



Photoelectric sensors  
W8 Inox, Photoelectric proximity sensor,  
Background suppression

WTB8-N2131V



**Model Name** > [WTB8-N2131V](#)  
**Part No.** > [6041462](#)



*Illustration may differ*

**At a glance**

- Rugged IP 69K stainless steel housing 1.4404/316L
- Front screen made of high-performance PPSU plastic that is resistant to heat and chemicals
- Potentiometer made of mechanically stable, high-performance PEEK plastic
- Constructed from FDA-approved materials
- Well-defined, highly visible light spot
- M3 threaded mounting holes and stainless steel mounting bracket (1.4301/304) included with delivery

**Your benefits**

- High reliability due to an IP 69K stainless steel housing, which withstands aggressive cleaning agents or cooling lubricants
- Quick and easy mounting due to universally compatible M3 threaded mounting holes
- Compact housing saves space (equal to W8 plastic version)
- Highly visible light spot provides easy alignment
- All necessary accessories are included, which simplifies installation



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	11 mm x 21 mm x 33.3 mm
Housing design (light emission):	Rectangular
Sensing range max.:	10 mm ... 500 mm <sup>1)</sup>
Sensing range:	30 mm ... 300 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</sup>
Wave length:	650 nm
Light spot diameter (distance):	Ø 22 mm (350 mm)

<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

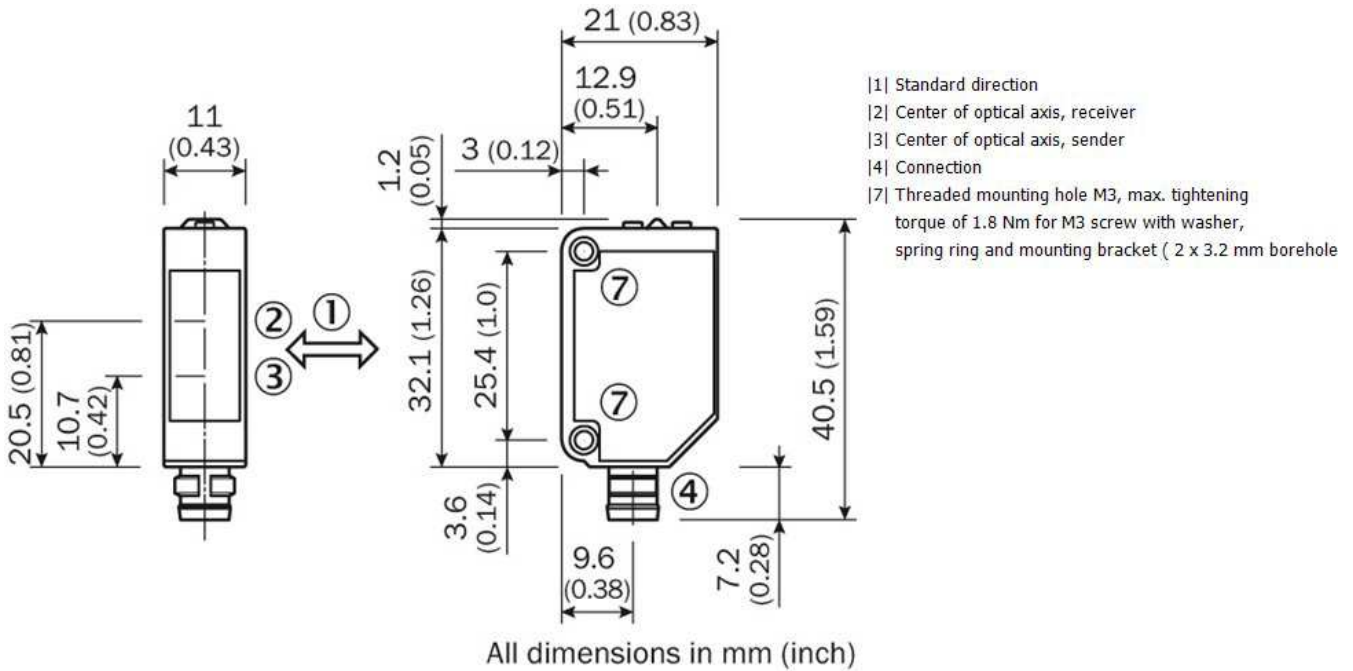
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	± 10 % <sup>2)</sup>
Power consumption:	≤ 30 mA <sup>3)</sup>

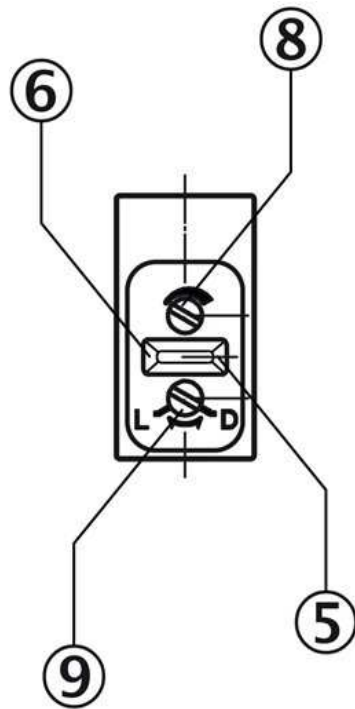
Output type:	NPN, Light/dark-switching, selectable via light/dark selector
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current $I_{max}$ :	100 mA
Response time:	$\leq 0.5 \text{ ms}$ <sup>4)</sup>
Switching frequency:	1,000 Hz <sup>5)</sup>
Electrical connection:	Connector M8, 3-pin
Circuit protection:::	A, B, D <sup>6) 7) 8)</sup>
Protection class:	III
Weight:	83.6 g
Housing material:	Stainless steel V4A (1.4404, 316L)
Enclosure rating:	IP 69K
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient temperature operation:	$-30 \text{ }^\circ\text{C} \dots 60 \text{ }^\circ\text{C}$ <sup>9)</sup>
Ambient storage temperature:	$-40 \text{ }^\circ\text{C} \dots 70 \text{ }^\circ\text{C}$
UL File-No.:	FDA

1) Limit values, reverse-polarity protected operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> A =  $V_S$  connections reverse-polarity protected <sup>7)</sup> B = inputs and output reverse-polarity protected <sup>8)</sup> D = outputs overcurrent and short-circuit protected <sup>9)</sup> At an air humidity of 35 ... 95 %

### Dimensional drawing

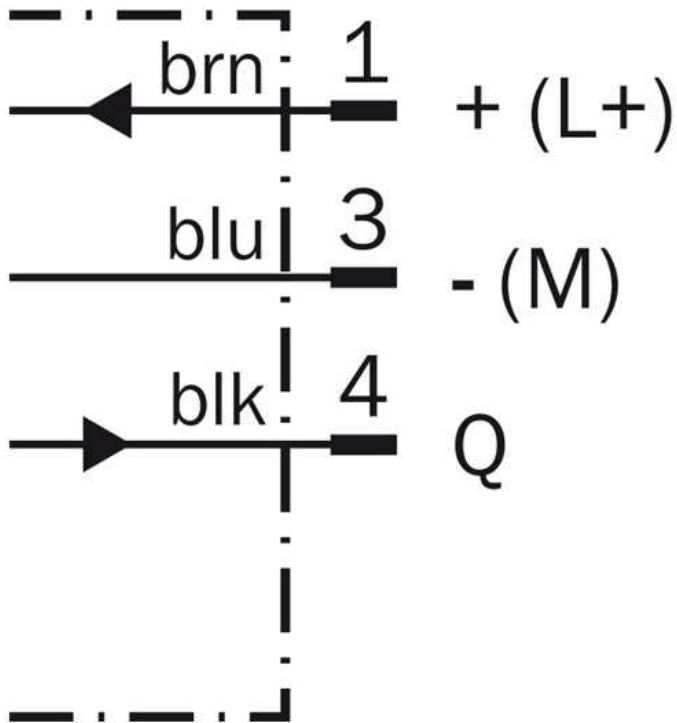


## Adjustments possible

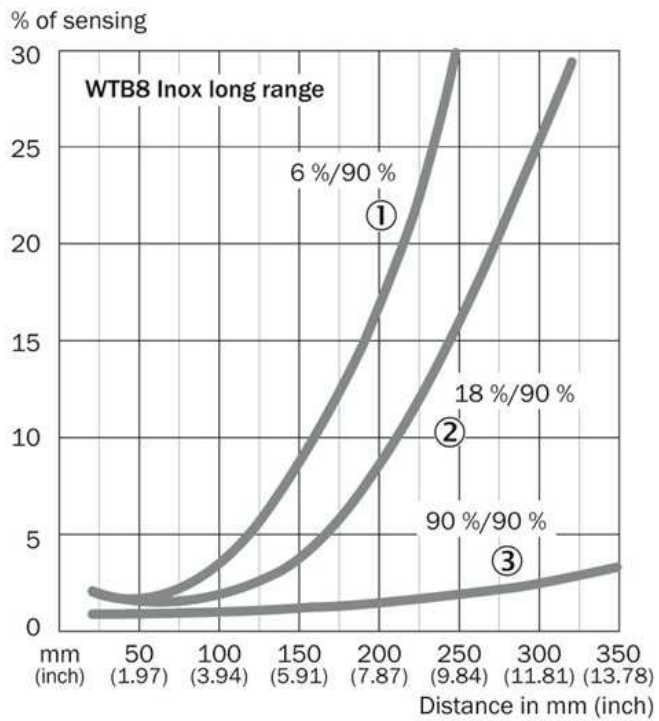


- |5| Orange LED indicator : switching output active
- |6| LED indicator green: stability indicator goes on if light received  $< 0.9$  or  $> 1.1$  (based on switching threshold  $Q = 1$ )
- |8| Sensing range adjustment
- |9| Light/ dark rotary switch L = light switching, D = dark switching

## Connection diagram

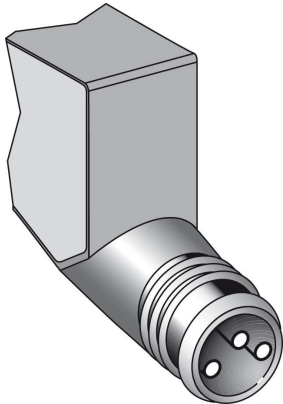


## Characteristic curve

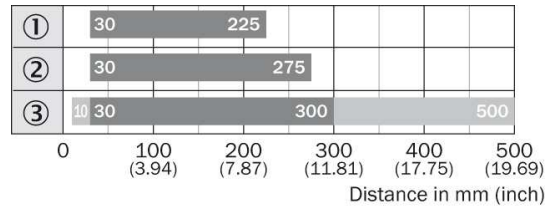


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

## Connection type



## Sensing range diagram



■ Operating distance ■ Sensing distance typ. max.

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

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