



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

WT18-3N431



Model Name > [WT18-3N431](#)
Part No. > [1026035](#)



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

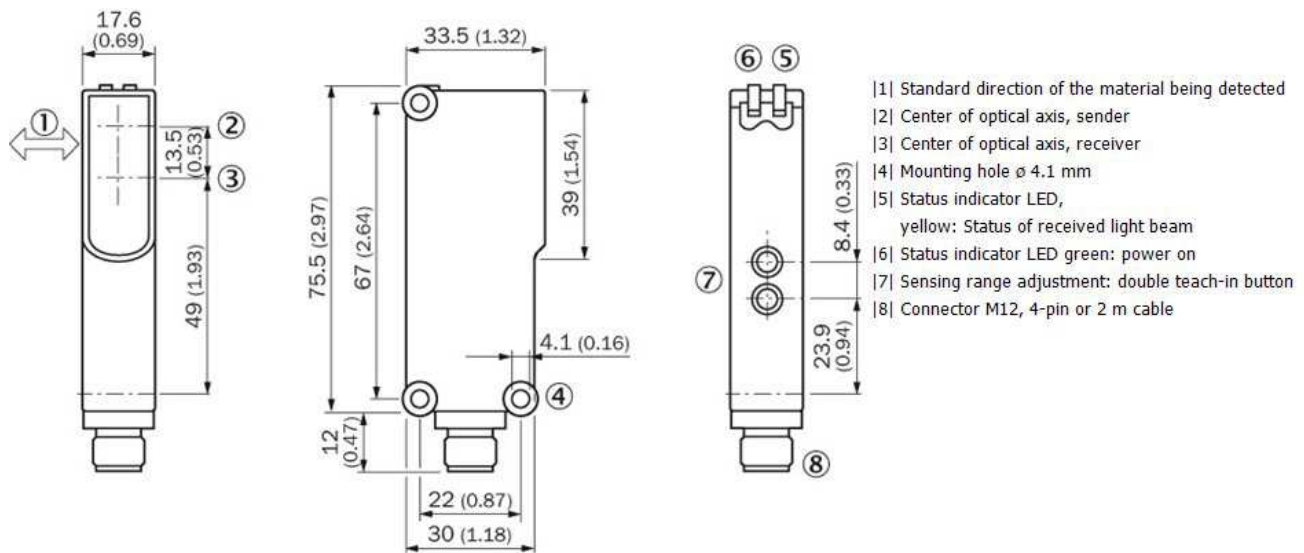
Mechanics/electronics

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

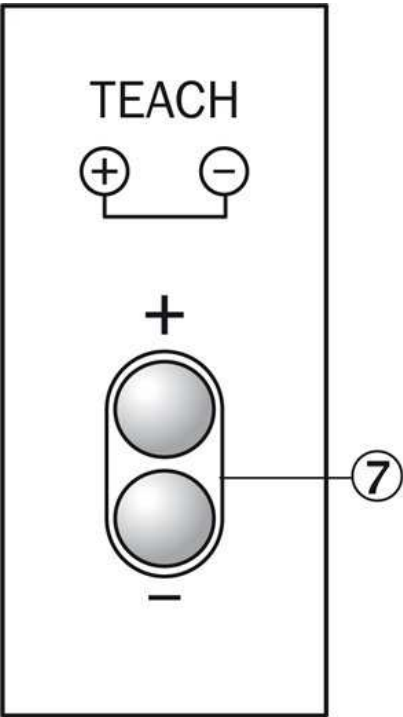
Output current I _{max} ::	100 mA
Response time:	< 700 µs ⁴⁾
Switching frequency:	700 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ⁶⁾ 7) 8)
Weight:	40 g
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-40 °C ... +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

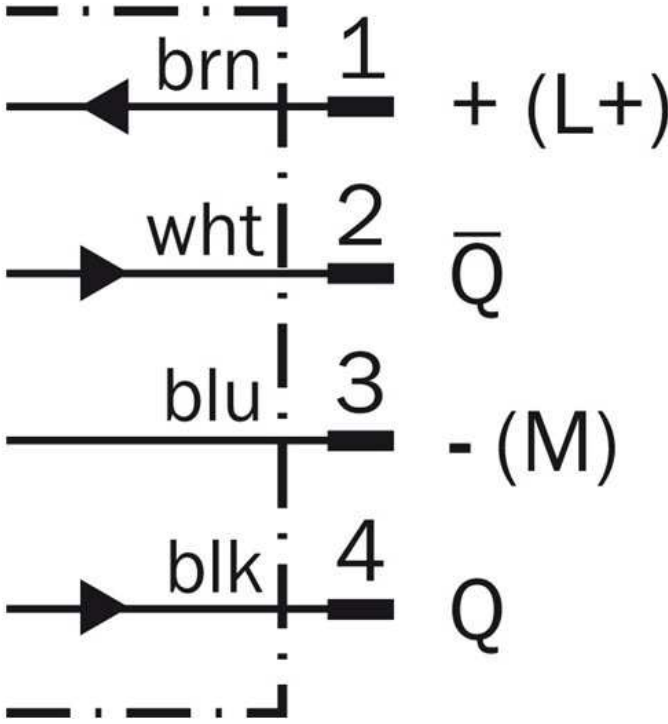


Adjustments possible

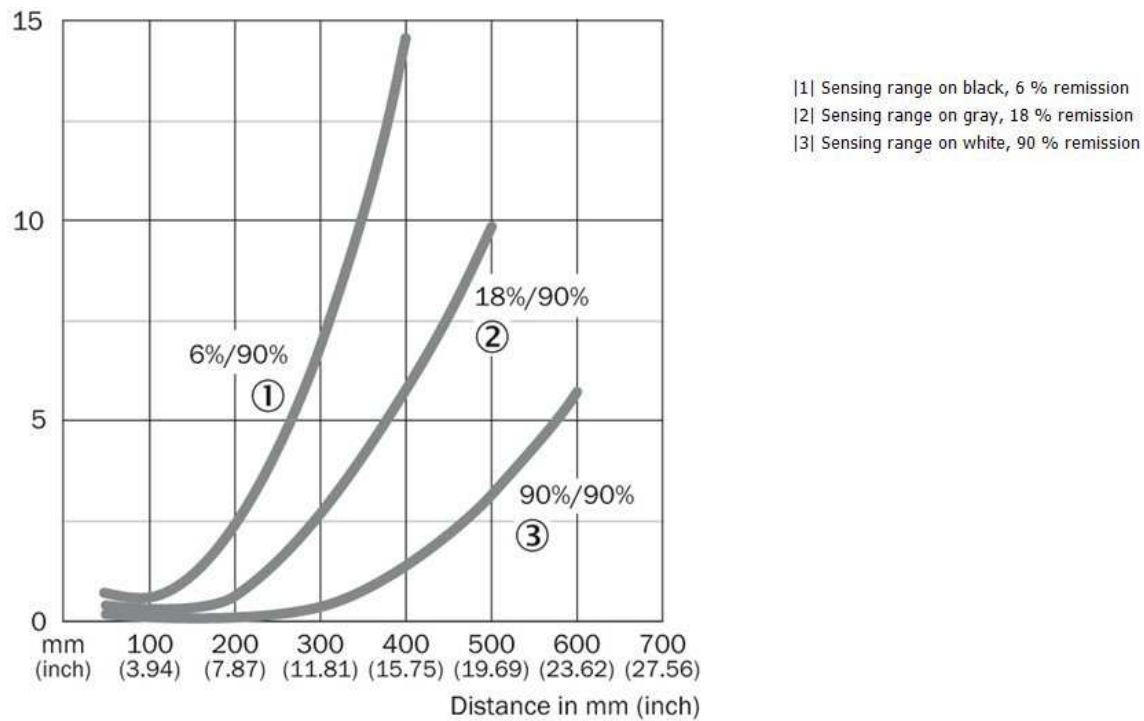


[1] Sensing range adjustment: double teach-in button

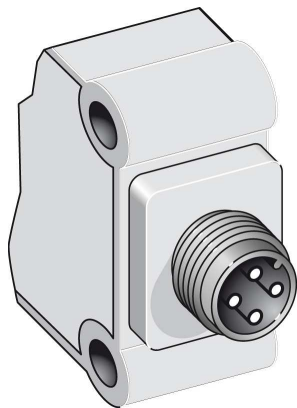
Connection diagram



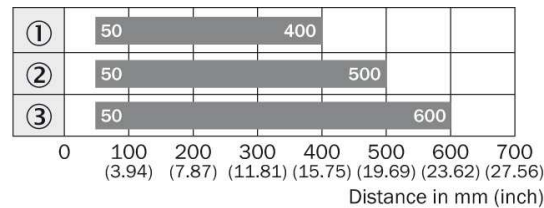
Characteristic curve



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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