

ONLINE DATA SHEET
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Photoelectric sensors
W8 Laser, Photoelectric proximity sensor, Background suppression

WTB8L-P2231



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Model Name > WTB8L-P2231
Part No. > 6033221





Illustration may differ

At a glance

- Laser class 1
- Background suppression
- Standard miniature housing with M3 threaded mounting holes
- Switching frequency up to 2 kHz
- Light/dark switching via rotary switch
- Mounting bracket BEF-W100-A is included with delivery

Your benefits

- Highly flexible design and operational capabilities due to precise background suppression
- Reliable detection of small objects, regardless of color or surface qualities
- Rapid switching frequency reliably detects objects travelling at high speeds which allows to optimize the production processes
- Highly visible laser light spot simplifies alignment
- All necessary accessories are included with delivery, reducing installation and procurement costs

CE

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:	Laser [3)]
Laser class:	1
Wave length:	650 nm
Alarm output:	-
Focus adjustable:	-
Adjustment:	Potentiometer, 4 turns
Light spot size (distance):	Ø 1.5 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

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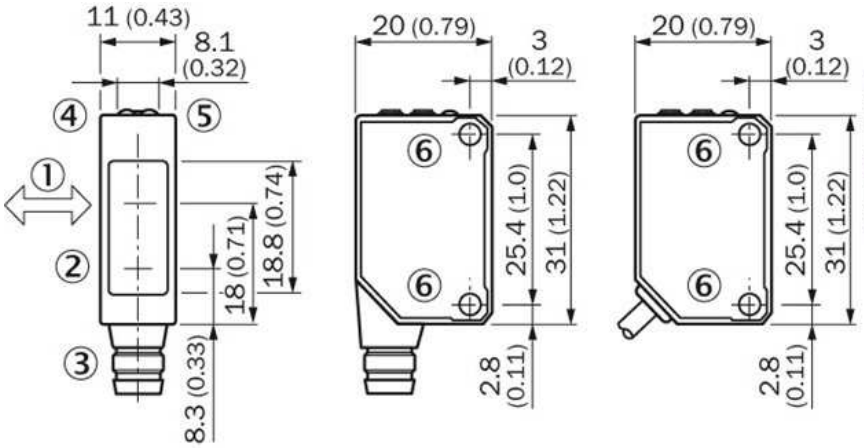
Mechanics/electronics

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 Imax.:	≤ 100 mA
Response time:	≤ 0.25 ms [4]
Switching frequency:	2,000 Hz [5]
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, D [6] [7] [8]
Weight:	10 g
Polarisation filter:	-
Front screen heating:	-
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient temperature operation:	-10 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	242368, CDRH-conform
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V／0 V
Housing material:	ABS, Plastic

[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

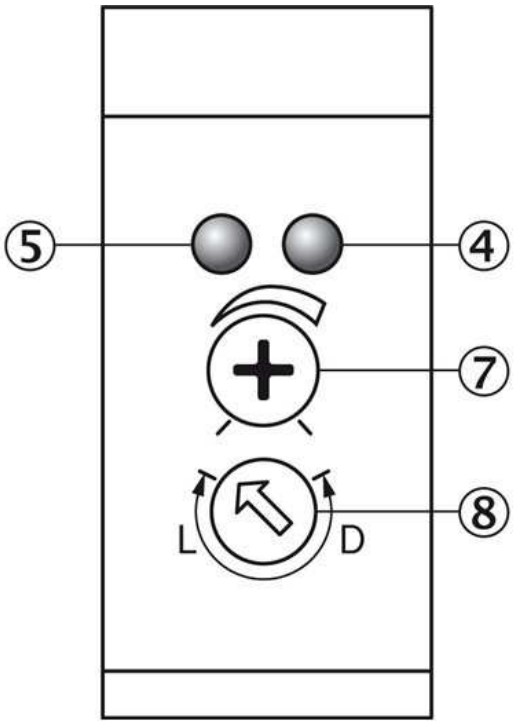
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Dimensional drawing



|1| Standard direction
|2| Center of optical axis
|3| Connection
|4| Orange LED indicator : switching output active
|5| LED indicator green: stability indicator
|6| Threaded mounting hole M3

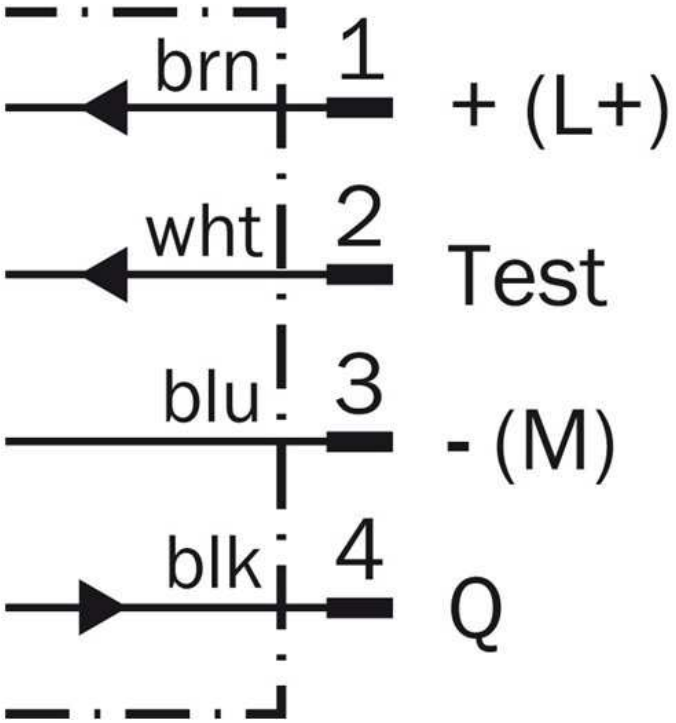
Adjustments possible



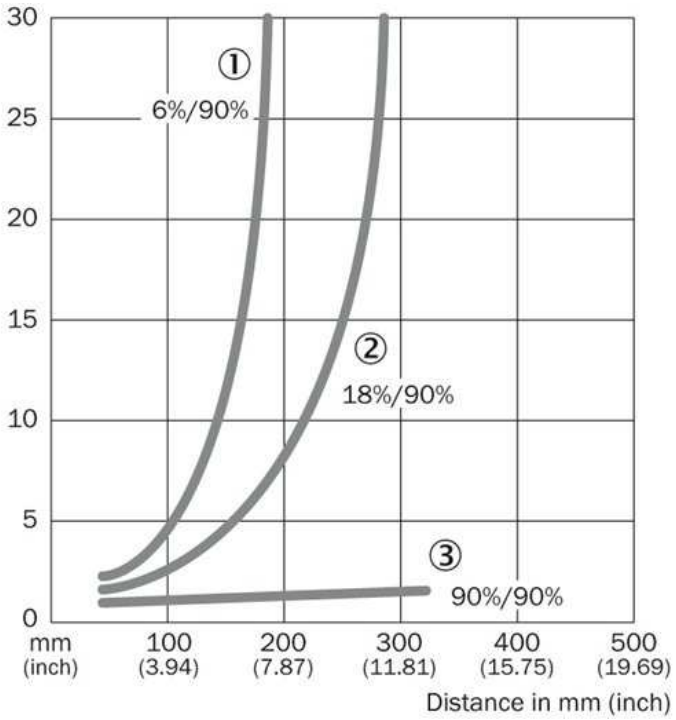
|4| Orange LED indicator : switching output active
|5| LED indicator green: stability indicator
|7| Sensing range adjustment
|8| Light/ dark rotary switch:L =
light switching, D = dark switching

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Connection diagram



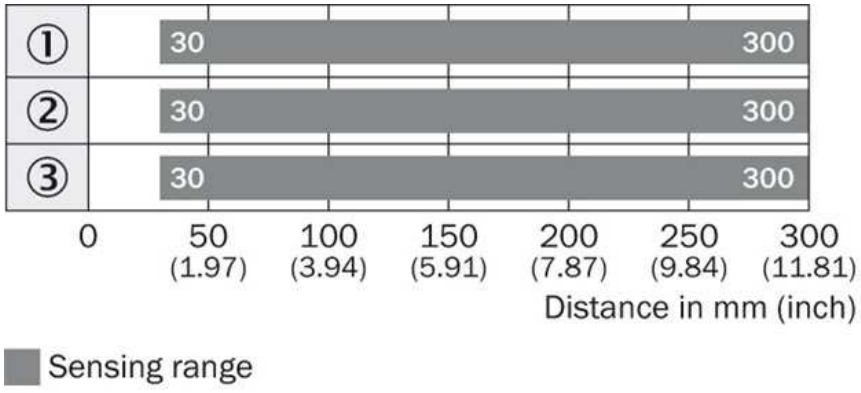
Characteristic curve



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

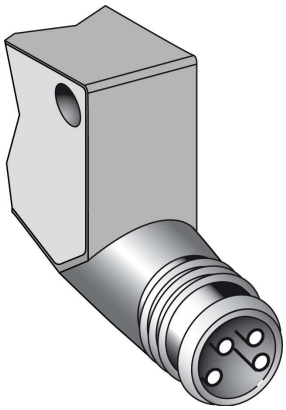
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Sensing range diagram



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

Connection type



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