



Photoelectric sensors
W8 Inox, Photoelectric proximity sensor,
Background suppression

WTB8-N3331V



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Model Name > [WTB8-N3331V](#)
Part No. > [6041464](#)



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

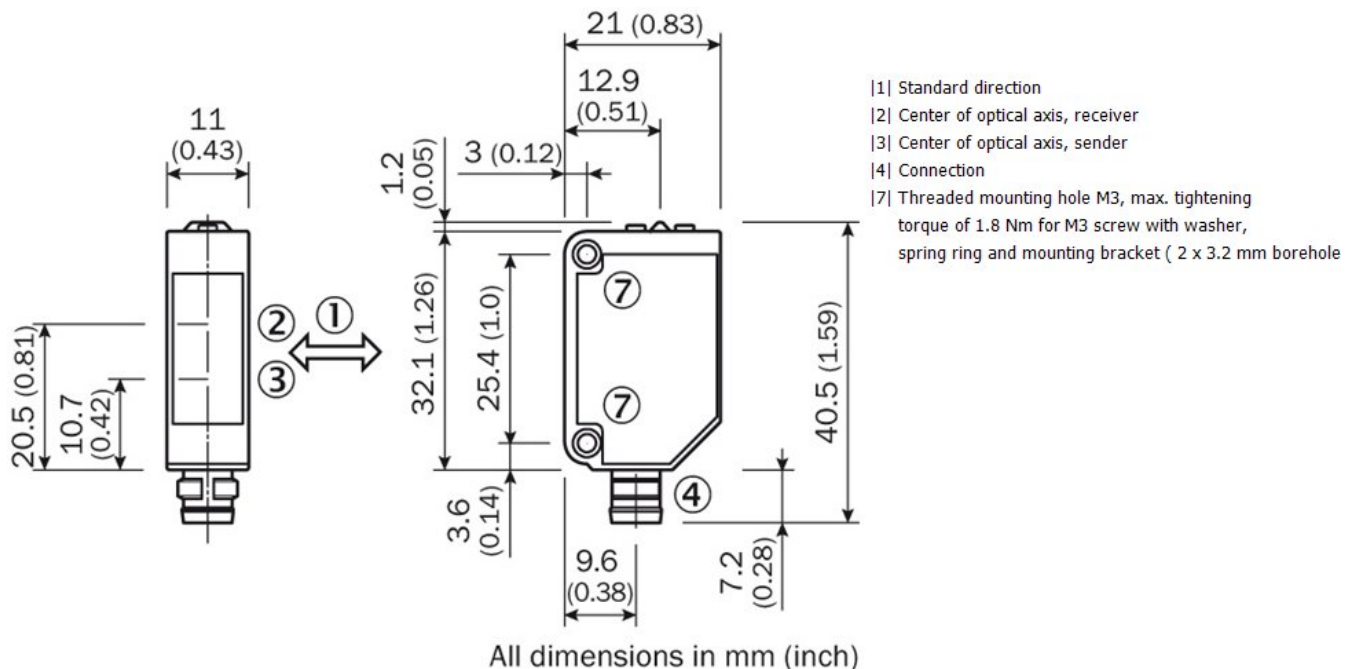
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾

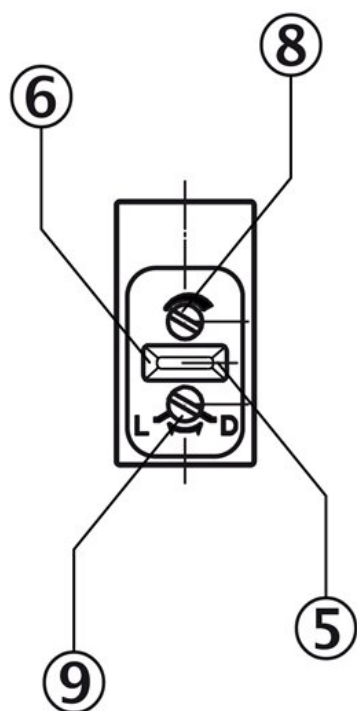
Output type:	NPN, Light/dark-switching, selectable via light/dark selector
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 1.8 \text{ V}$
Output current I_{max} :	100 mA
Response time:	$\leq 0.5 \text{ ms}$ ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Cable with connector M12, 4-pin, 300 mm ⁶⁾
Cable material:	PVC
Conductor cross-section:	0.18 mm ²
Circuit protection:::	A, B, D ⁷⁾ ⁸⁾ ⁹⁾
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 operating temperature:	-30 °C ... 60 °C ¹⁰⁾
Ambient storage temperature:	-40 °C ... 70 °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⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output
 reverse-polarity protected ⁹⁾ D = outputs overcurrent and short-circuit protected ¹⁰⁾ At an air humidity of 35 ... 95 %

Dimensional drawing

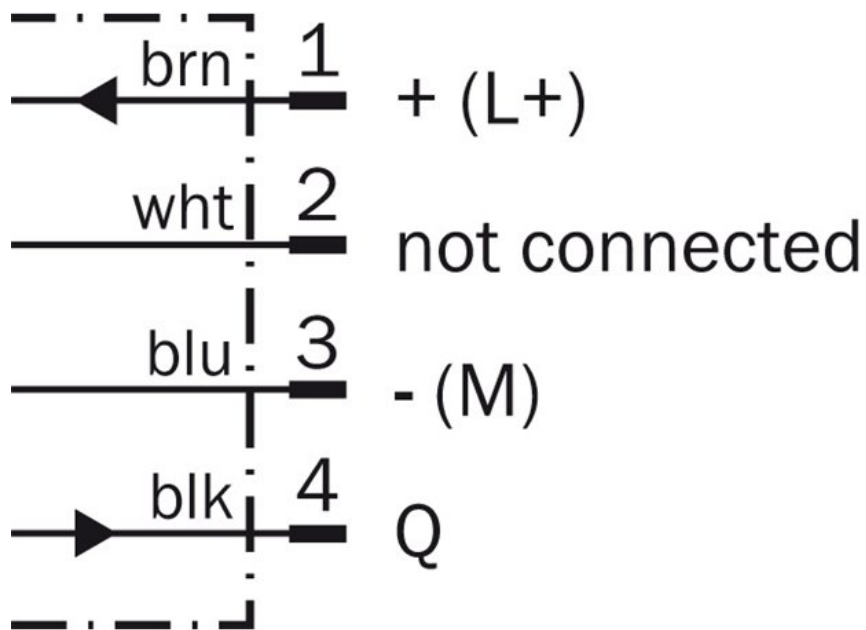


Adjustments possible

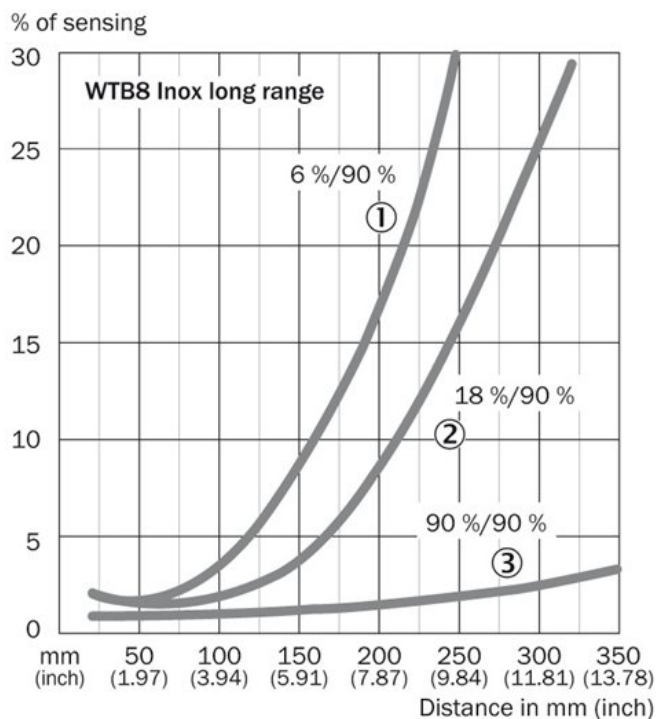


- |5| Orange LED indicator : switching output active
- |6| LED indicator green: stability
indicator goes on if light received < 0 .
9 or > 1.1 (based on switching threshold $Q = 1$)
- |8| Sensing range adjustment
- |9| Light/ dark rotary switch L =
light switching, D = dark switching

Connection diagram

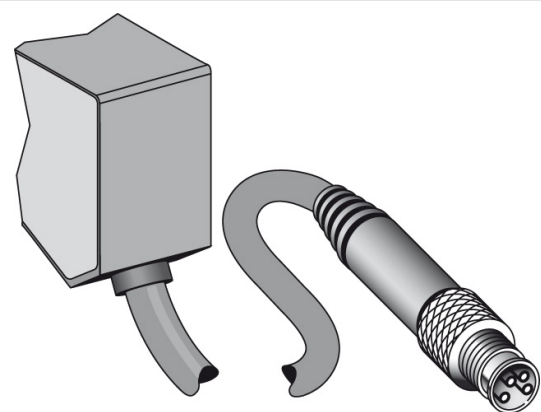


Characteristic curve

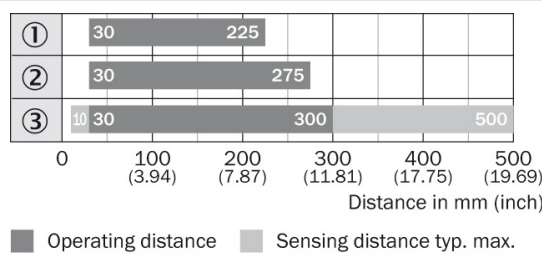


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on grey, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



- 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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