



Photoelectric sensors
W15, Photoelectric proximity sensor, Background
suppression

WTB15-A2431



Model Name > [WTB15-A2431](#)
Part No. > [1043325](#)



Illustration may differ

At a glance

- Photoelectric proximity sensor with background suppression and 200 mm sensing distance
- Suppression of background reflections based on OES3 ASIC technology, with second LED emitter
- Red PinPoint LED
- Mounting flexibility: M18 front mount using plastic nut or snap ring, side assembly with 24.1 mm through holes
- Flush mounting possible using the snap ring
- Transparent back cover

Your benefits

- Photoelectric proximity sensor with best-in-class background suppression, reducing product loss and increasing throughput
- Reliable object detection, even in difficult environments
- Perfect light spot visibility and light spot geometry simplifies alignment
- Completely compatible with many competitor models, making it easy to install and commission
- Flush mounting reduces setup time and prevents obstructions to material flow on conveyor sections
- Clearly visible LED indicators reduce setup time and simplify troubleshooting



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	16.2 mm x 48.5 mm x 31.9 mm
Housing design (light emission):	Hybrid
Thread diameter (housing):	M18 x 1
Sensing range max.:	4 mm ... 200 mm ¹⁾
Sensing range:	15 mm ... 200 mm
Type of light:	Visible red light
Light source:	PinPoint LED ²⁾
Wave length:	650 nm
Light spot size (distance):	Ø 7 mm (50 mm)

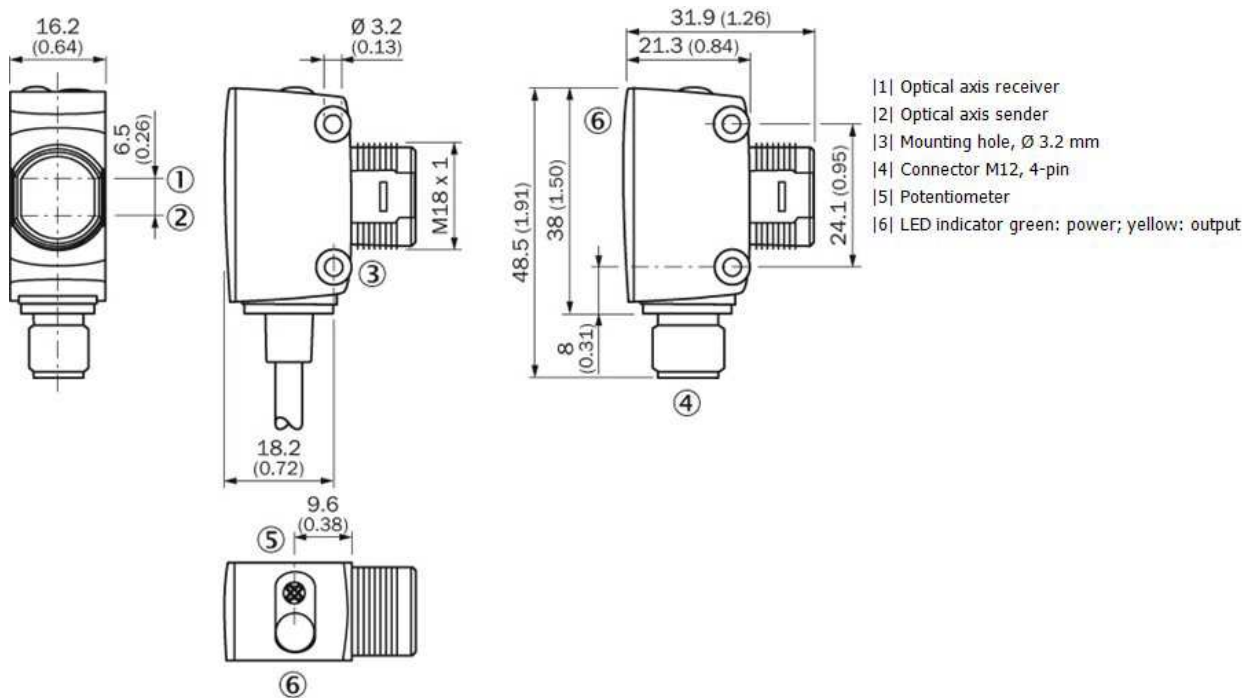
¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

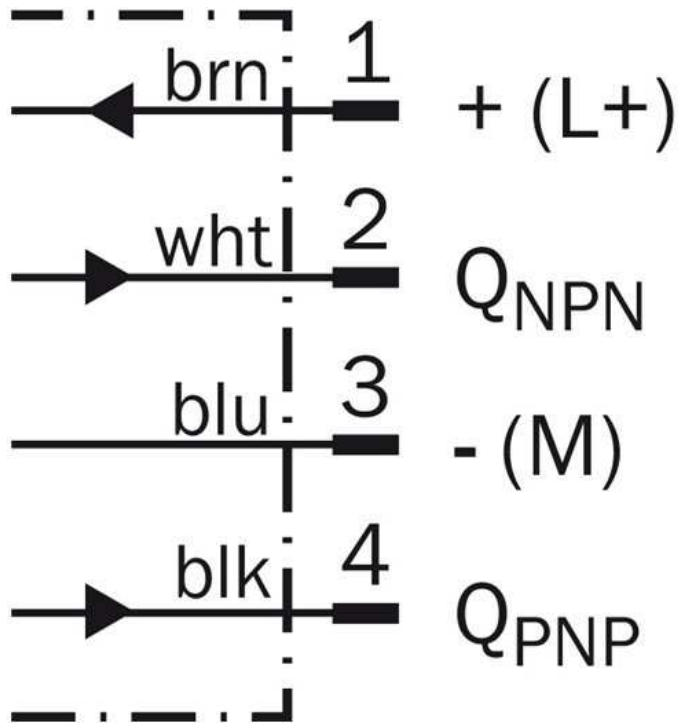
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 V _{pp} ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN, PNP
Switching mode:	Dark switching
Output current I _{max} ·:	≤ 100 mA ⁴⁾
Response time:	< 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, D ^{6) 7) 8)}
Protection class:	II ⁹⁾
Weight:	10 g
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67
Items supplied:	Snap-ring and M18 nut
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E189383 & NRKH7.E189383
Housing material:	ABS, Plastic

¹⁾ Limit values, operation in short-circuit protected network max. 8 A
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⁾ B = inputs and output reverse-polarity protected
⁸⁾ D = outputs overcurrent and short-circuit protected
⁹⁾ Reference voltage: 50 V DC

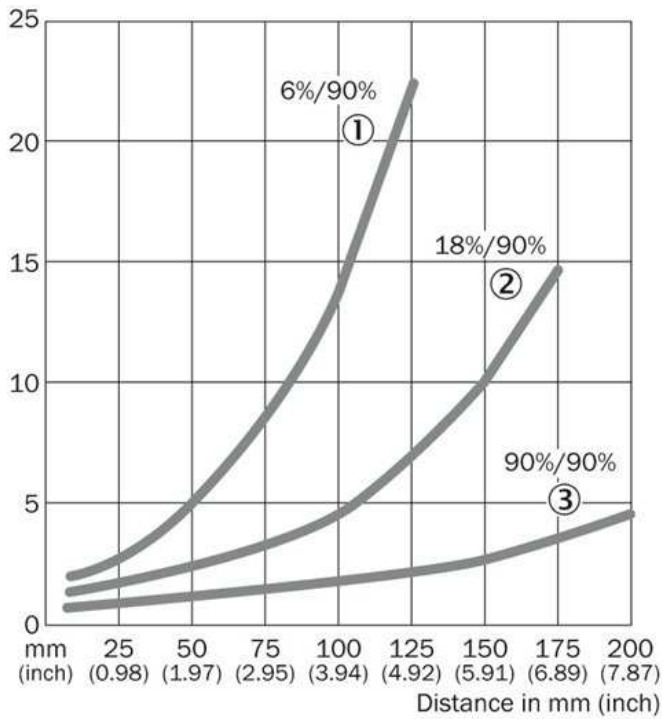
Dimensional drawing



Connection diagram

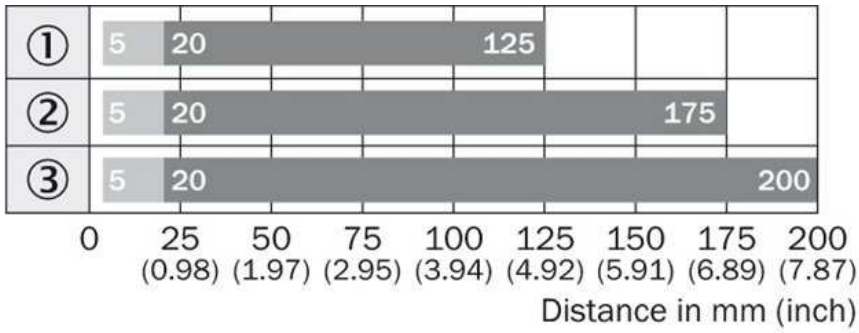


Characteristic curve



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

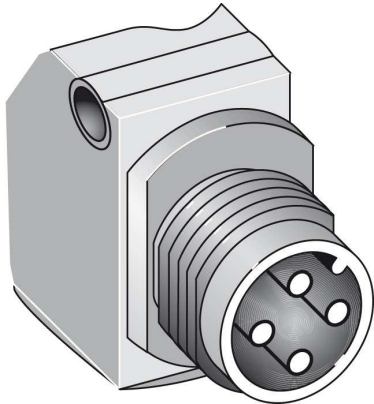
Sensing range diagram



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

■ Sensing range ■ Sensing range max.

Connection type



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