



WTB8-P2131V

W8 Inox

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WTB8-P2131V	6041466

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, 3-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

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.

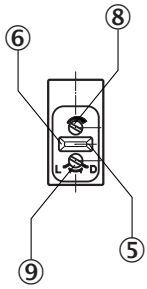
9) At an air humidity of 35 ... 95%.

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

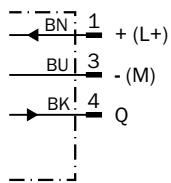
WTB8



- 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

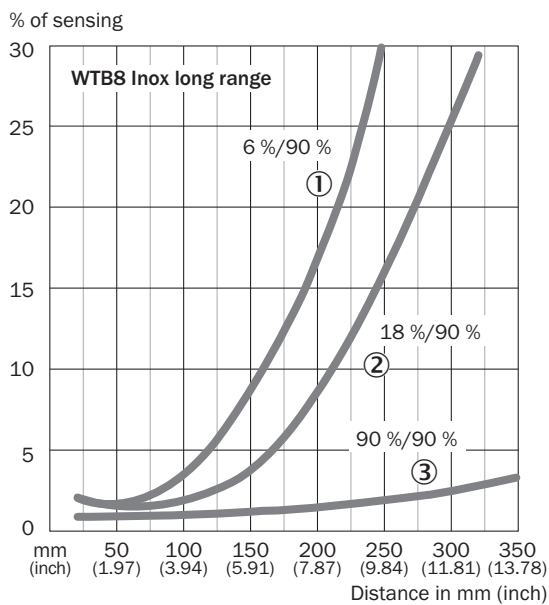
Connection diagram

Cd-045



Characteristic curve

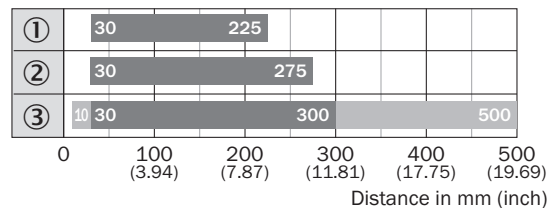
WTB8, 500 mm



- 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

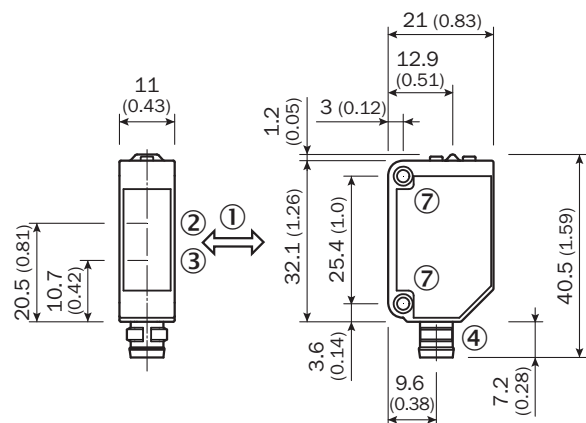


■ Sensing range ■ Sensing range max.

- 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

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