

ONLINE DATA SHEET
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Photoelectric sensors
W18-3, Photoelectric proximity sensor, Background suppression

WT18-3P431



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

[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

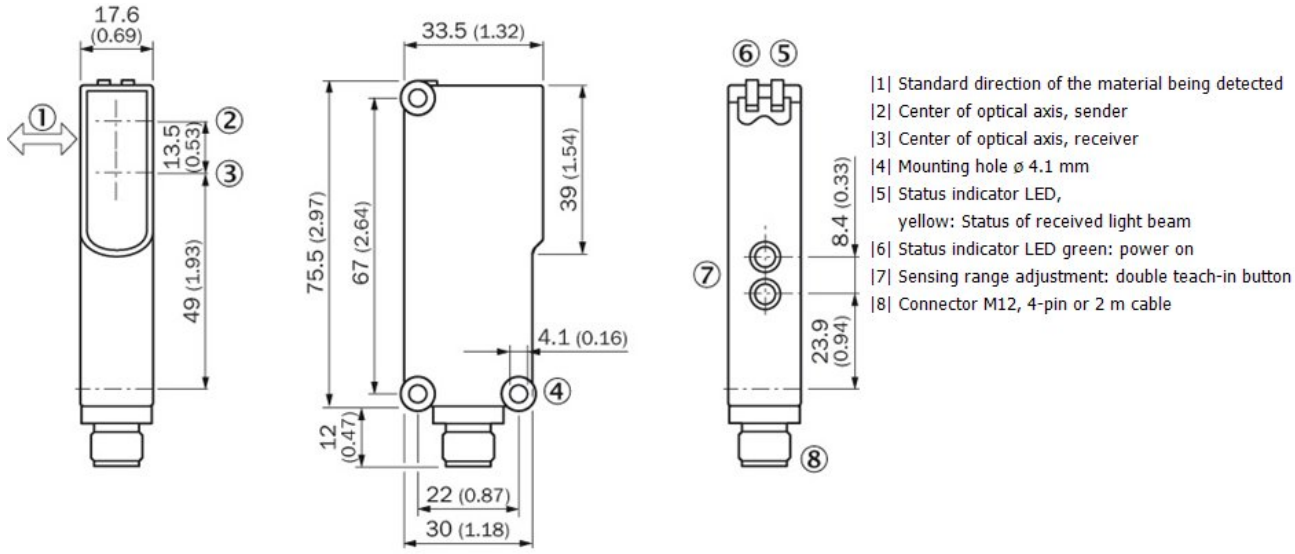
Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	< 5 Vpp [2]
Power consumption:	40 mA [3]
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching

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Output current Imax.:	100 mA
Response time:	< 700 µs [4]
Switching frequency:	700 Hz [5]
Connection type:	M12, 4-pin male connector
Circuit protection:::	A, C, D [6] [7] [8]
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

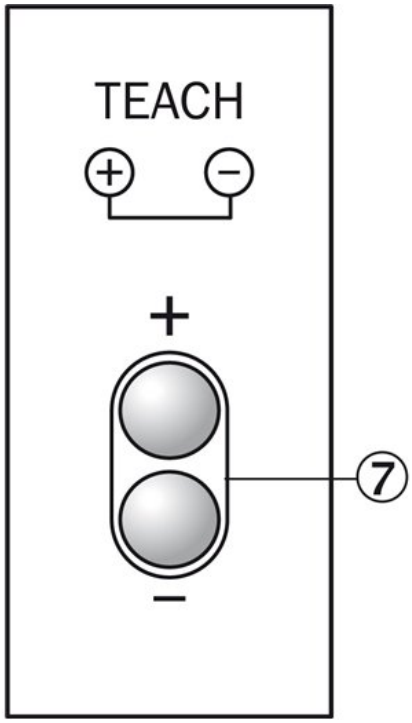
[1] Limit values, operation in short-circuit protected network max. 8 A [2] May not exceed or fall short of V_S tolerances [3] Without load [4] Signal transit time with resistive load [5] With light/dark ratio 1:1 [6] A = V_S connections reverse-polarity protected [7] C = interference suppression [8]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

Dimensional drawing



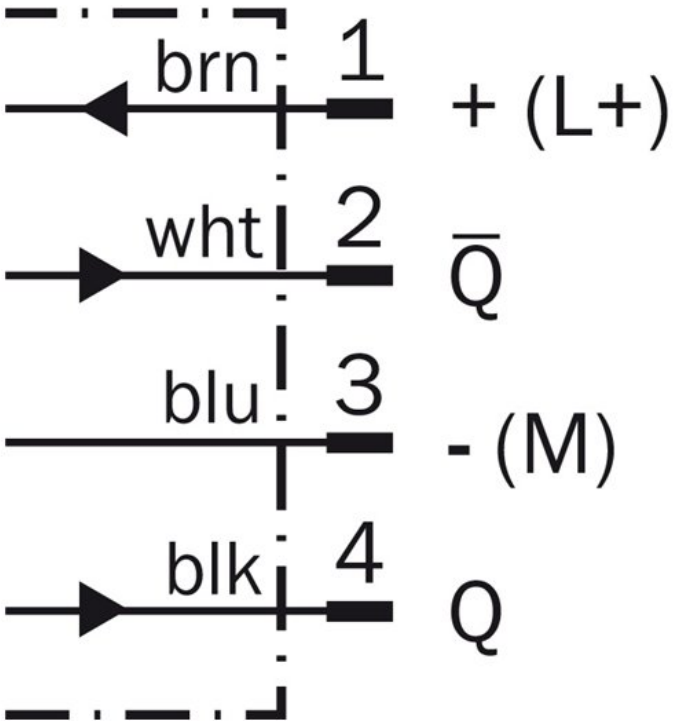
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Adjustments possible



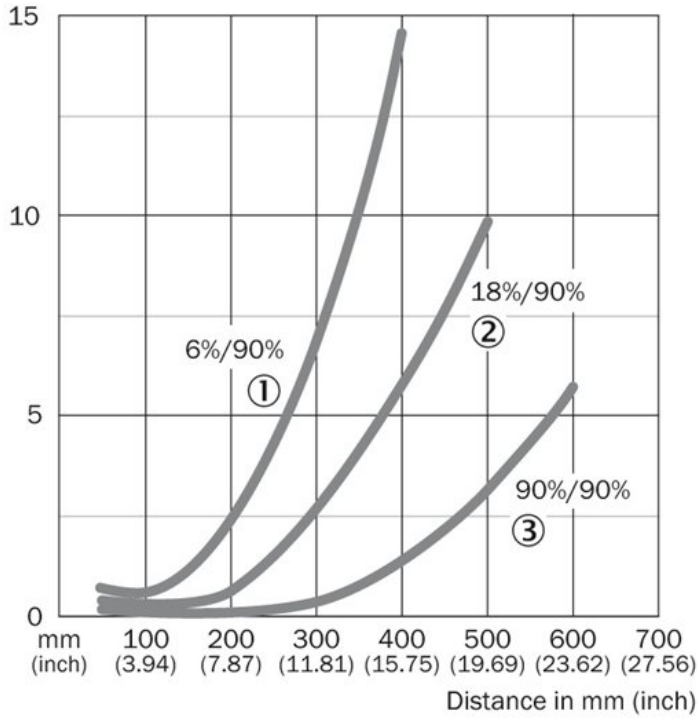
|1| Sensing range adjustment: double teach-in button

Connection diagram



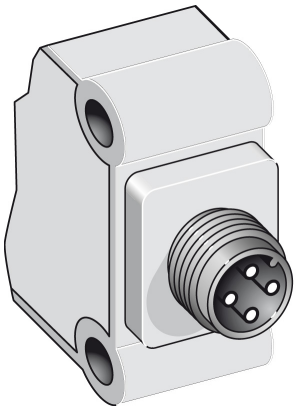
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Characteristic curve

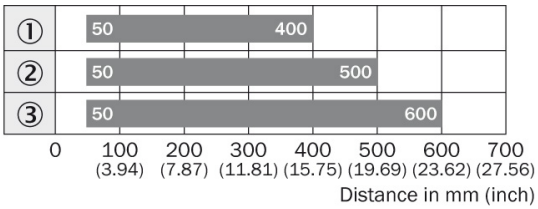


|1| Sensing range on black, 6 % remission
|2| Sensing range on gray, 18 % remission
|3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



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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