



WTB8-P2231V

W8 Inox

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WTB8-P2231V	6041467

Other models and accessories → www.sick.com/W8_Inox

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	11 mm x 33.3 mm x 21 mm
Housing design (light emission)	Rectangular
Sensing range max.	10 mm ... 500 mm ¹⁾
Sensing range	30 mm ... 300 mm ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 22 mm (350 mm)
Wave length	650 nm
Adjustment	Potentiometer, 4 turns

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

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

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_v 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%.

Switching mode	Light/dark switching
Switching mode selector	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⁾
Connection type	Connector M8, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Protection class	III
Weight	83.6 g
Housing material	Stainless steel, Stainless steel V4A (1.4404, 316L)
Enclosure rating	IP69K
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A
Ambient operating temperature	$-30\text{ °C} \dots +60\text{ °C}$ ⁹⁾
Ambient storage temperature	$-40\text{ °C} \dots +70\text{ °C}$
UL File No.	FDA

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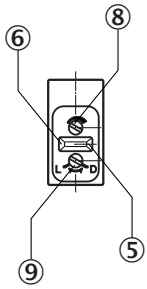
⁹⁾ At an air humidity of 35 ... 95%.

Classifications

ECl@ss 5.0	27270904
ECl@ss 5.1.4	27270904
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904
ECl@ss 7.0	27270904
ECl@ss 8.0	27270904
ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

Adjustments possible

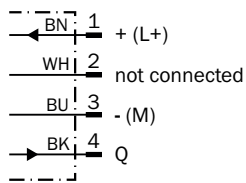
WTB8



- ⑤ Orange LED indicator : switching output active
- ⑥ LED indicator green: Stability indicator light up when the light received is < 0.9 or > 1.1 (based on switching threshold $Q = 1$)
- ⑧ Setting of the sensing range: potentiometer, 4 revolutions
- ⑨ Light/ dark rotary switch: L = light switching, D = dark switching

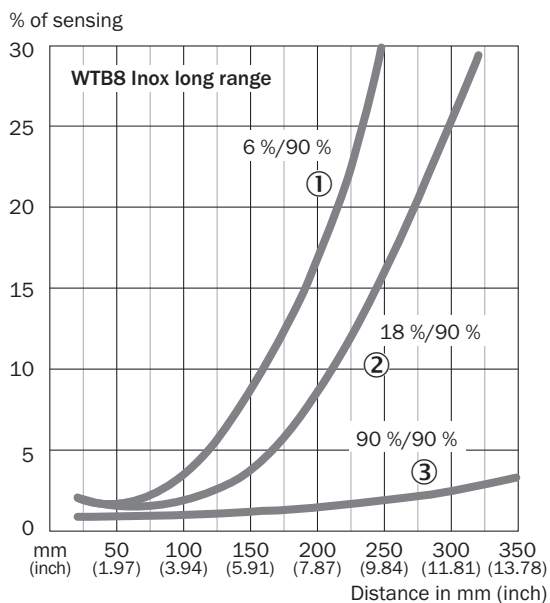
Connection diagram

Cd-066



Characteristic curve

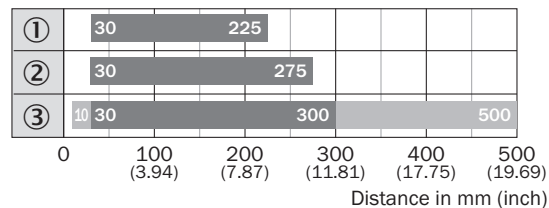
WTB8, 500 mm



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

Sensing range diagram

WTB8, 500 mm

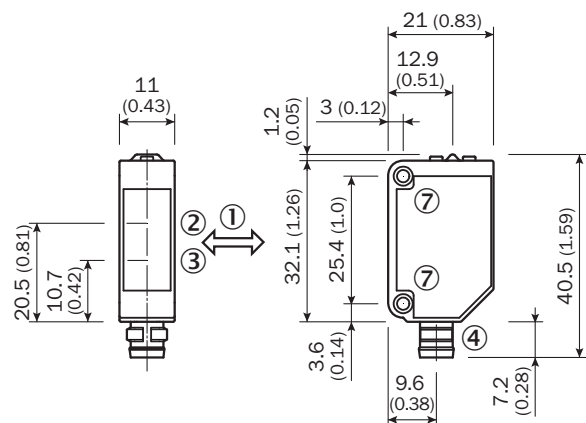


■ Sensing range ■ Sensing range max.

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

Dimensional drawing (Dimensions in mm (inch))


WTB8, 500 mm








- ① Standard direction
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑦ Threaded mounting hole M3, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket (2 x 3.2 mm bore-hole)

Recommended accessories

Other models and accessories → www.sick.com/W8_Inox

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N08N for universal clamp bracket, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware	BEF-KHS-N08N	2051616

	Brief description	Type	Part no.
Device protection (mechanical)			
	Safety bracket for floor mounting, Stainless steel 1.4571, mounting hardware included	BEF-SW-W4S	2051497
Mounting brackets and plates			
	Mounting bracket for wall mounting, stainless steel, mounting hardware included	BEF-W100-A	5311520
	Mounting bracket for floor mounting, steel, zinc coated, mounting hardware included	BEF-W100-B	5311521
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight Head B: open cable ends Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-0804-G02MRN	6058510
	Head A: female connector, M8, 4-pin, angled Head B: open cable ends Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-0804-W02MRN	6058514
	Head A: female connector, M8, 4-pin, angled Head B: open cable ends Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked.	DOL-0804-W05MRN	6058515

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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