



CSM-WN1B1C2P
CSM

COLOR SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| CSM-WN1B1C2P | 1122734 |

Other models and accessories → 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_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.

| | |
|---|---|
| Response time | 300 µs |
| Jitter | 150 µs |
| Switching output | NPN |
| Switching output (voltage) | NPN: HIGH = approx. U_V / LOW ≤ 2 V |
| Switching mode | Light/dark switching |
| 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 M12 male connector, 4-pin, 0.2 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

| | |
|-------------------------|--------------|
| 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 |

Connection type/pinouts

| | |
|-------------------------------|---|
| Connection type | Cable with M12 male connector, 4-pin, 0.2 m |
| Connection type Detail | |
| Cable material | PVC |
| Cable diameter | Ø 3.4 mm |
| Conductor cross section | 0.15 mm ² |
| Pinouts | |
| BN 1 | + (L+) |
| WH 2 | ET |
| BU 3 | - (M) |

BK 4 Q

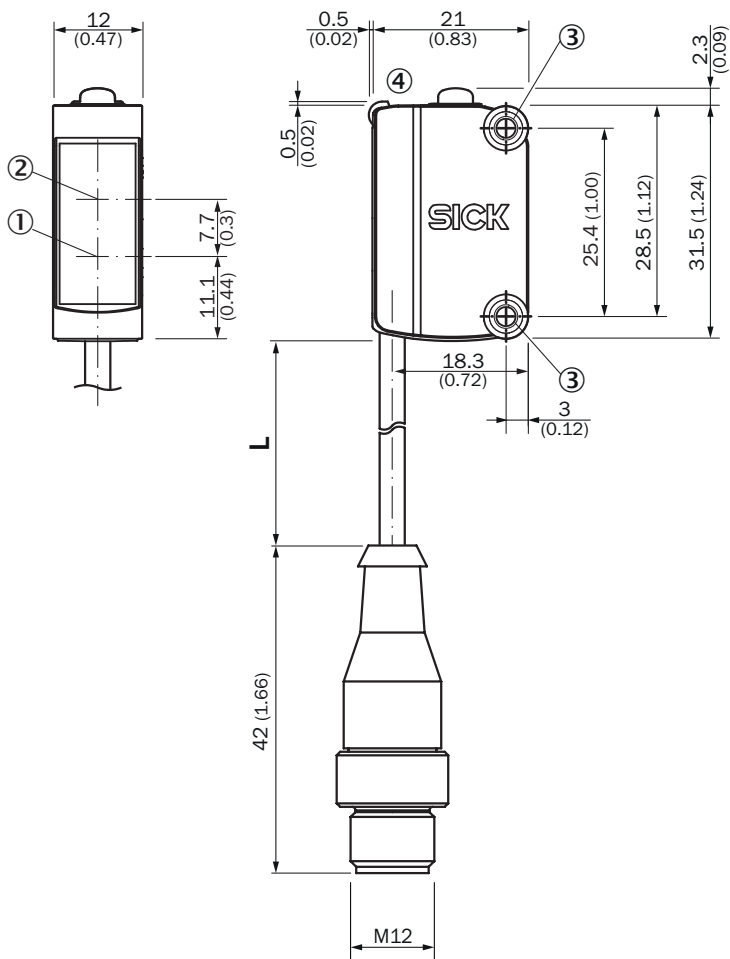
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |

Classifications

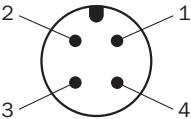
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270907 |
| ECLASS 5.1.4 | 27270907 |
| ECLASS 6.0 | 27270907 |
| ECLASS 6.2 | 27270907 |
| ECLASS 7.0 | 27270907 |
| ECLASS 8.0 | 27270907 |
| ECLASS 8.1 | 27270907 |
| ECLASS 9.0 | 27270907 |
| ECLASS 10.0 | 27270907 |
| ECLASS 11.0 | 27270907 |
| ECLASS 12.0 | 27270907 |
| ETIM 5.0 | EC001817 |
| ETIM 6.0 | EC001817 |
| ETIM 7.0 | EC001817 |
| ETIM 8.0 | EC001817 |
| UNSPSC 16.0901 | 39121528 |

Dimensional drawing



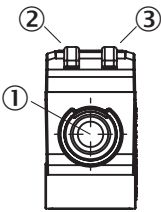
Dimensions in mm (inch)
For length of cable (L), see technical data
① Center of optical axis, sender
② Center of optical axis, receiver
③ Mounting holes M3
④ display and adjustment elements

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



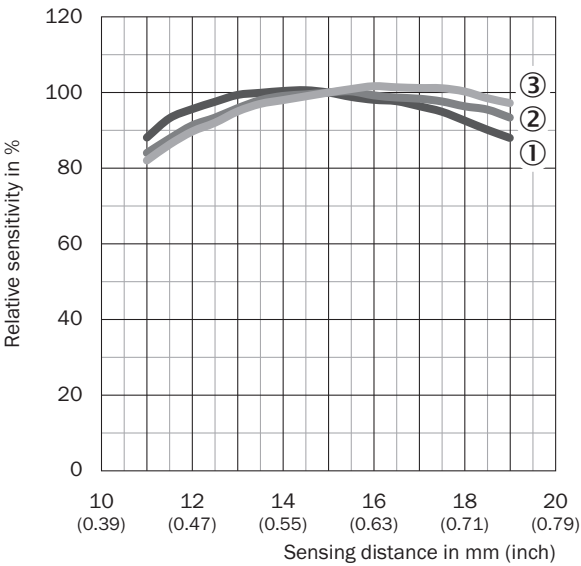
M12 male connector, 4-pin, A-coding

display and adjustment elements



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

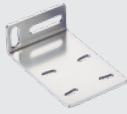
Sensing distance





- ① Red
- ② Green
- ③ blue

Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|-----------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none">• Material: Stainless steel• Details: Stainless steel (1.4301)• Suitable for: W4S, W4S | BEF-WN-G6 | 2062909 |

| | Brief description | Type | part no. |
|--|--|--------------------|----------|
| connectors and cables | | | |
|   | <ul style="list-style-type: none">• Connection type head A: Male connector, M12, 4-pin, straight, A-coded• Description: Unshielded• Connection systems: Screw-type terminals• Permitted cross-section: ≤ 0.75 mm² | STE-1204-G | 6009932 |
| | <ul style="list-style-type: none">• Connection type head A: Female connector, M12, 4-pin, straight, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 5 m, 4-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Uncontaminated zones, Zones with chemicals | YF2A14-050VB3XLEAX | 2096235 |

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.”

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