



Photoelectric sensors
W11-2, Photoelectric proximity sensor,
Background suppression

WTB11-2N2431



Type > [WTB11-2N2431](#)
Part No. > [1041378](#)



Illustration may differ

At a glance

- Precise background suppression
- Rugged housing for industrial use
- PinPoint LED technology with a highly visible light spot
- Space-saving plastic housing in chemically, thermally or mechanically resistant designs
- Dovetail mounting - standard mounting holes and oblong holes
- Highly visible 360° status LEDs
- Sensing distance adjustment via potentiometer
- Operating distance up to 1,100 mm

Your benefits

- State of the art technology e.g OES-3 provides, reliable background suppression and object detection, independent of object color
- High immunity to optical inference reduces false readings and downtime
- PinPoint LED technology provides a bright, small and precise light spot that enables easy sensor alignment
- Precise switching characteristics ensure high performance even in changing application conditions
- Highly visible 360° status LEDs provide quick and easy setup without additional personnel or costly training
- Rugged housing design withstands harsh environments, reducing downtime and maintenance effort
- Easy installation using SICK accessories



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	20 mm ... 350 mm ¹⁾
Sensing range:	20 mm ... 350 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Wave length:	640 nm
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 6 mm (200 mm)

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

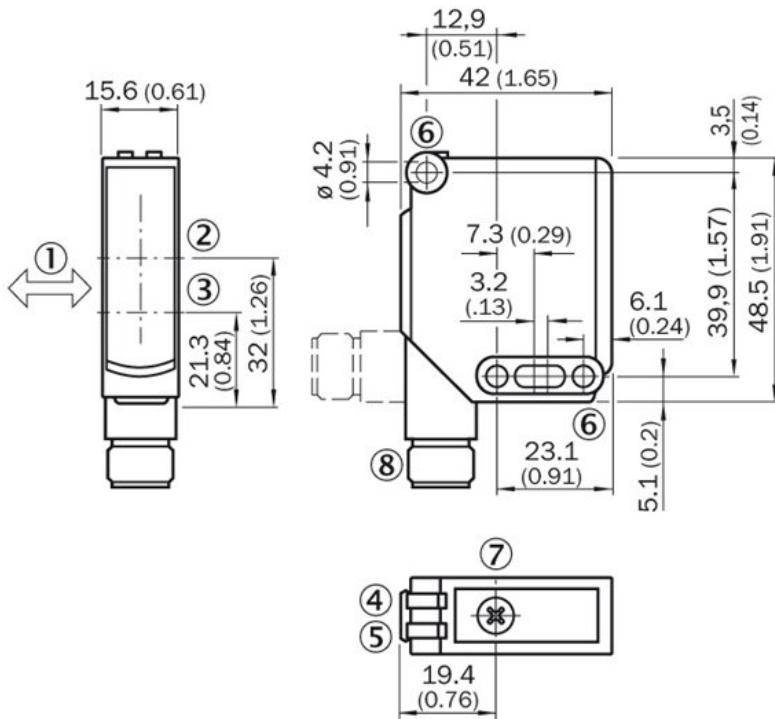
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Power consumption:	≤ 40 mA ²⁾
Output type:	NPN
Output function:	Complementary
Switching mode:	Light/dark switching
Signal voltage NPN HIGH/LOW:	Approx. VS / < 2.5 V
Output current I _{max.} :	100 mA
Response time:	≤ 2.5 ms ³⁾
Switching frequency:	200 Hz ⁴⁾
Connection type:	M12, 4-pin male connector
Circuit protection:::	A, C, D ^{5) 6) 7)}
Protection class:	II
Weight:	120 g
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67 IP 69K
Ambient operating temperature:	-30 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

May not exceed or fall short of V_S tolerances;

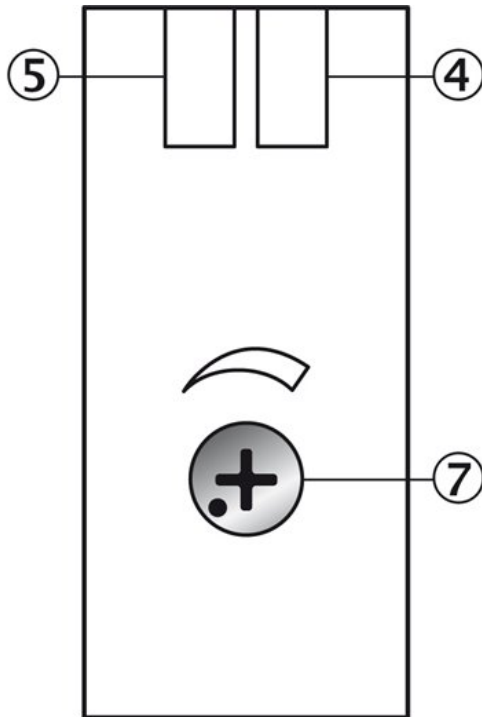
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ Without load ³⁾ Signal transit time with resistive load ⁴⁾ With light/dark ratio 1:1 ⁵⁾ A = V_S
connections reverse-polarity protected ⁶⁾ C = interference suppression ⁷⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing



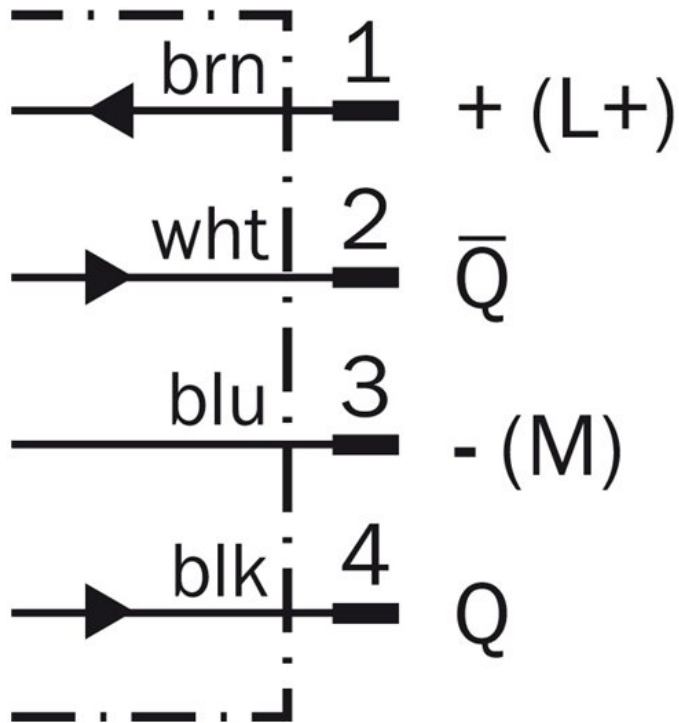
- [1] Standard direction of the material being scanned
- [2] Optical axis, receiver
- [3] Optical axis, sender
- [4] Status indicator LED green: power on
- [5] Status indicator LED, yellow: Status of received light beam
- [6] Mounting hole \varnothing 4.2 mm
- [7] Sensing range adjustment: potentiometer
- [8] Connection

Adjustments possible

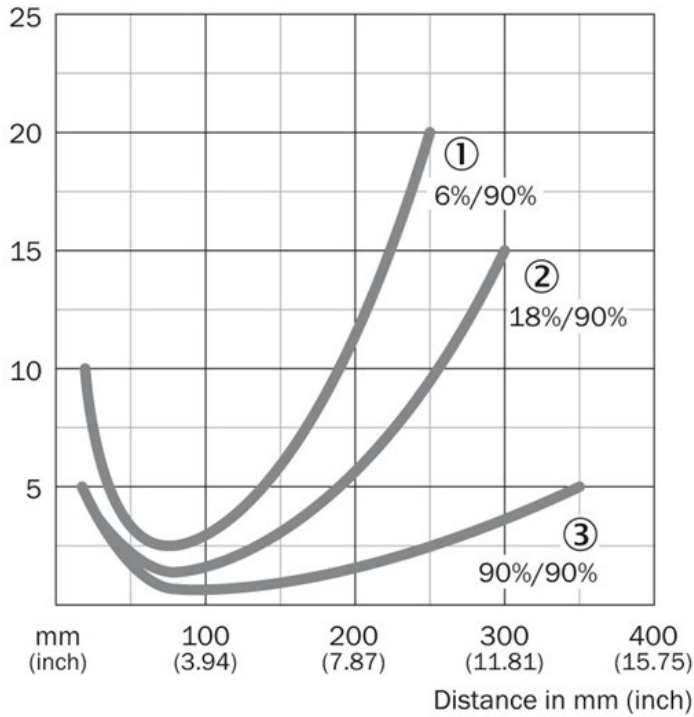


- [4] Status indicator LED green: power on
- [5] Status indicator LED, yellow: Status of received light beam
- [7] Sensing range adjustment: potentiometer

Connection diagram

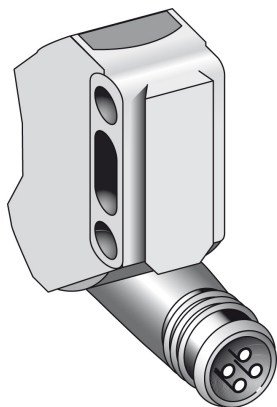


Characteristic curve

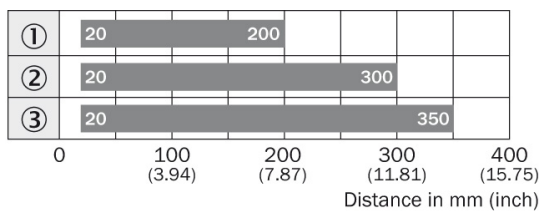


- ① Sensing range on black, 6 % remission
- ② Sensing range on grey, 18 % remission
- ③ Sensing range on white, 90 % remission

Connection type



Sensing range diagram



■ Sensing range

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- ③ Sensing range on white, 90 % remission

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