



DATA SHEET

CSM-WN1B1C2P

CSM
Color sensors

SICK

Sensor Intelligence



Illustration may differ

COLOR SENSORS

CSM-WN1B1C2P

ORDERING INFORMATION

Type	part no.
CSM-WN1B1C2P	1122734

Further device versions and accessories at www.sick.com/CSM



DETAILED TECHNICAL DATA

FEATURES

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

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

ELECTRONICS

Supply voltage	12 V DC ... 24 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	< 50 mA ³⁾
Switching frequency	1.7 kHz ⁴⁾

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_I 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_{in}.

Response time	300 μ s								
Jitter	150 μ s								
Switching output	NPN								
Switching output (voltage)	NPN: HIGH = approx. U_v / LOW $\leq$ 2 V								
Output (channel)	1 color								
Output current I_{max}	< 100 mA ⁵⁾								
Input, teach-in (ET)	NPN: Teach: $U < 2$ V, Run: $U = 10$ V ... < U_v or open								
Time delay	None								
Protection class	III								
Circuit protection	U_v connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression								
Connection type	Cable with plug, M12, 4-pin, 0.2 m								
Connection type Detail	<table> <tr> <td>Cable material</td><td>PVC</td></tr> <tr> <td>Cable diameter</td><td>$\varnothing$ 3.4 mm</td></tr> <tr> <td>Conductor cross section</td><td>0.15 mm²</td></tr> </table>	Cable material	PVC	Cable diameter	$\varnothing$ 3.4 mm	Conductor cross section	0.15 mm ²		
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MECHANICS

Housing material	ABS
Optics material	PMMA
Weight	Approx. 25 g

AMBIENT DATA

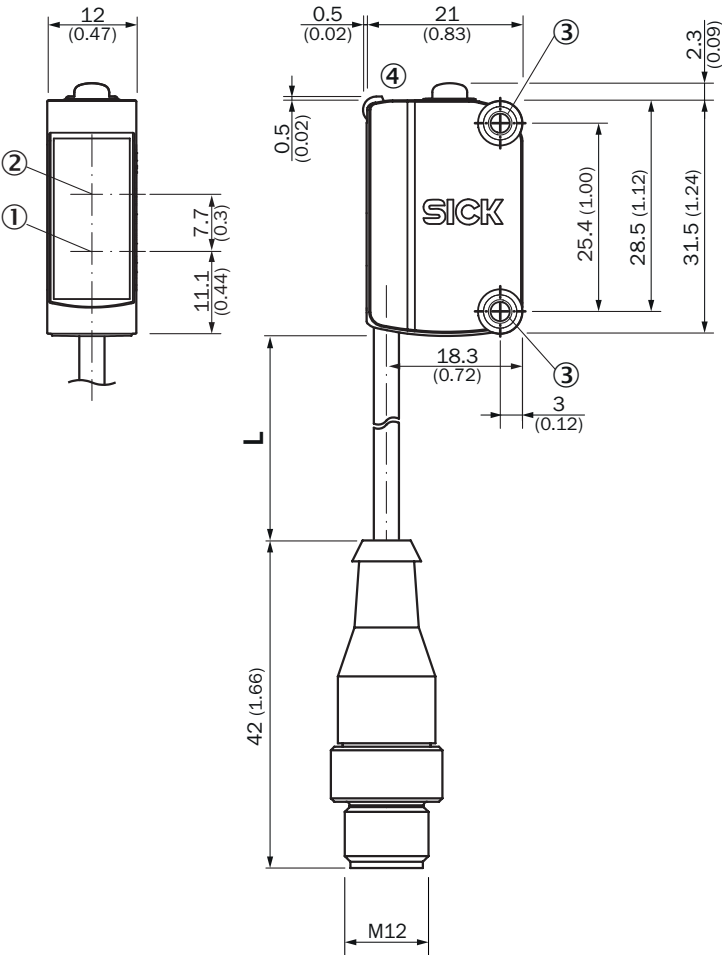
Ambient operating temperature	-10 °C ... +55 °C
Ambient temperature, storage	-20 °C ... +75 °C
Shock load	According to IEC 60068
Enclosure rating	IP67
UL File No.	NRKH.E348498 & NRKH7.E348498

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓

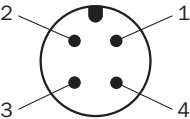
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

DIMENSIONAL DRAWING

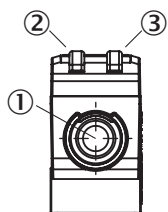


Dimensions in mm (inch)
For length of cable (L), see technical data
① Center of optical axis, sender
② Center of optical axis, receiver
③ Mounting holes M3
④ display and adjustment elements

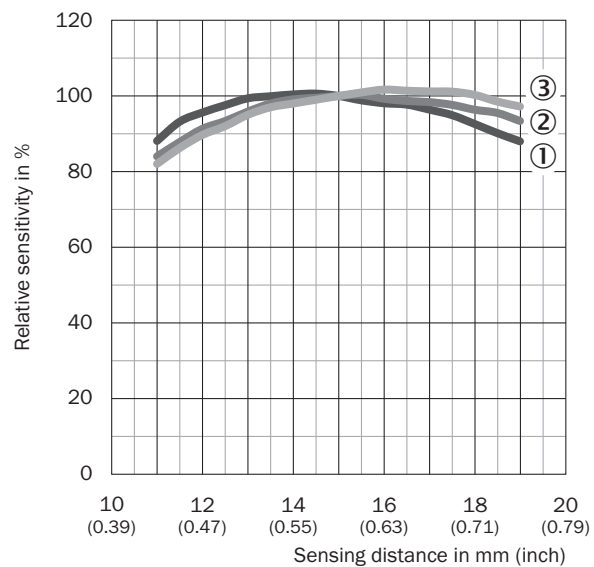
PINOUTS, SEE TABLE TECHNICAL DATA: ELECTRONICS



M12 male connector, 4-pin, A-coding

DISPLAY AND ADJUSTMENT ELEMENTS

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

SENSING DISTANCE

- ① Red
- ② Green
- ③ blue

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1122734



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WALDKIRCH
GERMANY
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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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