



# WTB26I-39721122ZZZ

W26

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	Part no.
WTB26I-39721122ZZZ	1222808

Other models and accessories → [www.sick.com/W26](http://www.sick.com/W26)



### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	Background suppression
<b>Sensing range</b>	
Sensing range min.	30 mm
Sensing range max.	2,000 mm
Adjustable switching threshold for background suppression	180 mm ... 2,000 mm
Reference object	Object with 90% remission (based on standard white, DIN 5033)
Minimum distance between set sensing range and background (black 6% / white 90%)	85 mm, at a distance of 800 mm
Recommended sensing range for the best performance	200 mm ... 800 mm
<b>Emitted beam</b>	
Light source	LED
Type of light	Infrared light
Shape of light spot	Point-shaped
Light spot size (distance)	Ø 14 mm (1,000 mm)
Maximum dispersion of the emitted beam around the standardized transmission axis (squint angle)	< +/- 1.0° (at Ta = +23 °C)
<b>Key LED figures</b>	
Normative reference	EN 62471:2008-09   IEC 62471:2006, modified
LED risk group marking	Free group
Wave length	850 nm

Average service life	100,000 h at $T_a = +25\text{ °C}$
<b>Adjustment</b>	
Teach-Turn adjustment 1	BluePilot: For setting the sensing range
Teach-Turn adjustment 2	BluePilot: for configuring the time function
Wire/pin	For activating the test input
<b>Indication</b>	
LED blue 1	BluePilot: sensing range indicator
LED blue 2	BluePilot: Time function display
LED green	Operating indicator Static on: power on
LED yellow	Status of received light beam Static on: object present Static off: object not present

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	507 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849) Rate of use: 60 %

### Electrical data

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	≤ 5 V <sub>pp</sub>
<b>Usage category</b>	DC-12 (According to EN 60947-5-2) DC-13 (According to EN 60947-5-2)
<b>Current consumption</b>	≤ 30 mA, without load. At U <sub>B</sub> = 24 V
<b>Protection class</b>	III
<b>Digital output</b>	
Number	2 (Complementary)
Type	Push-pull: PNP/NPN
Signal voltage PNP HIGH/LOW	Approx. U <sub>B</sub> -2.5 V / 0 V
Signal voltage NPN HIGH/LOW	Approx. U <sub>B</sub> / < 2.5 V
Output current I <sub>max</sub>	≤ 100 mA
Circuit protection outputs	Reverse polarity protected Overcurrent and short-circuit protected
Response time	≤ 500 μs <sup>2)</sup>
Repeatability (response time)	150 μs
Switching frequency	1,000 Hz <sup>3)</sup>
Time functions	Deactivated (factory setting) On delay Off delay ON and OFF delay Impulse (one shot)
Delay time	Teach-turn adjustment, 0 ms ... 30,000 ms, 0 ms (factory setting)

<sup>1)</sup> Limit values.

<sup>2)</sup> Signal transit time with resistive load in switching mode.

<sup>3)</sup> With light/dark ratio 1:1.

<b>Pin/Wire assignment</b>	
Function of pin 4/black (BK)	Digital output, light switching, object present → output Q HIGH
Pin 5 function/white (WH)	Digital output, dark switching, object present → output $\bar{Q}$ LOW
Pin 6 function/gray (GY)	Test at 0 V
<b>Output function</b>	Pin 4 / black: NPN normally closed (dark switching), PNP normally open (light switching)

<sup>1)</sup> Limit values.

<sup>2)</sup> Signal transit time with resistive load in switching mode.

<sup>3)</sup> With light/dark ratio 1:1.

### Mechanical data

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	24.6 mm x 82.5 mm x 53.3 mm
<b>Connection</b>	Cable with connector Q6, 6-pin, DC-coding, 298 mm
<b>Connection detail</b>	
Deep-freeze property	Do not bend below 0 °C
Conductor size	0.14 mm <sup>2</sup>
Cable diameter	Ø 4.8 mm
Length of cable (L)	270 mm
Bending radius	For flexible use > 12 x cable diameter
Bending cycles	1,000,000
<b>Material</b>	
Housing	Plastic, VISTAL®
Front screen	Plastic, PMMA
Cable	PVC
Male connector	Plastic, VISTAL®
<b>Weight</b>	Approx. 100 g
<b>Maximum tightening torque of the fixing screws</b>	1.3 Nm

### Ambient data

<b>Enclosure rating</b>	IP65 (EN 60529)
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>Shock resistance</b>	50 g, 11 ms (25 positive and 25 negative shocks per axis, for X, Y, Z axes, 150 shocks in total (EN60068-2-27)) 50 g, 6 ms (5,000 positive and 5,000 negative shocks per axis, for X, Y, Z axes, 30,000 shocks in total (EN60068-2-27))
<b>Vibration resistance</b>	10 Hz ... 2,000 Hz (Amplitude 0.5 mm / 10 g, 20 sweeps per axis, for X, Y, Z axes, 1 octave/min, (EN60068-2-6))
<b>Air humidity</b>	35 % ... 95 %, Relative humidity (no condensation)
<b>Electromagnetic compatibility (EMC)</b>	EN 60947-5-2
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

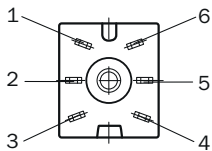
### Classifications

<b>eCl@ss 5.0</b>	27270904
<b>eCl@ss 5.1.4</b>	27270904
<b>eCl@ss 6.0</b>	27270904

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

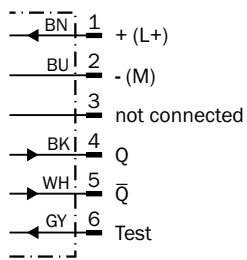
### Connection type

Cubic connector, 6-pin



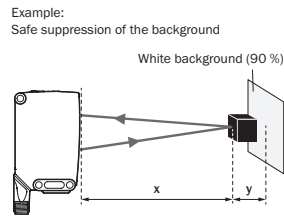
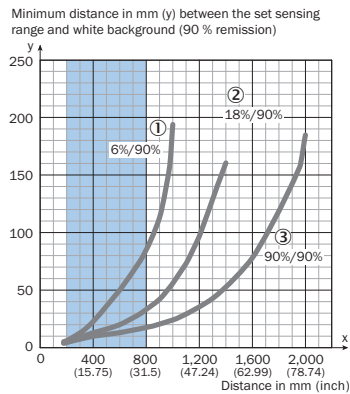
### Connection diagram

Cd-178



## Characteristic curve

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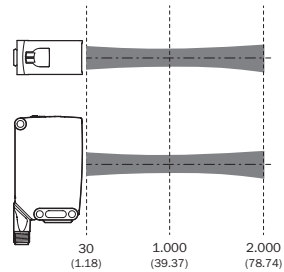
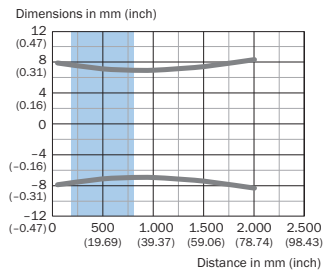
Black object (6 % remission)  
 Set sensing range  $x = 800$  mm  
 Needed minimum distance to white background  $y = 85$  mm

Recommended sensing range for the best performance

- ① Black object, 6% remission factor
- ② Gray object, 18% remission factor
- ③ White object, 90% remission factor

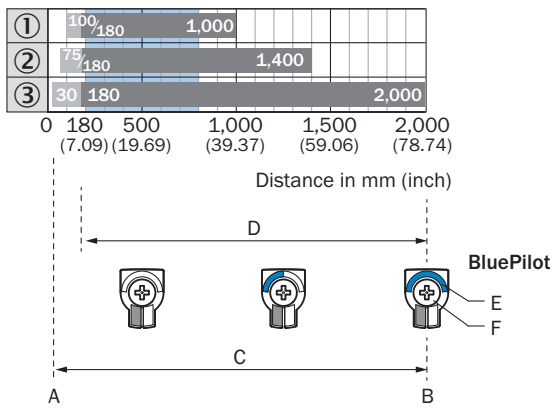
## Light spot size

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Recommended sensing range for the best performance

### Sensing range diagram

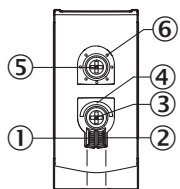


Recommended sensing range for the best performance

1	Black object, 6% remission factor
2	Gray object, 18% remission factor
3	White object, 90% remission factor
A	Sensing range min. in mm
B	Sensing range max. in mm
C	Field of view
D	Adjustable switching threshold for background suppression
E	Sensing range indicator
F	Teach-Turn adjustment

### Adjustments

Display and adjustment elements



- ① LED indicator green
- ② LED indicator yellow
- ③ Teach-Turn adjustment 1
- ④ LED blue 1
- ⑤ Teach-Turn adjustment 2
- ⑥ LED blue 2



## 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:

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