



Photoelectric sensors
W4-3, Photoelectric proximity sensor,
Background suppression

WTB4-3P3161S11



Model Name > [WTB4-3P3161S11](#)
Part No. > [1029873](#)



Illustration may differ

At a glance

- Intense light spot with PinPoint LED technology
- Sensor with IR light available upon request
- Sensing range of 4 - 150 mm
- Background suppression sensor available with laser-like light spot
- Adjustment either via teach-in pushbutton, 5-turn potentiometer, cable or IO-Link
- Second emitter LED designed for suppression of shiny backgrounds
- Flexible sensing ranges and hysteresis settings
- Key lock function, remote teach, quality monitoring

Your benefits

- Reliable detection of objects regardless of color and consistency
- Smart machine design ensures low-cost integration due to mounting flexibility in areas with limited space
- Best-in-class background suppression and a high immunity to ambient light, ensuring reliable object detection
- Rugged mounting system with M3 threaded metal inserts reduces maintenance costs due to a long service life
- Precise detection with a high level of repeat accuracy due to an intense light spot with PinPoint LED technology
- Quick and easy format adjustment
- Easy monitoring of sensor status
- Key lock function and parameter download prevent incorrect settings



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	16 mm x 39.5 mm x 12 mm
Housing design (light emission):	Rectangular
Sensing range max.:	4 mm ... 150 mm ¹⁾
Sensing range:	15 mm ... 150 mm ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	650 nm
Special features:	Printed lens, Special front-side sealing
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 7 mm (50 mm)

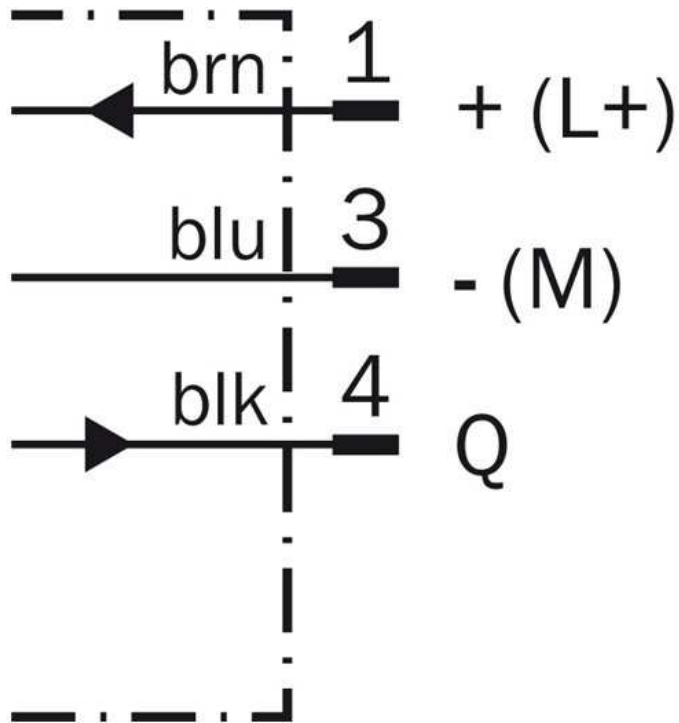
1) 2) Object with 90 % reflectance (referred to standard white, DIN 5033) 3) Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple::	< 5 Vpp ^{2) 3)}
Power consumption:	≤ 20 mA ⁴⁾
Output type:	PNP
Switching mode:	Light switching
Output current I _{max} ·:	≤ 100 mA
Response time:	< 0.5 ms ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Connection type:	Cable with connector M8, 3-pin, 100 mm ⁷⁾
Cable material:	PVC
Conductor cross-section:	0.14 mm ²
Cable diameter:	3.4 mm
Circuit protection:::	A, C, D ^{8) 9) 10)}
Protection class:	III
Weight:	30 g
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 67 IP 66
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Housing material:	ABS, Plastic

1) Limit values 2) 3) May not exceed or fall short of V_S tolerances 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) Do not bend below 0 °C 8) A = V_S connections reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

Connection diagram



Connection type



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