



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

WTB11-2P2431



Model Name > **WTB11-2P2431**
Part No. > **1041376**



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-turn
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

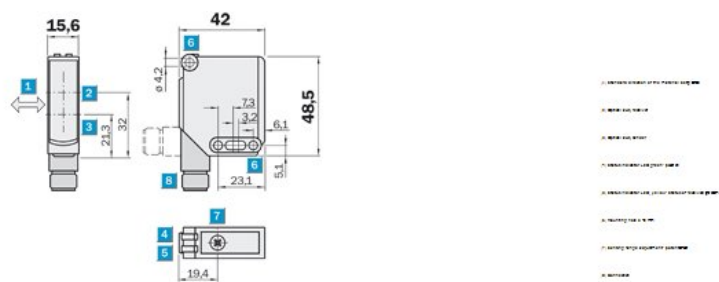
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Power consumption:	$\leq 30 \text{ mA}$ ²⁾
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark-switching
Signal voltage PNP HIGH/LOW:	$U_v - 2.5 \text{ V}$ /approx. 0 V
Output current $I_{\text{max.}}$:	100 mA
Response time:	$\leq 2.5 \text{ ms}$ ³⁾
Switching frequency:	200 Hz ⁴⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ^{5) 6) 7)}
Protection class:	II
Weight:	120 g
Special device:	-
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

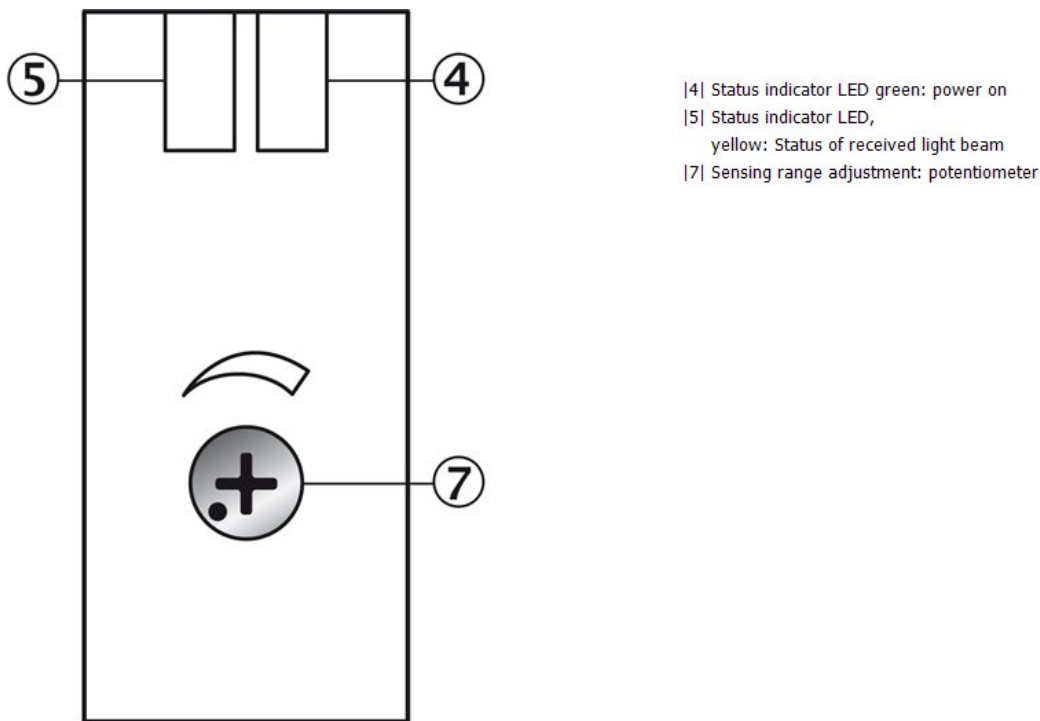
May not exceed or fall short of V_S tolerances;

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



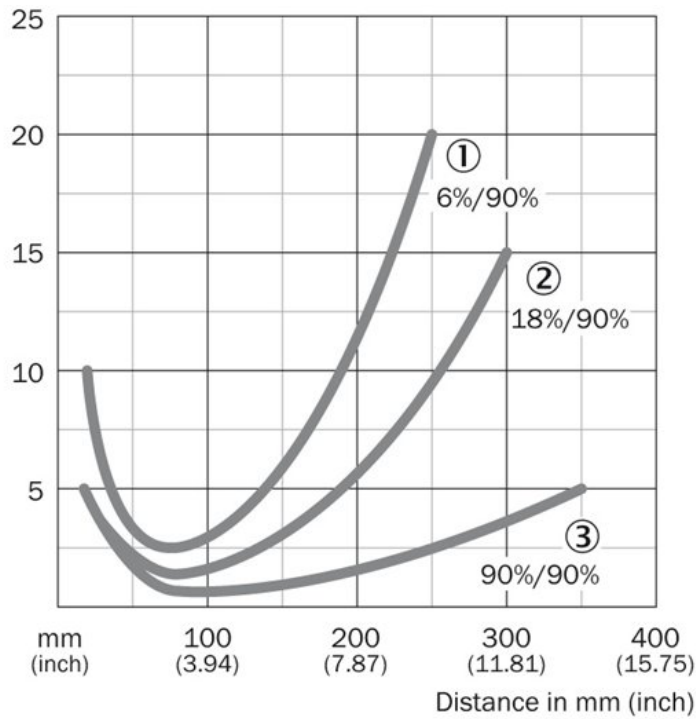
Adjustments possible



Connection diagram

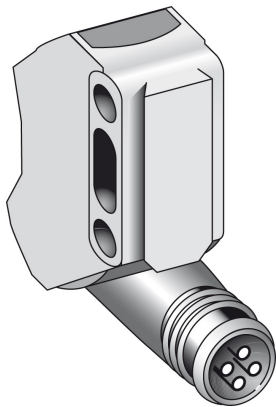


Characteristic curve

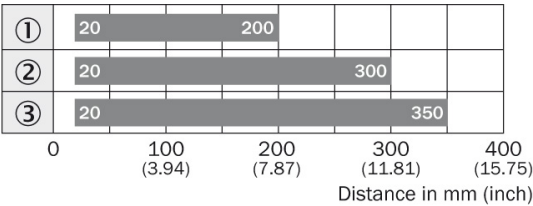


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



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

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