



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

WT18-3P120



**Model Name** > WT18-3P120  
**Part No.** > 1025904



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**

- Very 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, Slim
Sensing range max.:	10 mm ... 1,000 mm <sup>1)</sup>
Sensing range:	50 mm ... 1,000 mm <sup>2)</sup>
Type of light:	Infrared light
Light source:	LED <sup>3)</sup>
Wave length:	870 nm
Adjustment:	Potentiometer, 4-turn
Light spot size (distance):	Ø 30 mm (600 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

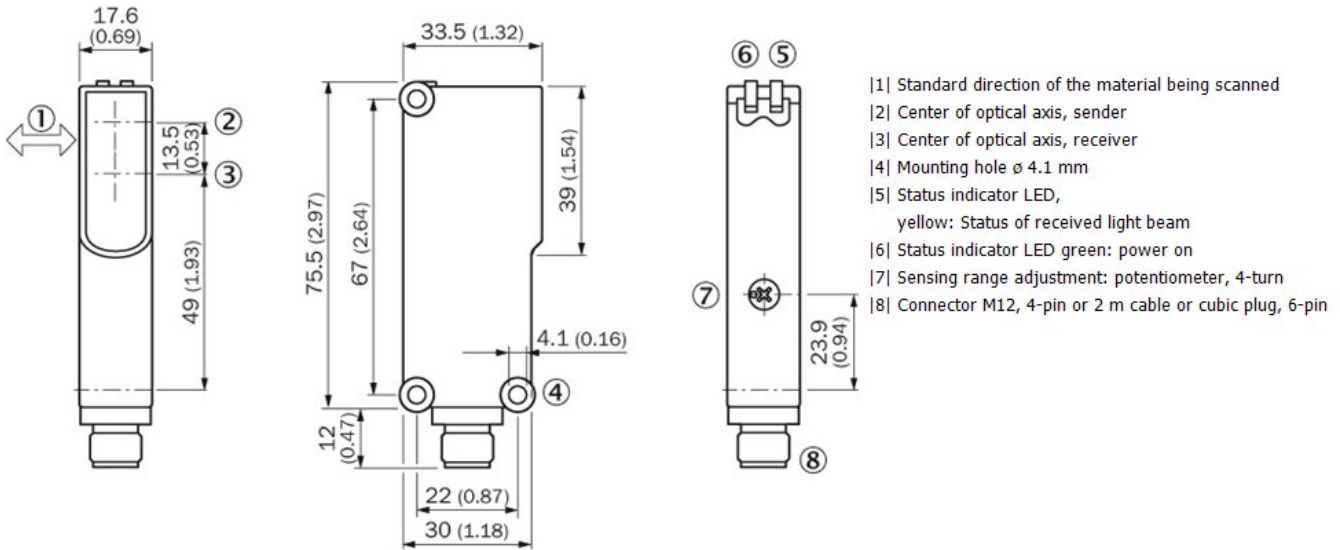
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	< 5 Vpp <sup>2)</sup>
Power consumption:	55 mA <sup>3)</sup>
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark-switching

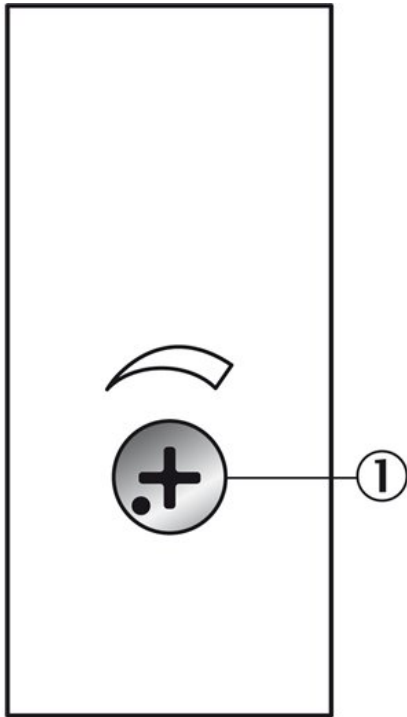
Output current I <sub>max</sub> ..:	100 mA
Response time:	< 700 μs <sup>4)</sup>
Switching frequency:	700 Hz <sup>5)</sup>
Connection type:	Cable, 4-wire, 2 m <sup>6)</sup>
Cable material:	PVC
Circuit protection:::	A, C, D <sup>7) 8) 9)</sup>
Weight:	120 g
Housing material:	ABS, Plastic
Optics material:	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<sub>S</sub> 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<sub>S</sub> connections reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

### Dimensional drawing

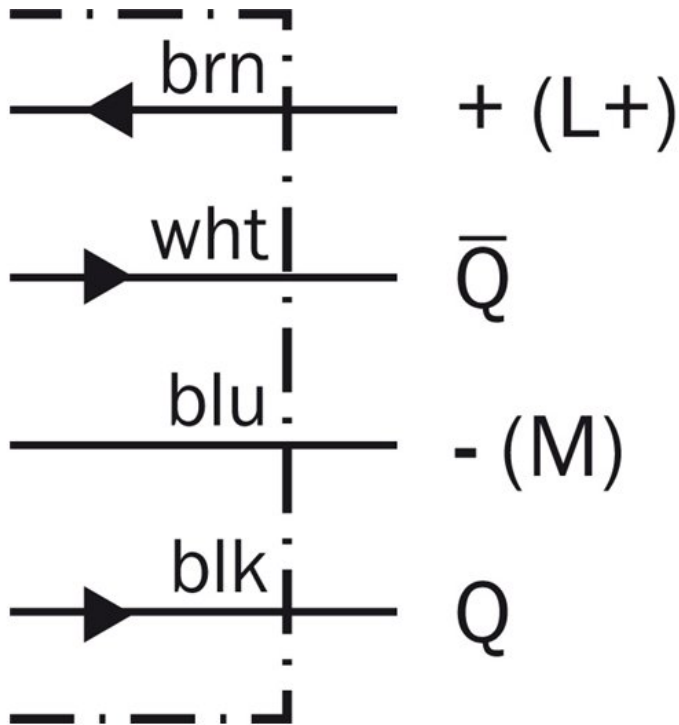


Adjustments possible

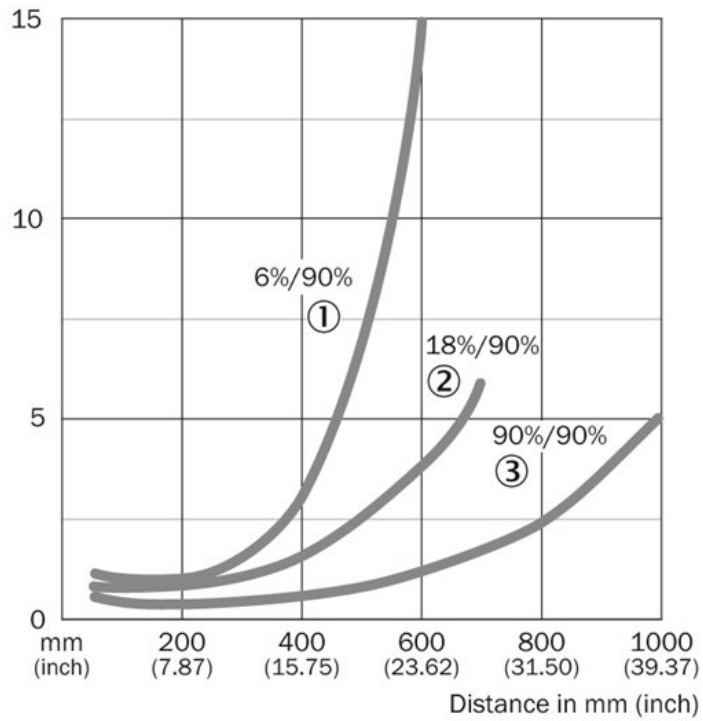


[1] Sensing range adjustment: potentiometer, 4-turn

Connection diagram

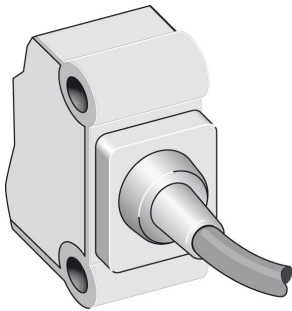


### Characteristic curve

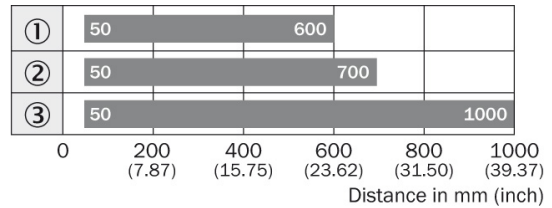


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

### Connection type



### Sensing range diagram



■ Sensing range

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