



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

WTB4-3P2162



Model Name > [WTB4-3P2162](#)
Part No. > [1028084](#)



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, Flat
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
Teach-in:	Single teach-in button
Adjustment:	Teach-in
Light spot size (distance):	Ø 7 mm (50 mm)

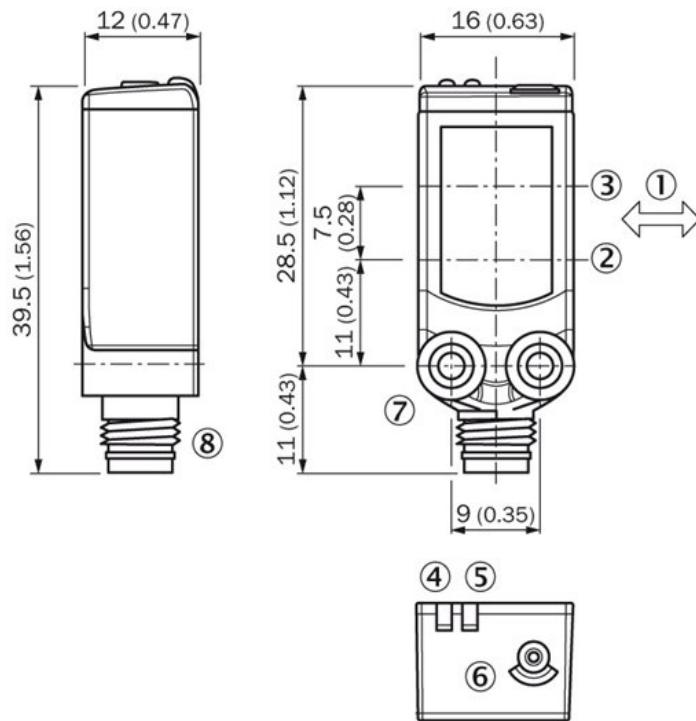
1) 2) Object with 90 % reflectance (referred to standard white DIN 5033) 3) Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	≤ 20 mA ³⁾
Output type:	PNP
Switching mode:	Light switching
Output current I _{max.} :	≤ 100 mA
Response time:	< 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M8, 3-pin
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	III
Weight:	30 g
Housing material:	ABS, Plastic
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

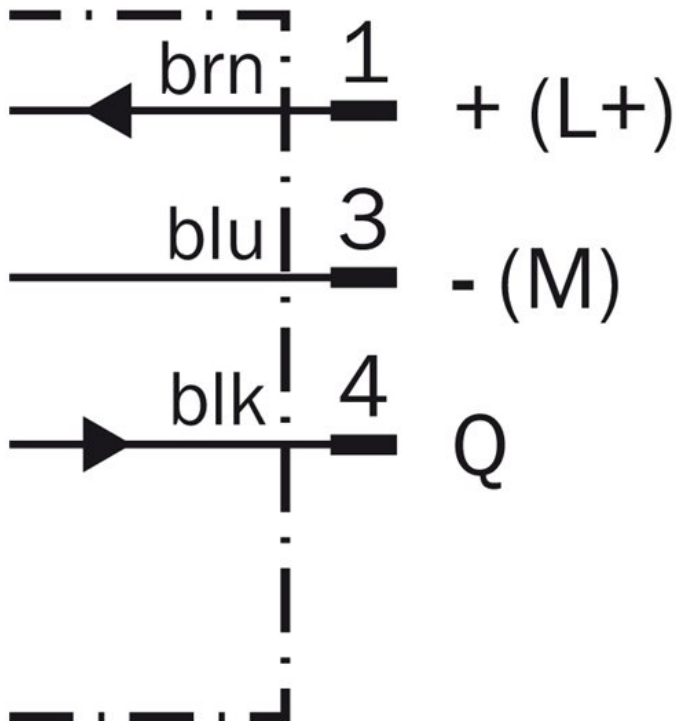
1) Limit values 2) May not exceed or fall short of V_S tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) $A = V_S$
connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected

Dimensional drawing

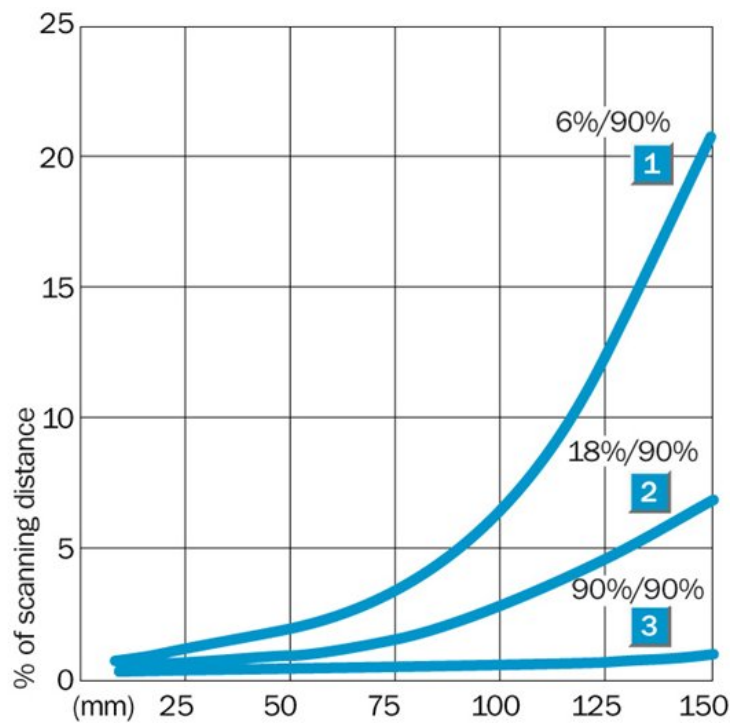


- [1] Standard direction of the material being scanned
- [2] Optical axis sender
- [3] Optical axis receiver
- [4] Status indicator LED,
yellow: Status of received light beam
- [5] Status indicator LED green: power on
- [6] Teach-in button
- [7] Threaded mounting hole M3
- [8] Connection

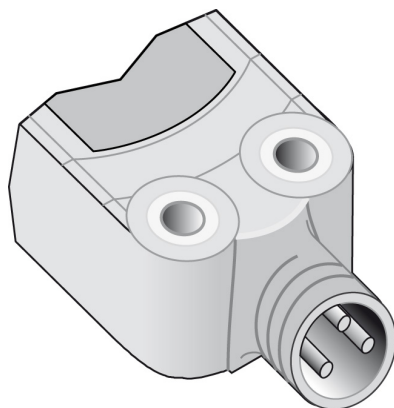
Connection diagram



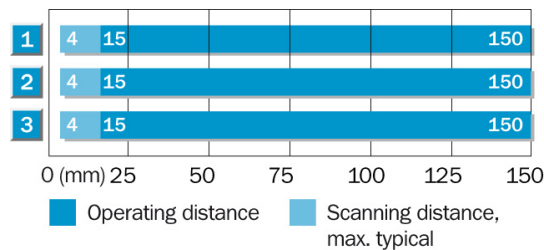
Characteristic curve



Connection type



Sensing range diagram



1	Scanning range on black, 6 % remission
2	Scanning range on grey, 18 % remission
3	Scanning range on white, 90 % remission

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