



Photoelectric sensors
W8 Inox, Photoelectric proximity sensor,
Background suppression

WTB8-P2131V



Model Name > [WTB8-P2131V](#)
Part No. > [6041466](#)



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 ¹⁾ |
| Sensing range: | 30 mm ... 300 mm ²⁾ |
| Type of light: | Visible red light |
| Light source: | LED ³⁾ |
| Wave length: | 650 nm |
| Light spot diameter (distance): | Ø 22 mm (350 mm) |

^{1) 2)} Object with 90 % reflectance (referred to standard white DIN 5033) ³⁾ Average service life of 100,000 h at T_A = +25 °C

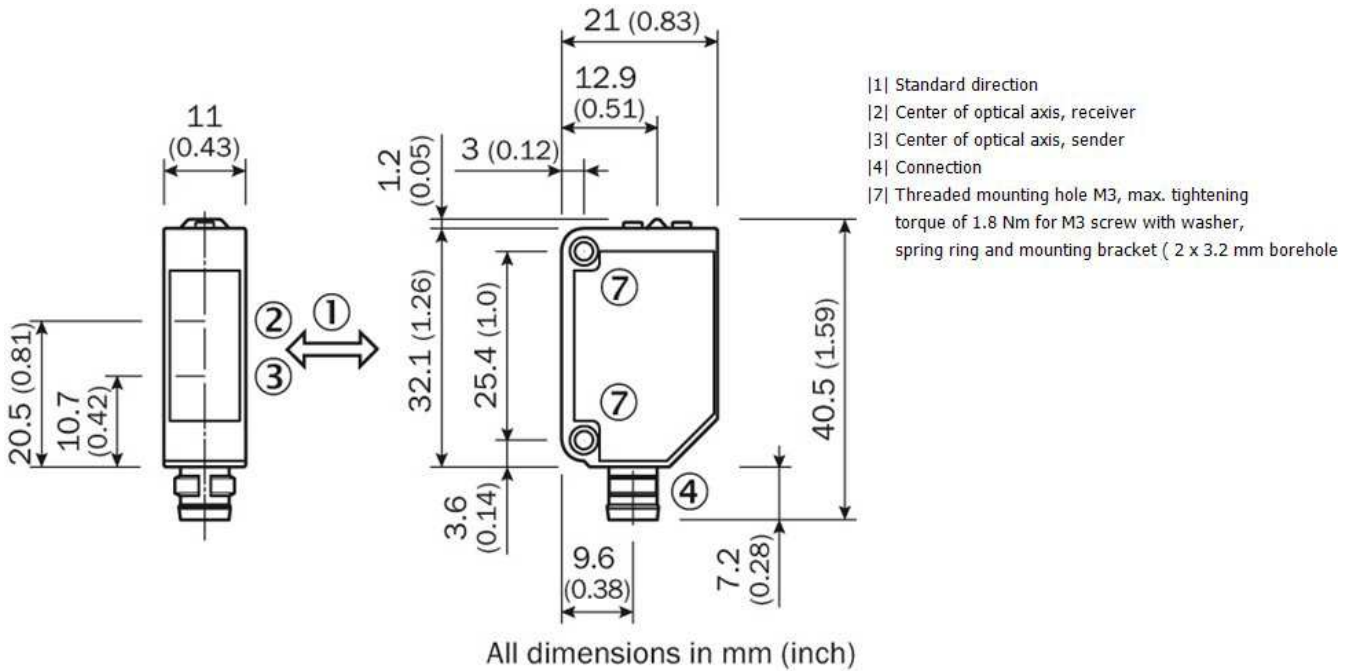
Mechanics/electronics

| | |
|--------------------|-----------------------------------|
| Supply voltage: | 10 V DC ... 30 V DC ¹⁾ |
| Residual ripple: | ± 10 % ²⁾ |
| Power consumption: | ≤ 30 mA ³⁾ |

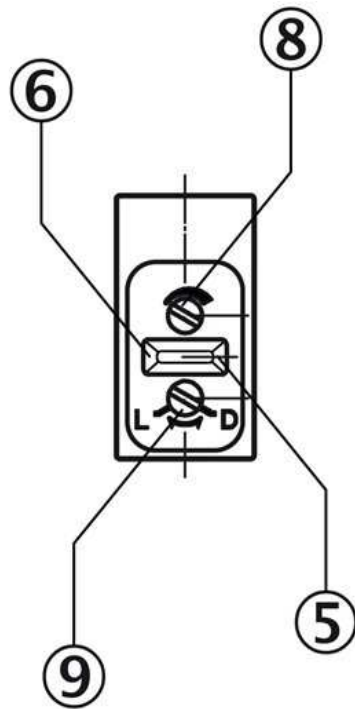
| | |
|-----------------------------------|--|
| Output type: | PNP, Light/dark-switching, selectable via light/dark selector |
| Signal voltage PNP HIGH/LOW: | Approx. $V_S - 1.8 \text{ V} / 0 \text{ V}$ |
| Output current I_{max} : | 100 mA |
| Response time: | $\leq 0.5 \text{ ms}$ ⁴⁾ |
| Switching frequency: | 1,000 Hz ⁵⁾ |
| Electrical connection: | Connector M8, 3-pin |
| Circuit protection::: | A, B, D ^{6) 7) 8)} |
| 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: | $-30 \text{ }^\circ\text{C} \dots 60 \text{ }^\circ\text{C}$ ⁹⁾ |
| 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 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⁾ At an air humidity of 35 ... 95 %

Dimensional drawing

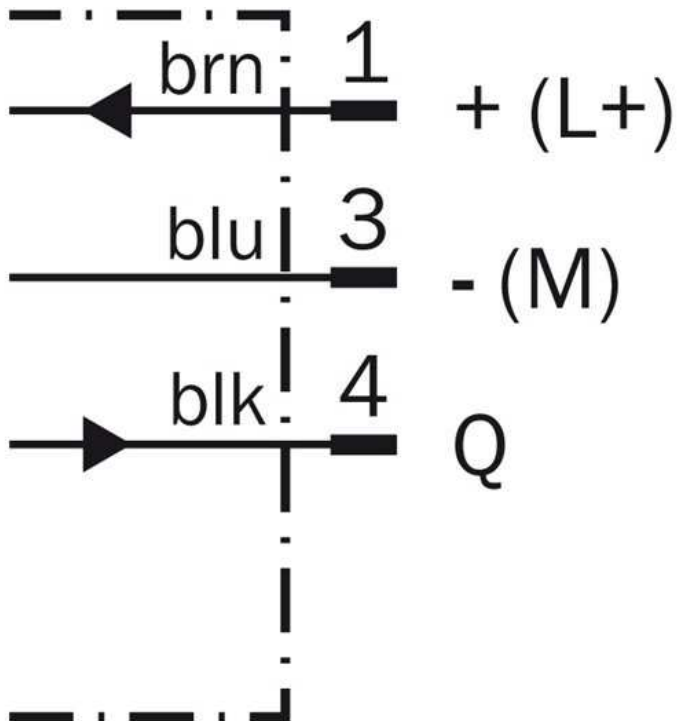


Adjustments possible

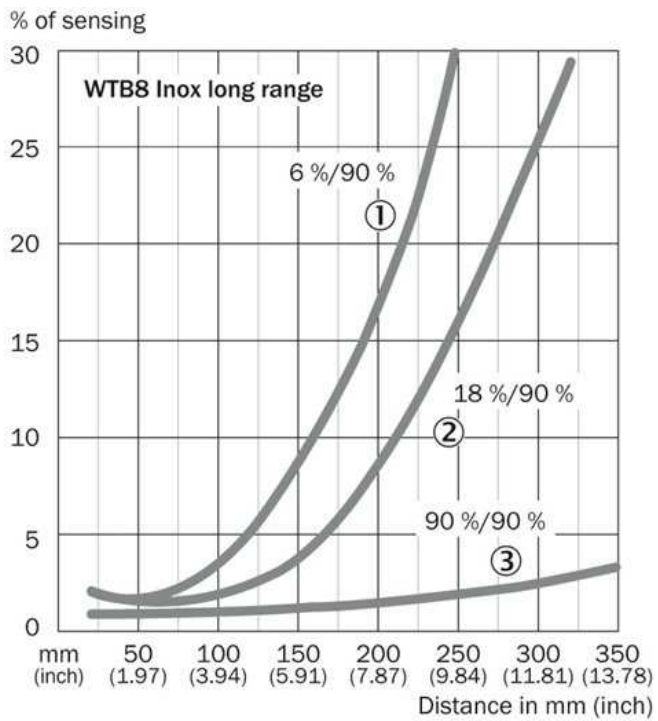


- |5| Orange LED indicator : switching output active
- |6| LED indicator green: stability indicator goes on if light received < 0.9 or > 1.1 (based on switching threshold $Q = 1$)
- |8| Sensing range adjustment
- |9| Light/ dark rotary switch L = light switching, D = dark switching

Connection diagram

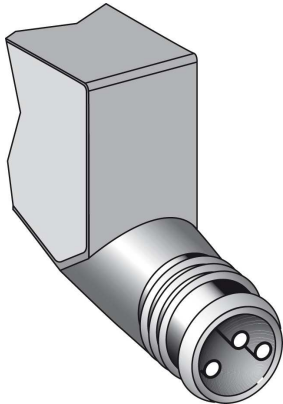


Characteristic curve

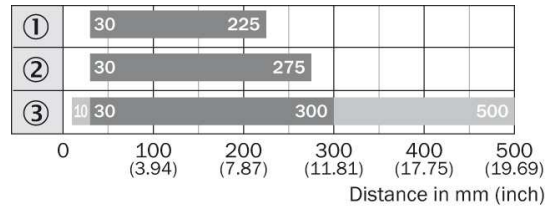


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

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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