



Photoelectric sensors  
W18-3, Photoelectric proximity sensor,  
Background suppression

WT18-3P431



**Model Name** > [WT18-3P431](#)  
**Part No.** > [1026032](#)



*Illustration may differ*

**At a glance**

- Sender LED with visible red light
- Precise background suppression
- Sensing range adjustment via double teach-in pushbutton
- Immune to ambient light
- Rugged plastic housing

**Your benefits**

- Fast installation due to highly visible red light saves time
- Reliable object detection with high-precision background suppression due to second sender LED
- Fast and accurate sensing distance adjustment via double teach-in pushbutton
- Crosstalk and ambient light immunity reduce false readings and downtime
- High availability in the field



**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.:	10 mm ... 600 mm <sup>1)</sup>
Sensing range:	50 mm ... 600 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Teach-in:	Double teach-in button
Adjustment:	Double teach-in button
Light spot size (distance):	Ø 15 mm (300 mm)
Continuous threshold adaption:	-

<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

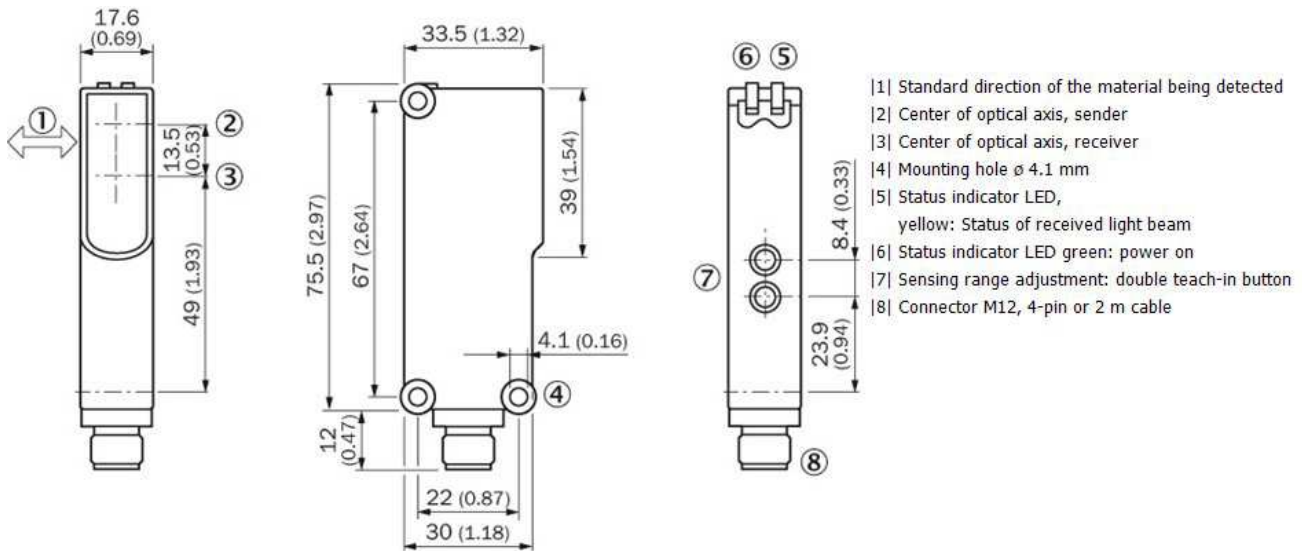
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	< 5 Vpp <sup>2)</sup>
Power consumption:	40 mA <sup>3)</sup>
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching

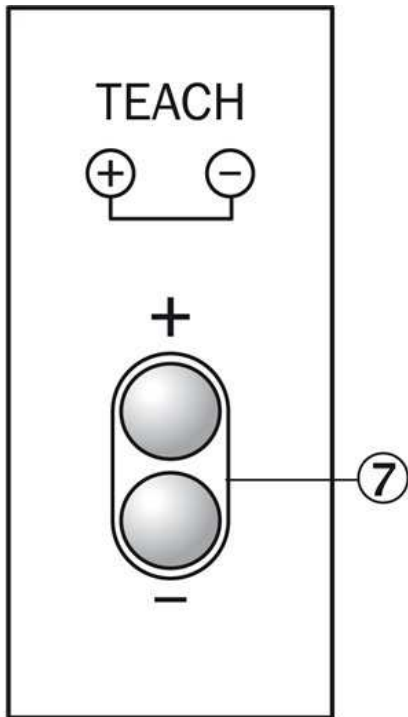
Output current I <sub>max</sub> ..:	100 mA
Response time:	< 700 μs <sup>4)</sup>
Switching frequency:	700 Hz <sup>5)</sup>
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Weight:	40 g
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
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) May not exceed or fall short of V<sub>S</sub> tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A = V<sub>S</sub> connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected

### Dimensional drawing

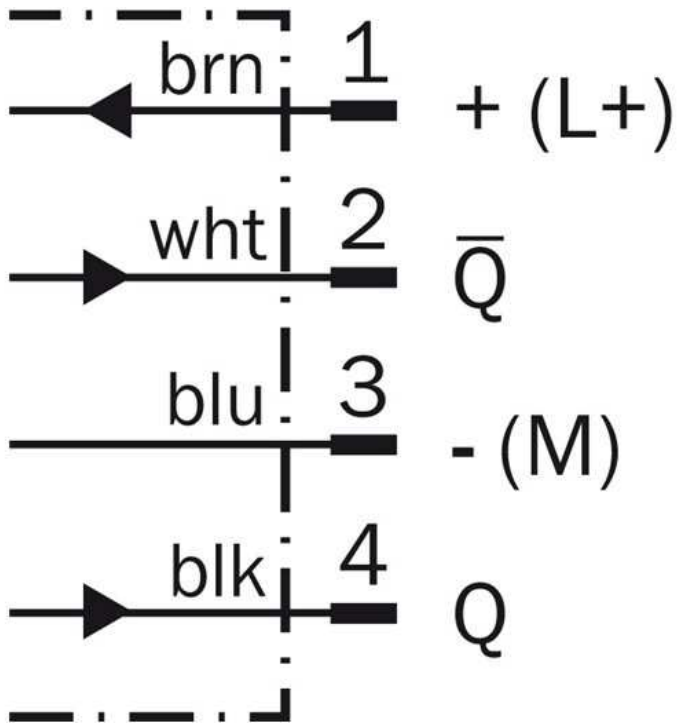


Adjustments possible

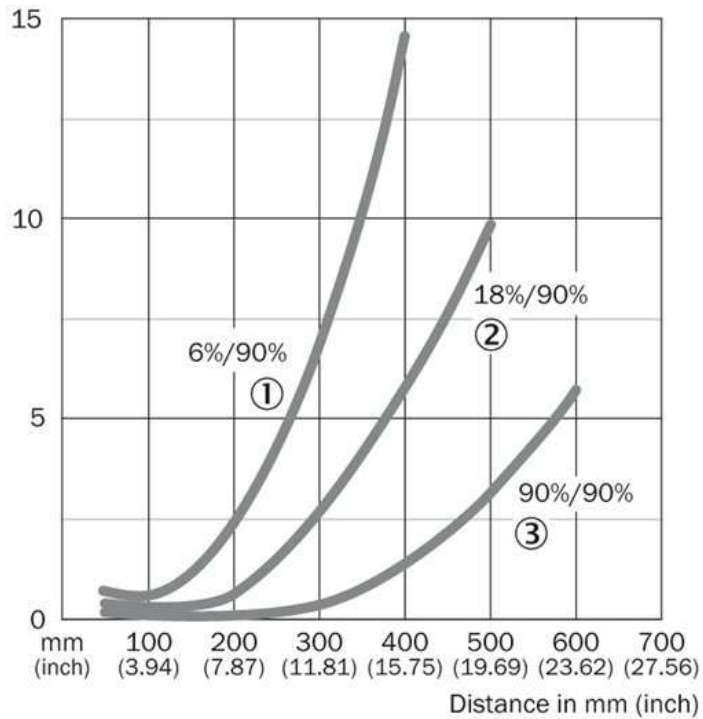


[1] Sensing range adjustment: double teach-in button

Connection diagram

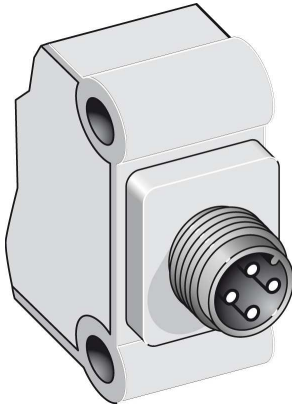


## Characteristic curve

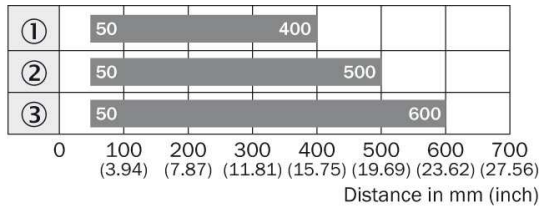


- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission

## 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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