



Photoelectric sensors
W8, Photoelectric proximity sensor, Background
suppression

WTB8-P2131



Model Name > [WTB8-P2131](#)
Part No. > [6033207](#)



Illustration may differ

At a glance

- Background suppression
- Standard miniature housing with M3 threaded mounting holes
- Light/dark switching selectable via rotary switch

Your benefits

- Reliable detection of objects regardless of color or surface qualities
- Background suppression provides a high level of precision and repeatability
- Highly visible light spot simplifies alignment
- M3 mounting holes ensure quick installation



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	30 mm ... 300 mm ¹⁾
Sensing range:	40 mm ... 300 mm ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Alarm output:	-
Focus adjustable:	-
Adjustment:	Potentiometer, 4 turns
Light spot size (distance):	Ø 20 mm (300 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

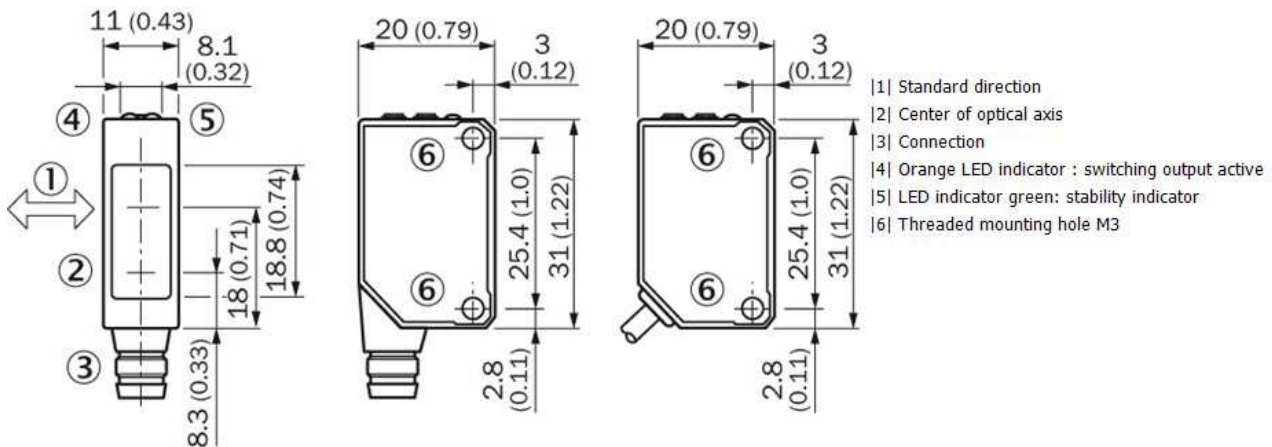
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
Output current I _{max.} :	≤ 100 mA
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Electrical connection:	Connector M8, 3-pin

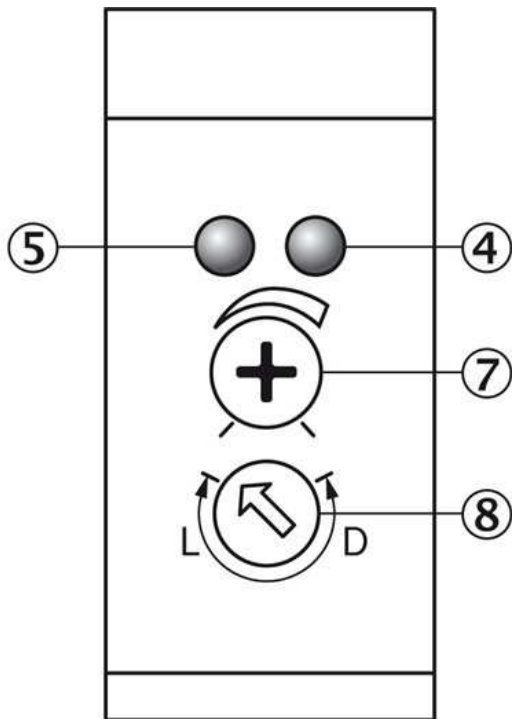
Circuit protection:::	A, B, D ^{6) 7) 8)}
Weight:	10 g
Polarisation filter:	-
Front screen heating:	-
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V/0 V

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

Dimensional drawing

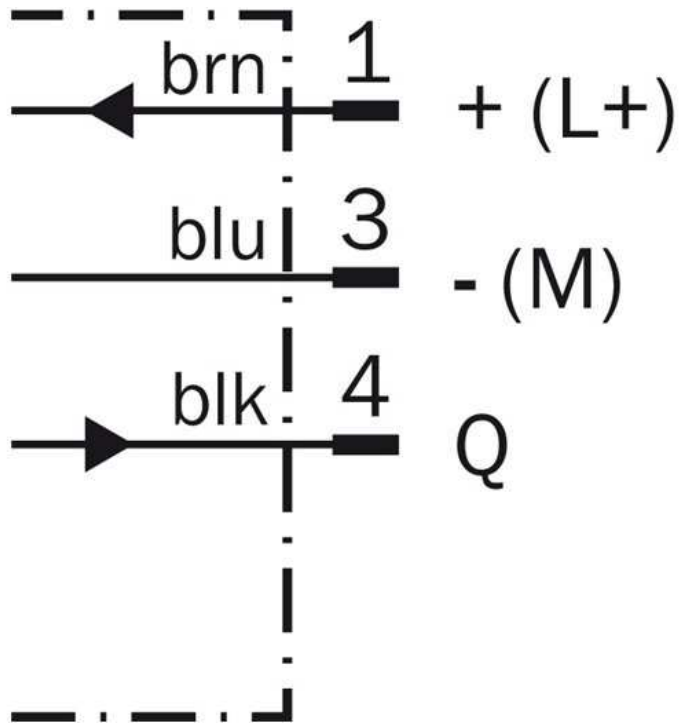


Adjustments possible

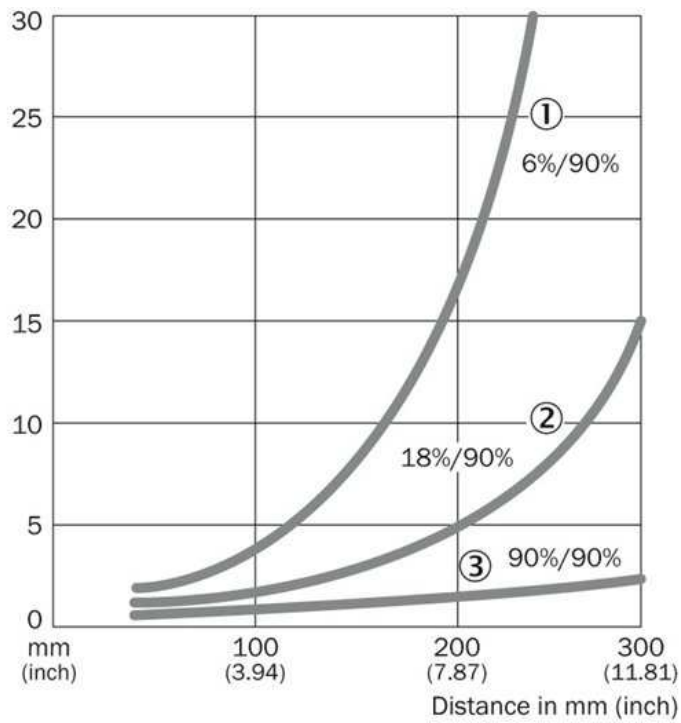


- |4| Orange LED indicator : switching output active
- |5| LED indicator green: stability indicator
- |7| Sensing range adjustment
- |8| Light/ dark rotary switch:L = light switching, D = dark switching

Connection diagram

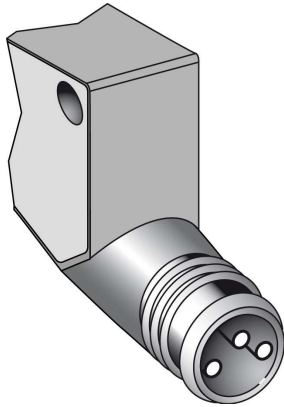


Characteristic curve

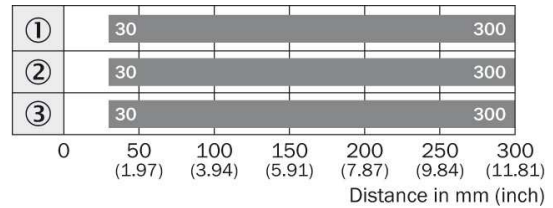


- |1| Sensing range on black, 6 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on white, 90 % remission

Connection type



Sensing range diagram



■ Sensing range

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