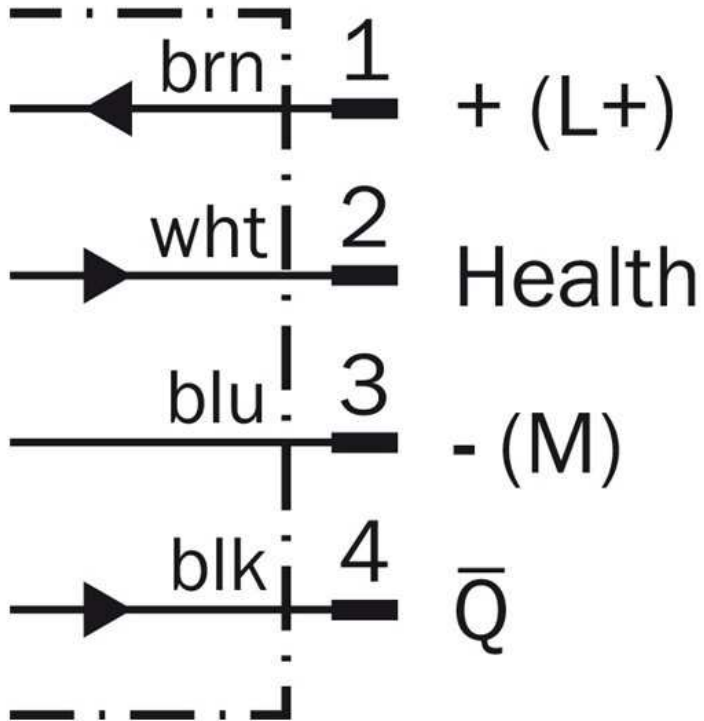
## Dimensional drawing



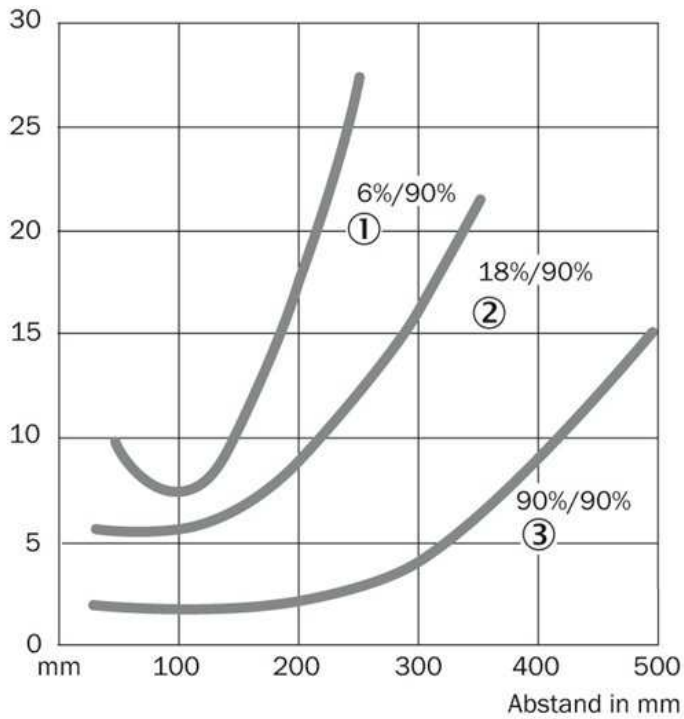
Adjustments possible



Connection diagram

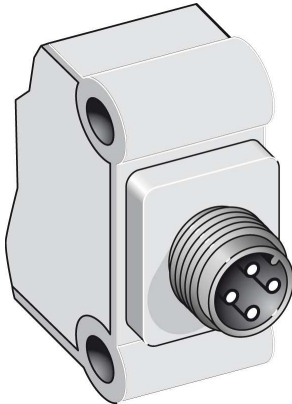


## Characteristic curve

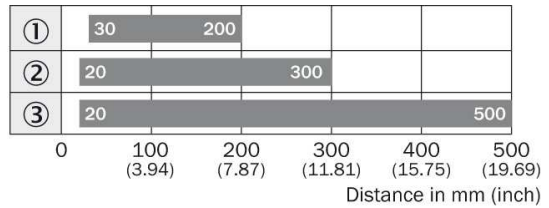


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

## 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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