



Photoelectric sensors
W8, Photoelectric proximity sensor, Background
suppression

WTB8-P2231



Model Name > [WTB8-P2231](#)
Part No. > [6033209](#)



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, Slim
Sensing range max.:	30 mm ... 300 mm ¹⁾
Sensing range:	40 mm ... 300 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Wave length:	650 nm
Alarm output:	-
Focus adjustable:	-
Adjustment:	Potentiometer, 4-turn
Light spot size (distance):	Ø 20 mm (300 mm)

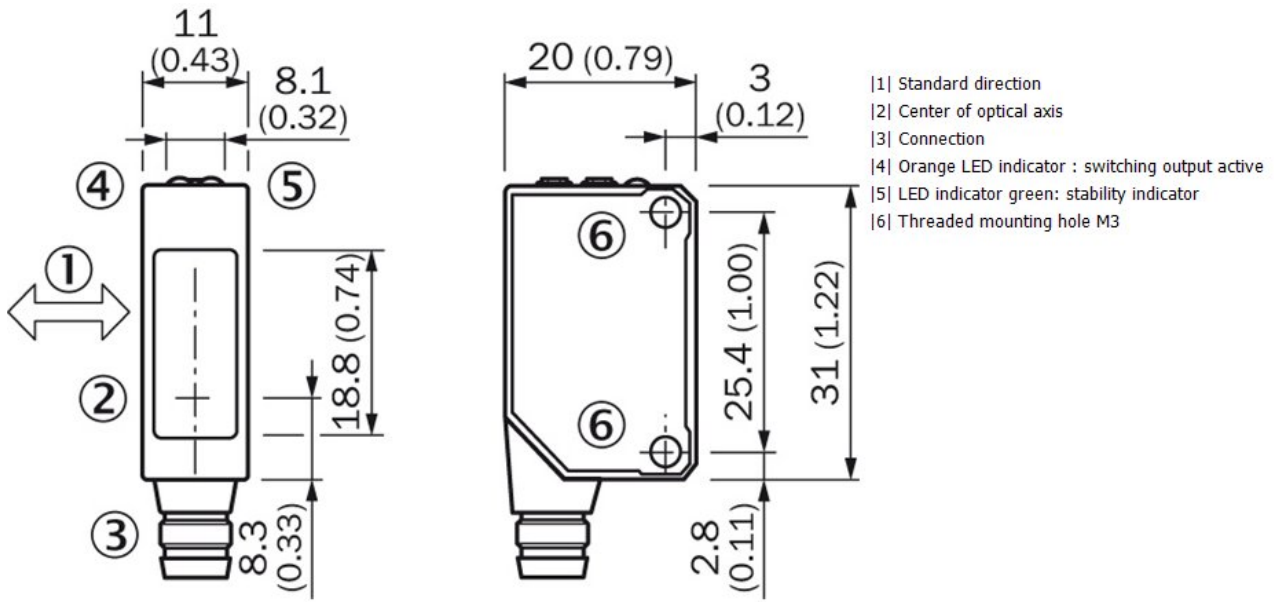
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

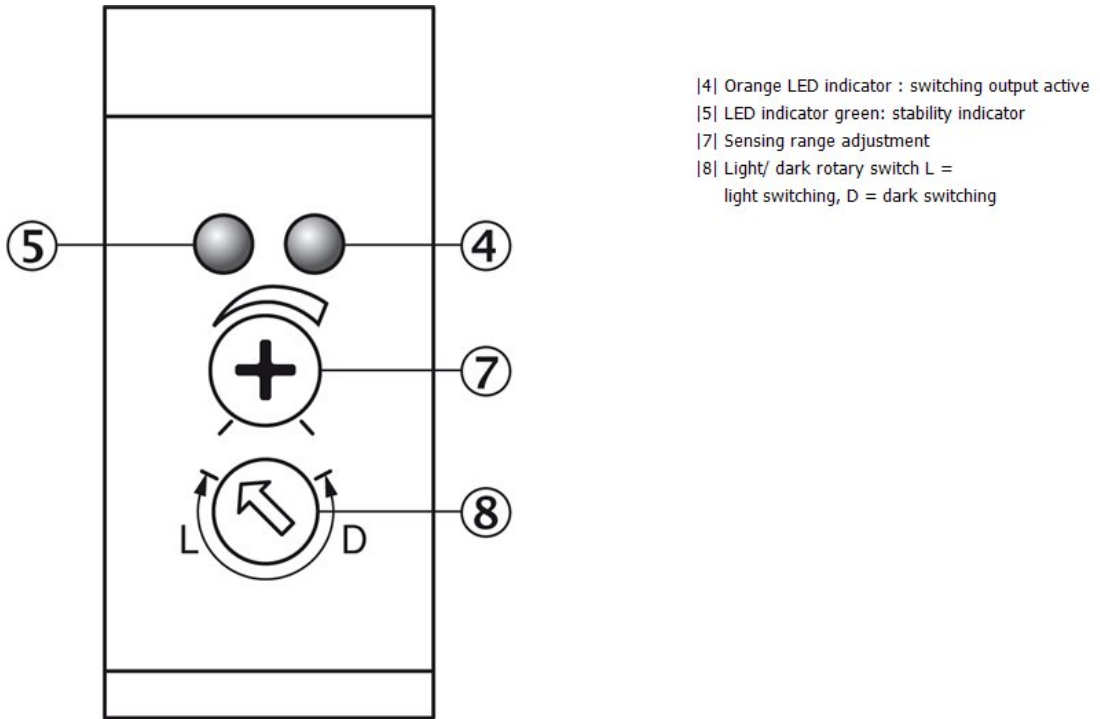
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\pm 10\%$ ²⁾
Power consumption:	$\leq 30\text{ mA}$ ³⁾
Switching output:	PNP
Switching output:	Light/dark-switching
Output characteristic:	Open collector
Switching mode selector:	Manually selectable
Signal voltage PNP HIGH/LOW:	Approx. $V_S - 1.8\text{ V}/0\text{ V}$
Output current I_{max} :	100
Response time:	$\leq 0.5\text{ ms}$ ⁴⁾
Switching frequency:	1,000 ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ^{6) 7) 8)}
Weight:	10 g
Polarisation filter:	-
Front screen heating:	-
AS-Interface-Chip:	-
Housing material:	ABS, Plastic
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient operating temperature:	$-25\text{ °C} \dots 55\text{ °C}$
Ambient storage temperature:	$-40\text{ °C} \dots 70\text{ °C}$

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

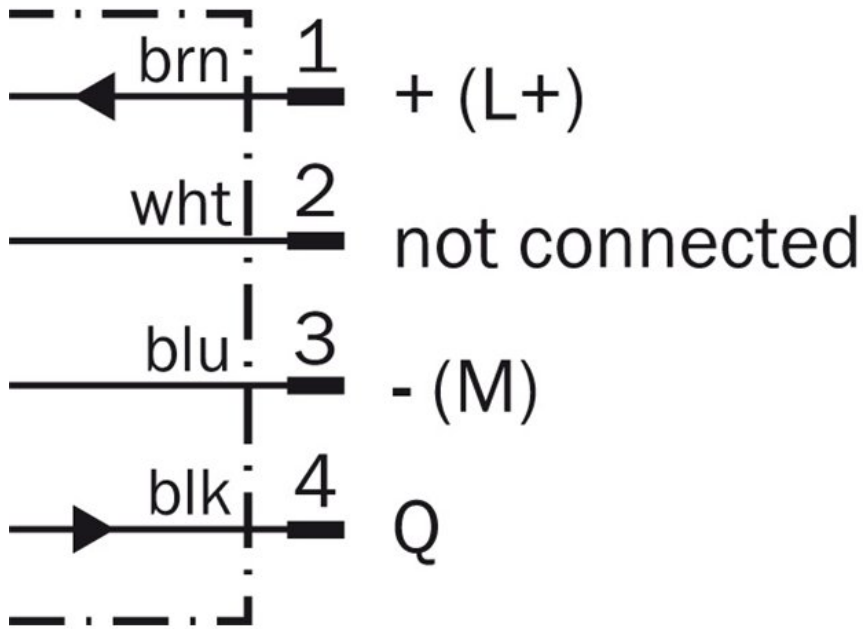
Dimensional drawing



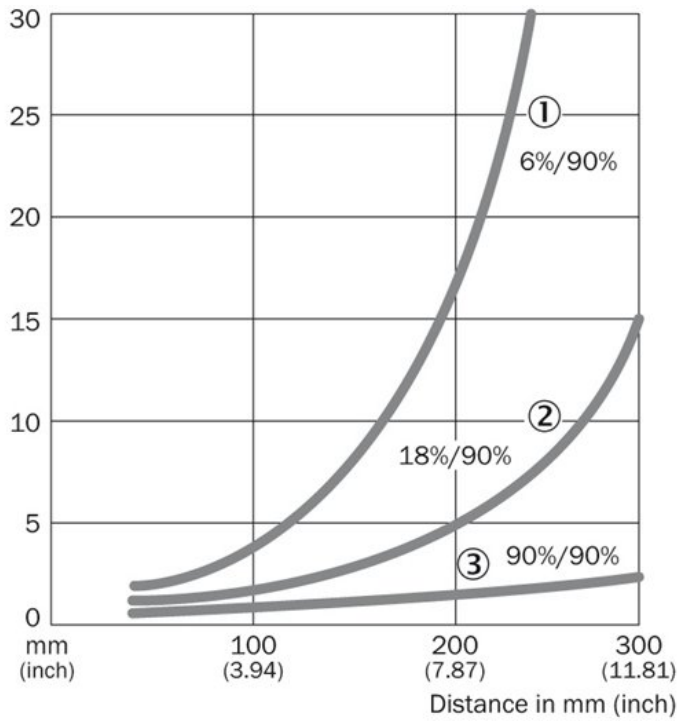
Adjustments possible



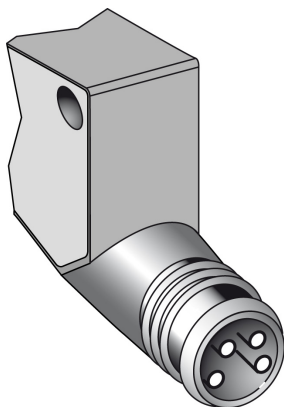
Connection diagram



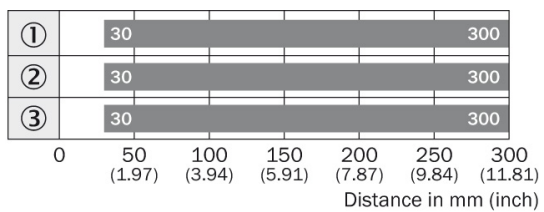
Characteristic curve



Connection type



Sensing range diagram



■ Sensing range

- 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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