



WTB4-3P2271

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WTB4-3P2271	1042190

Other models and accessories → www.sick.com/W4

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	4 mm ... 150 mm ¹⁾
Sensing range	15 mm ... 150 mm ¹⁾
Emitted beam	
Light source	PinPoint LED ²⁾
Type of light	Visible red light
Light spot size (distance)	5 mm x 28 mm (50 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Potentiometer, 5 turns
Special applications	Detecting perforated objects, Detecting objects with position tolerances, Detecting small objects

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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

Safety-related parameters

MTTF_D	1,143 years
DC_{avg}	0 %

Electrical data

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Protection class	III
Digital output	
Type	PNP
Output current I_{max}	≤ 100 mA
Response time	< 0.5 ms ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Switching mode	Light/dark switching
Output function	Complementary
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Special feature	Line-shaped light spot

¹⁾ Limit values.

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⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Mechanical data

Housing	Rectangular
Design detail	Flat
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm
Connection	Male connector M8, 4-pin
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Weight	30 g

Ambient data

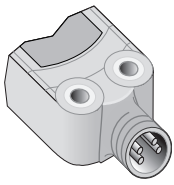
Enclosure rating	IP67 IP66
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

Classifications

eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904

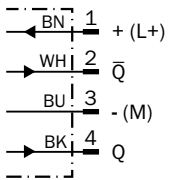
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection type



Connection diagram

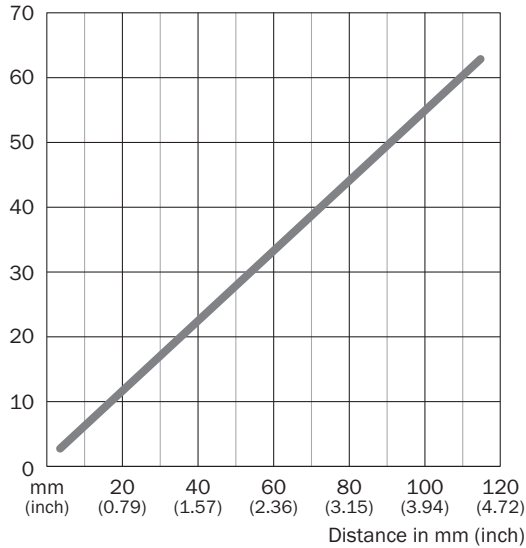
Cd-083



Light spot size

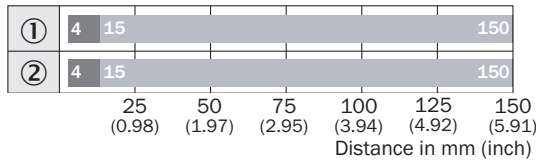
WTB4-3, line-shaped light spot

Lightspot: line width



Sensing range diagram

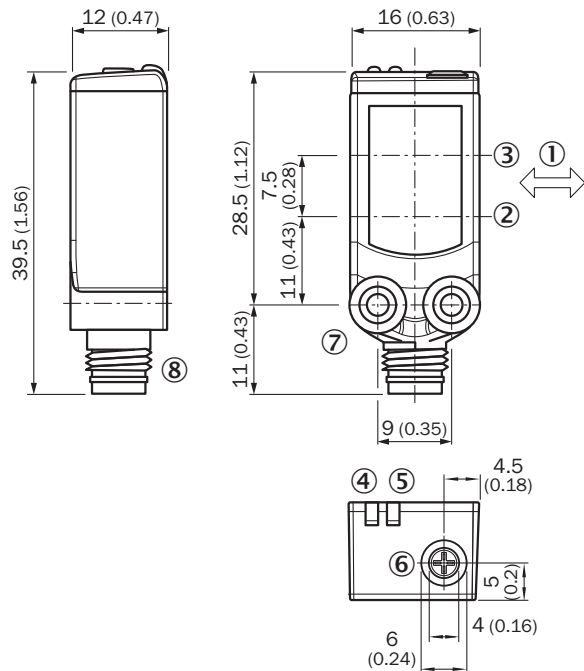
WTB4-3, line-shaped light spot



- Sensing range max.
- Sensing range
- ① Sensing range on white, 90% remission factor
- ② Sensing range on black, 6% remission factor

Dimensional drawing (Dimensions in mm (inch))



WTx4-3, potentiometer



- ① Standard direction of the material being detected
- ② Optical axis, sender
- ③ Optical axis, receiver
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: Supply voltage active
- ⑥ Potentiometer
- ⑦ Threaded mounting hole M3
- ⑧ Connection

Recommended accessories

Other models and accessories → www.sick.com/W4

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Cable: unshielded	STE-0804-G	6037323

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com