



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

WT18-3N110



Model Name > [WT18-3N110](#)
Part No. > [1025891](#)



Illustration may differ

At a glance

- Sender LED with infrared light
- Precise background suppression
- Sensing range setting via potentiometer
- Immune to ambient light
- Rugged plastic housing

Your benefits

- Long sensing distances due to high-performance infrared light
- Reliable object detection with high-precision background suppression due to second sender LED
- Quick and easy sensing distance adjustment due to 4-turn potentiometer
- 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 ... 700 mm ¹⁾
Sensing range:	50 mm ... 700 mm ²⁾
Type of light:	Infrared light
Light source:	LED ³⁾
Adjustment:	Potentiometer, 4 turns
Light spot size (distance):	Ø 20 mm (400 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

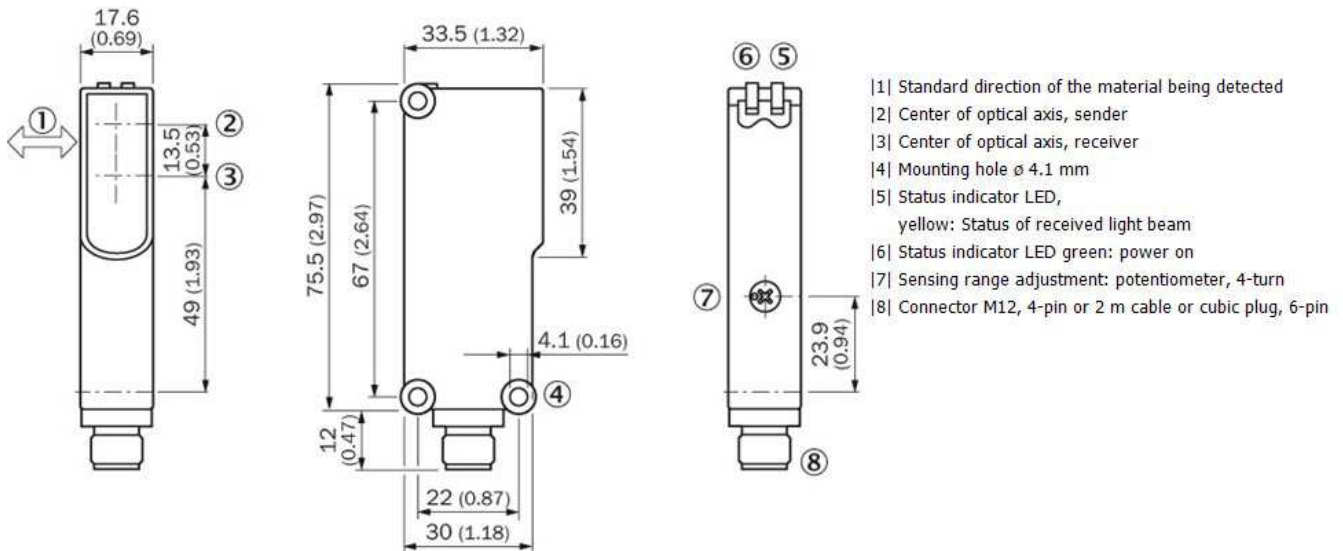
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	55 mA ³⁾
Output type:	NPN
Output function:	Complementary
Switching mode:	Light/dark switching
Output current I _{max.} :	100 mA

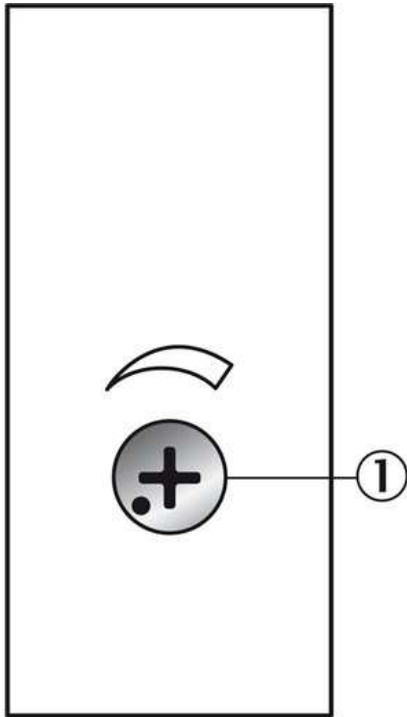
Response time:	< 700 μs ⁴⁾
Switching frequency:	700 Hz ⁵⁾
Connection type:	Cable, 4-wire, 2 m ⁶⁾
Cable material:	PVC
Circuit protection:::	A, C, D ^{7) 8) 9)}
Weight:	120 g
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-40 °C ... +60 °C
Ambient 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⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ C = interference suppression ⁹⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing

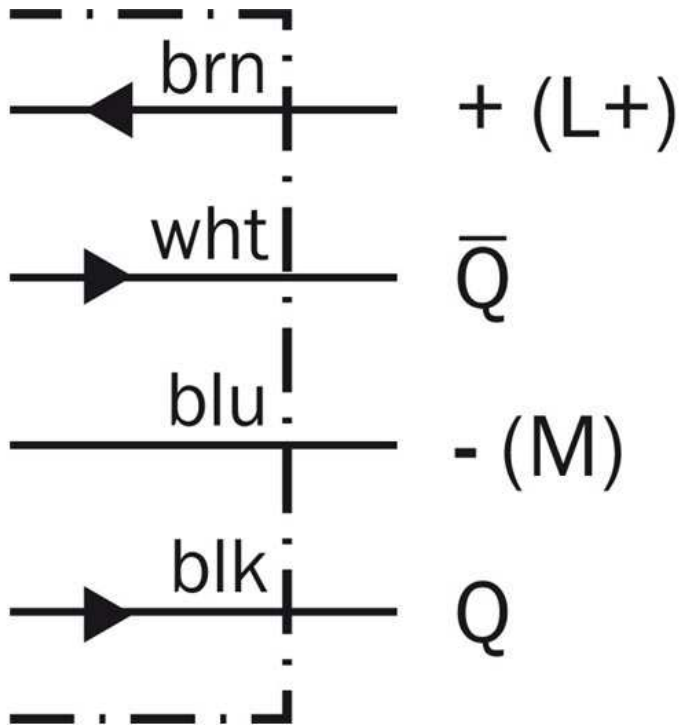


Adjustments possible

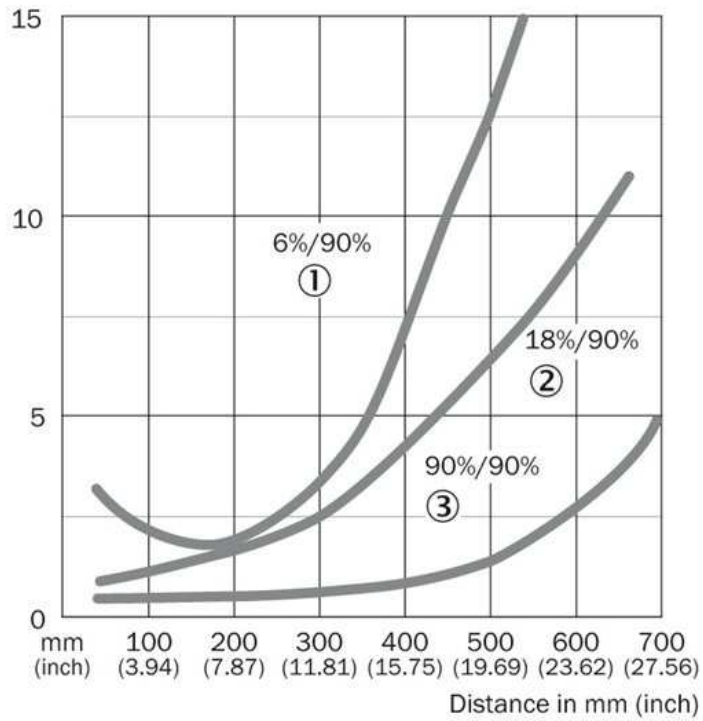


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

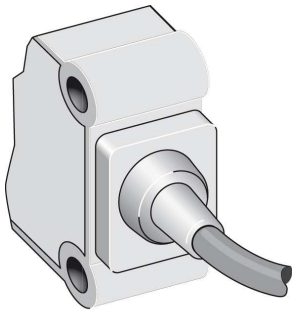


Characteristic curve

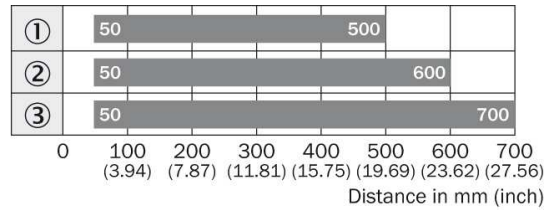


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



■ Sensing range

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