



# CSM-WN1B1C4P

CSM

COLOR SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
CSM-WN1B1C4P	1122735

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

### Detailed technical data

#### Features

<b>Housing design</b>	Small
<b>Dimensions (W x H x D)</b>	12 mm x 31.5 mm x 21 mm
<b>Light source</b>	LED, RGB <sup>1)</sup>
<b>Light emission</b>	Long side of housing
<b>Light spot size</b>	4.9 mm x 10.1 mm
<b>Light spot direction</b>	Vertical
<b>Wave length</b>	640 nm, 525 nm, 470 nm
<b>Sensing distance</b>	≤ 15 mm
<b>Sensing distance tolerance</b>	± 4 mm
<b>Adjustment</b>	Teach-in button
<b>Teach-in mode</b>	Teach-in static/dynamic ET: Teach-in dynamic

<sup>1)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

#### Electronics

<b>Supply voltage</b>	12 V DC ... 24 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	< 50 mA <sup>3)</sup>
<b>Switching frequency</b>	1.7 kHz <sup>4)</sup>

<sup>1)</sup> Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Without load.

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

<sup>5)</sup> At supply voltage > 24 V, I<sub>max</sub> = 50 mA. I<sub>max</sub> is consumption count of all Q<sub>n</sub>.

<b>Response time</b>	300 µs
<b>Jitter</b>	150 µs
<b>Switching output</b>	NPN
<b>Switching output (voltage)</b>	NPN: HIGH = approx. $U_V$ / LOW $\leq 2$ V
<b>Switching mode</b>	Light/dark switching
<b>Output (channel)</b>	1 color
<b>Output current <math>I_{max}</math></b>	< 100 mA <sup>5)</sup>
<b>Input, teach-in (ET)</b>	NPN: Teach: $U < 2$ V, Run: $U = 10$ V ... < $U_V$ or open
<b>Time delay</b>	None
<b>Protection class</b>	III
<b>Circuit protection</b>	$U_V$ connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
<b>Connection type</b>	Cable open end, 4-wire, 2 m

1) Limit values: DC 12 V (-10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.

2) May not fall below or exceed  $U_V$  tolerances.

3) Without load.

4) With light/dark ratio 1:1.

5) At supply voltage > 24 V,  $I_{max} = 50$  mA.  $I_{max}$  is consumption count of all  $Q_n$ .

## Mechanics

<b>Housing material</b>	ABS
<b>Optics material</b>	PMMA
<b>Weight</b>	Approx. 25 g

## Ambient data

<b>Ambient operating temperature</b>	-10 °C ... +55 °C
<b>Ambient temperature, storage</b>	-20 °C ... +75 °C
<b>Shock load</b>	According to IEC 60068
<b>Enclosure rating</b>	IP67
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498

## Connection type/pinouts

<b>Connection type</b>	Cable open end, 4-wire, 2 m
<b>Connection type Detail</b>	
Cable material	PVC
Cable diameter	Ø 3.4 mm
Conductor cross section	0.15 mm <sup>2</sup>
<b>Pinouts</b>	
BN 1	+ (L+)
WH 2	ET
BU 3	- (M)

BK 4 Q

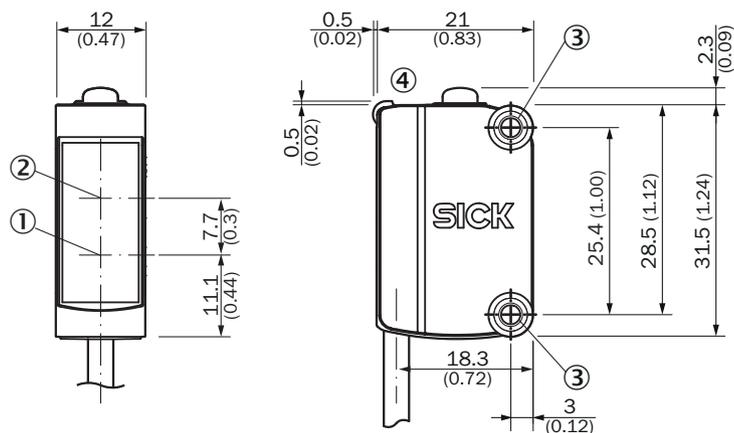
### Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (IEC EN 62471)</b>	✓

### Classifications

<b>ECLASS 5.0</b>	27270907
<b>ECLASS 5.1.4</b>	27270907
<b>ECLASS 6.0</b>	27270907
<b>ECLASS 6.2</b>	27270907
<b>ECLASS 7.0</b>	27270907
<b>ECLASS 8.0</b>	27270907
<b>ECLASS 8.1</b>	27270907
<b>ECLASS 9.0</b>	27270907
<b>ECLASS 10.0</b>	27270907
<b>ECLASS 11.0</b>	27270907
<b>ECLASS 12.0</b>	27270907
<b>ETIM 5.0</b>	EC001817
<b>ETIM 6.0</b>	EC001817
<b>ETIM 7.0</b>	EC001817
<b>ETIM 8.0</b>	EC001817
<b>UNSPSC 16.0901</b>	39121528

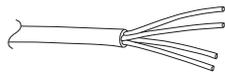
### Dimensional drawing



Dimensions in mm (inch)

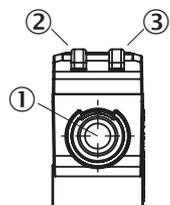
- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting holes M3
- ④ display and adjustment elements

Pinouts, see table [Technical data: Connection type/pinouts](#)



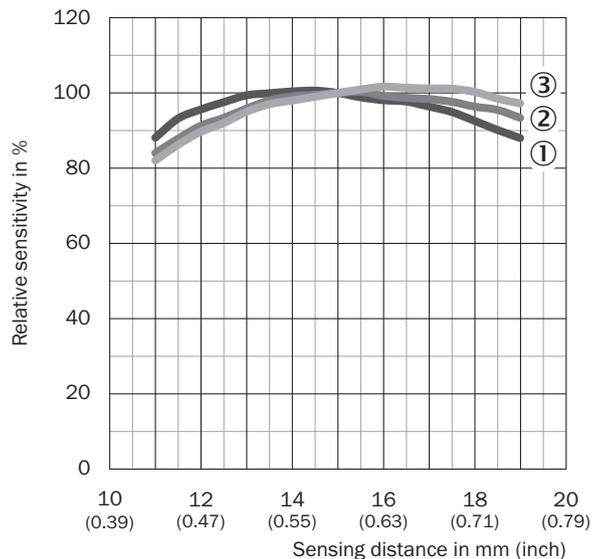
Cable with flying leads, 4-wire, AWG 26, 0.15 mm<sup>2</sup>

display and adjustment elements



- ① Teach-in button
- ② LED yellow
- ③ LED green

Sensing distance



- ① Red
- ② Green
- ③ blue

### Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Material:</b> Stainless steel</li> <li>• <b>Details:</b> Stainless steel (1.4301)</li> <li>• <b>Suitable for:</b> W4S, W4S</li> </ul>	BEF-WN-G6	2062909
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0804-G	6037323
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>	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:

Contacts and other locations –[www.sick.com](http://www.sick.com)