



# WTB26I-24G11420ZZZ

W26

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WTB26I-24G11420ZZZ	1124859

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.	10 mm
Sensing range max.	1,900 mm
Adjustable switching threshold for background suppression	100 mm ... 1,900 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%)	80 mm, at a distance of 700 mm
Recommended sensing range for the best performance	100 mm ... 700 mm
<b>Emitted beam</b>	
Light source	LED
Type of light	Infrared light
Shape of light spot	Point-shaped
Light spot size (distance)	Ø 12 mm (800 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 <sub>a</sub> = +25 °C
<b>Adjustment</b>	Teach-Turn adjustment	BluePilot: For setting the sensing range
<b>Indication</b>	LED blue	BluePilot: sensing range indicator
	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>	629 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 <sup>2)</sup>																
<b>Protection class</b>	III																
<b>Digital output</b>	<table border="0"> <tr> <td>Number</td> <td>2 (Complementary)</td> </tr> <tr> <td>Type</td> <td>NPN</td> </tr> <tr> <td>Signal voltage NPN HIGH/LOW</td> <td>Approx. U<sub>B</sub> / &lt; 2.5 V</td> </tr> <tr> <td>Output current I<sub>max.</sub></td> <td>≤ 100 mA</td> </tr> <tr> <td>Circuit protection outputs</td> <td>Reverse polarity protected Overcurrent and short-circuit protected</td> </tr> <tr> <td>Response time</td> <td>≤ 2.5 ms <sup>3)</sup></td> </tr> <tr> <td>Repeatability (response time)</td> <td>150 μs</td> </tr> <tr> <td>Switching frequency</td> <td>200 Hz <sup>4)</sup></td> </tr> </table>	Number	2 (Complementary)	Type	NPN	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	≤ 2.5 ms <sup>3)</sup>	Repeatability (response time)	150 μs	Switching frequency	200 Hz <sup>4)</sup>
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<b>Output function</b>	Factory setting: Pin 2 / white: normally closed (light switching), Pin 4 / black: normally open (light switching)																

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

<sup>2)</sup> 10 V DC ... 16 V DC, without load.

<sup>3)</sup> Signal transit time with resistive load in switching mode.

<sup>4)</sup> With light/dark ratio 1:1.

### Mechanical data

<b>Housing</b>	Rectangular
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<b>Dimensions (W x H x D)</b>	20 mm x 55.7 mm x 42 mm
<b>Connection</b>	Male connector M12, 4-pin
<b>Material</b>	
Housing	Plastic, VISTAL®
Front screen	Plastic, PMMA
Male connector	Plastic, VISTAL®
<b>Weight</b>	Approx. 80 g
<b>Maximum tightening torque of the fixing screws</b>	1.3 Nm

Ambient data

<b>Enclosure rating</b>	IP66 (EN 60529) IP67 (EN 60529) IP69 (EN 60529) <sup>1)</sup>
<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>Resistance to cleaning agent</b>	ECOLAB
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

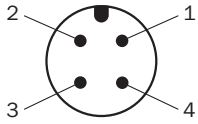
<sup>1)</sup> Replaces IP69K with ISO 20653: 2013-03.

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

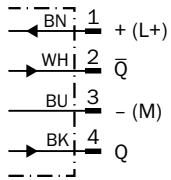
### Connection type

M12 male connector, 4-pin



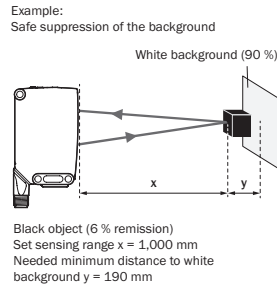
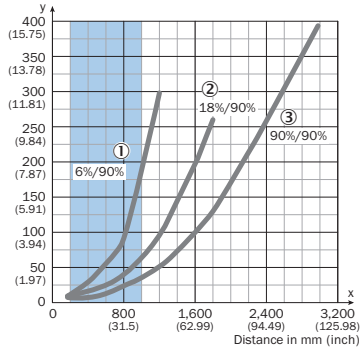
### Connection diagram

Cd-414



### Characteristic curve

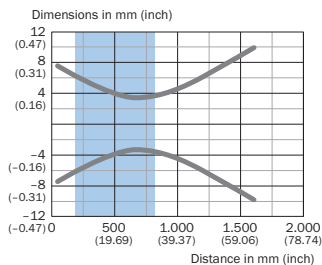
Minimum distance in mm (y) between the set sensing range and white background (90 % remission)



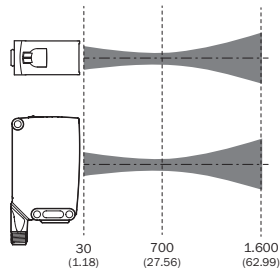
Recommended sensing range for the best performance

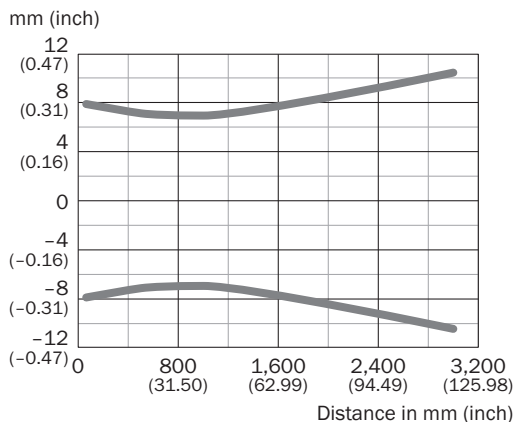
- ① Black object, 6% remission factor
- ② Gray object, 18% remission factor
- ③ White object, 90% remission factor

### Light spot size

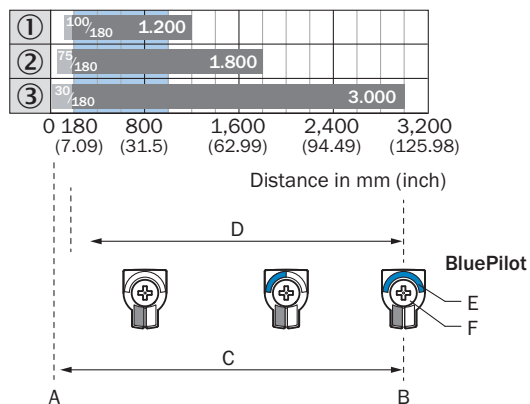


Recommended sensing range for the best performance





**Sensing range diagram**

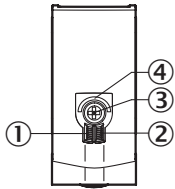


Recommended sensing range for the best performance

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

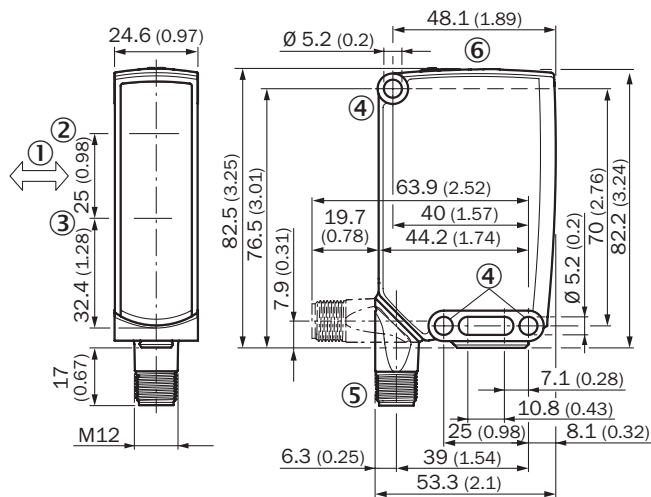
Display and adjustment elements



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

## Dimensional drawing (Dimensions in mm (inch))

WTB26, WTL26, WTF26, connector





- ① Standard direction of the material being detected
- ② Center of optical axis, sender
- ③ Center of optical axis, receiver
- ④ Mounting hole,  $\varnothing$  5.2 mm
- ⑤ Connection
- ⑥ Display and adjustment elements

## Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N12 for universal clamp. For mounting PL30A, P250 reflectors, W27 and WTR2 sensors., Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (2022726), mounting hardware	BEF-KHS-N12	2071950

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Cable: unshielded	STE-1204-G	6009932

## 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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