

ONLINE DATA SHEET
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Photoelectric sensors
W12-3, Through-beam photoelectric sensor

WSE12-3P2431



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Model Name > WSE12-3P2431
Part No. > 1041459



Illustration may differ

At a glance

- Through-beam variant
- Rugged die-cast zinc housing optional Teflon® coating
- PinPoint LED technology with highly visible light spot
- Chemically, thermally and mechanically resistant metal housing
- Dovetail mounting - mounting holes and oblong holes
- Highly visible status LEDs
- Operating range up to 20 m

Your benefits

High immunity to optical interference provides reliable object detection, large sensing ranges and high reserve levels

Highly visible PinPoint LED light spot provides quick and easy sensor alignment

Rugged metal housing (optional Teflon® coating available) requires fewer maintenance costs due to its resistance to high-pressure cleaning

Highly visible status LEDs simplify mounting and reduce installation time

Easy installation using SICK accessories

Features

Sensor/detection principle:	Through-beam photoelectric sensor
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 20 m
Sensing range:	0 m ... 15 m
Type of light:	Visible red light
Light source:	LED [1)]
Wave length:	640 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 220 mm (15 m)

1) Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

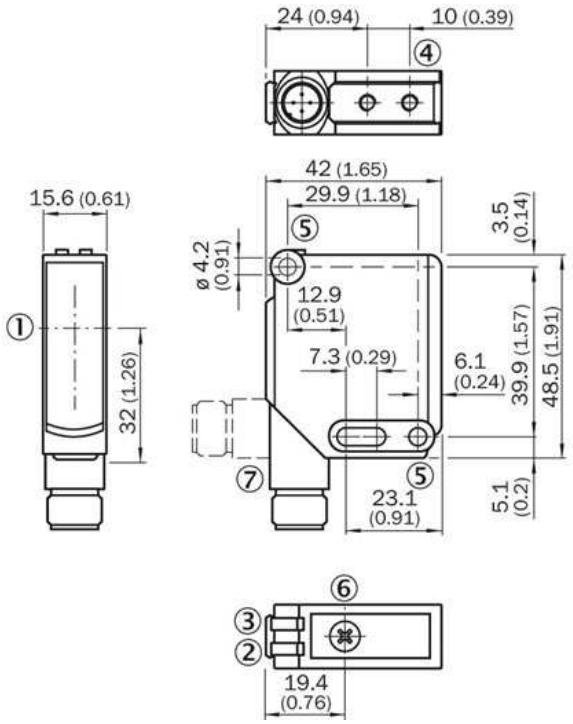
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Supply voltage:	10 V DC ... 30 V DC [1]
Power consumption, sender:	≤ 30 mA [2]
Power consumption, receiver:	≤ 15 mA [3]
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Signal voltage PNP HIGH/LOW:	> Uv - 2,5 V/ca. 0 V
Output current Imax.:	100 mA
Response time:	≤ 330 µs [4]
Switching frequency:	1,500 Hz [5]
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D [6] [7] [8]
Protection class:	II
Weight:	120 g
Housing material:	Metal
Enclosure rating:	IP 66 IP 67 IP 69K
Test input sender off:	TE to 0 V
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
Part number of individual components:	Receiver, WE12-3P2431, 2041881, Sender, WS12-3D2430, 2041879
UL File No.:	NRKH.E181493 & NRKH7.E181493

[1] Limit values, operation in short-circuit protected network max. 8 A [2] [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

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Dimensional drawing



|1| Optical axis
|2| LED indicator yellow: Light received
|3| Green LED indicator: supply voltage active
|4| M4 threaded mounting hole, 4 mm deep
|5| Mounting hole, Ø 4.2 mm
|6| Sensitivity adjustment: poti
|7| Connection

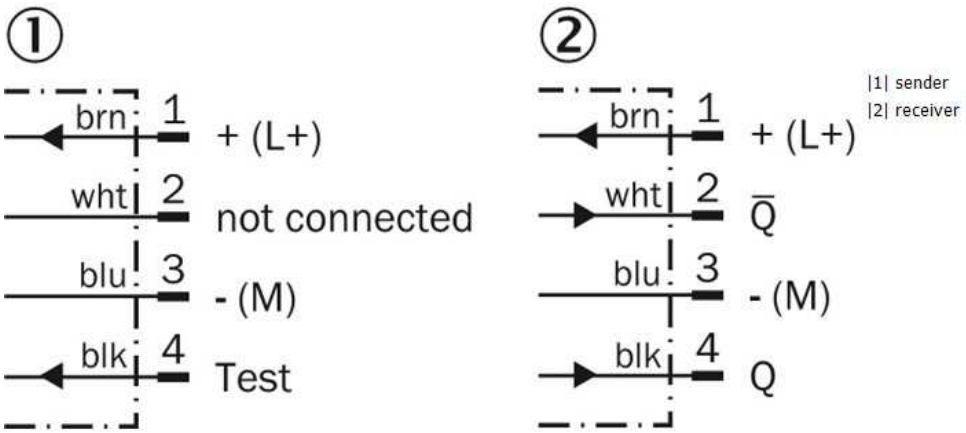
Adjustments possible



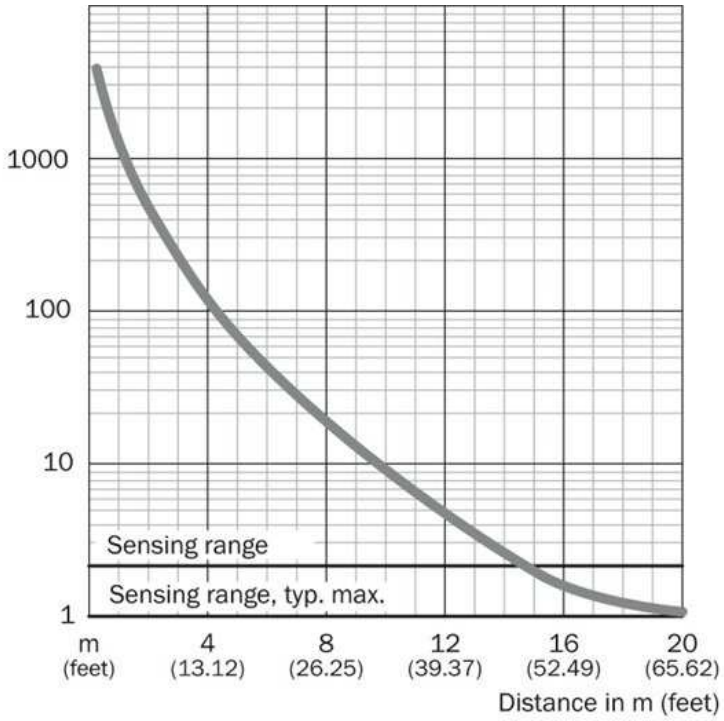
|2| LED indicator yellow: Light received
|3| Green LED indicator: supply voltage active
|6| Sensitivity adjustment: poti

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Connection diagram

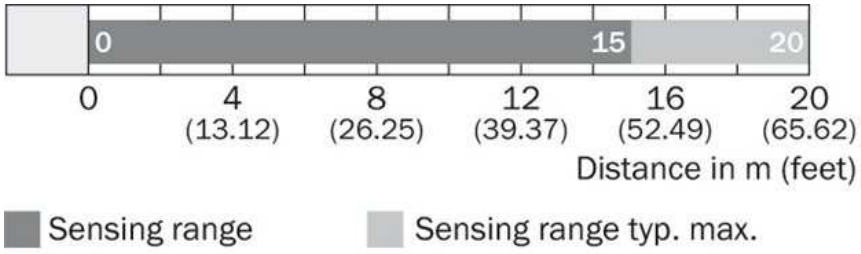


Characteristic curve

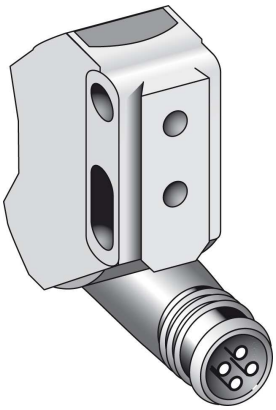


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Sensing range diagram



Connection type



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