CSM1-N1114
CSM1

COLOR SENSORS

CSM1-N1114 | CSM1

COLOR SENSORS

Ordering information

Type	part no.
CSM1-N1114	1018514

Other models and accessories → www.sick.com/CSM1

Detailed technical data

Features

Dimensions (W x H x D)	12 mm x 40 mm x 22 mm
Sensing distance	≤ 12.5 mm [1]
Sensing distance tolerance	± 2 mm
Housing design	Rectangular
Light source	LED, RGB [2]
Wave length	640 nm, 525 nm, 470 nm
Light spot size	1.5 mm x 6.5 mm
Light spot direction	Vertical
Adjustment	Teach-in button
Teach-in mode	Static 1-point teach-in

[1] From leading edge of lens.
[2] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	12 V DC ... 24 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	< 35 mA [3]
Switching frequency	1.5 kHz [4]
Response time	500 µs [5]
Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V/ LOW ≤ 2 V
Output (channel)	1 color

[1] Limit values: DC 12 V (–10 %) ... DC 24 V (+20 %). Operation in short-circuit protected network max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Without load.
[4] With light/dark ratio 1:1.
[5] Signal transit time with resistive load.
[6] Reference voltage DC 50 V.

Input, teach-in (ET)	NPN Teach: U < 2 V Run: U = 10 V ... < U_V
Connection type	Male connector M12, 4-pin
Protection class	II [6]
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	11 g
Housing material	Plastic, ABS

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

[2] May not exceed or fall below U_V tolerances.

[3] Without load.

[4] With light/dark ratio 1:1.

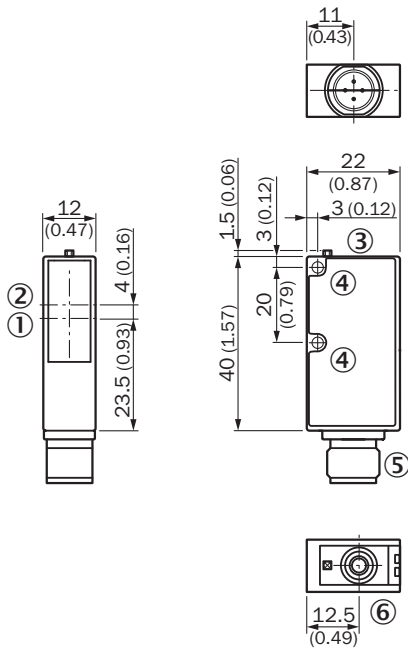[5] Signal transit time with resistive load.

[6] Reference voltage DC 50 V.

Ambient data

Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–20 °C ... +75 °C
Shock load	According to IEC 60068
UL File No.	NRKH.E181493 & NRKH7.E181493

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

11
(0.43)

12
(0.47)

4 (0.16)

②
①

23.5 (0.93)

1.5 (0.06)

22
(0.87)

3 (0.12)

3 (0.12)

③

④

20
(0.79)

40 (1.57)

④

⑤

12.5
(0.49)
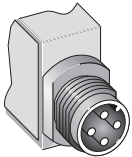
⑥

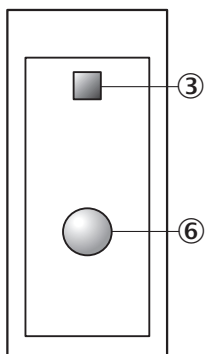Dimensions in mm (inch)
① Center of optical axis, sender
② Center of optical axis, receiver
③ LED signal strength indicator
④ Mounting hole, Ø 3 mm
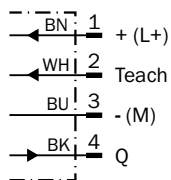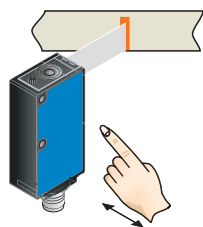⑤ Male connector M12
⑥ Teach-in button

Pinouts

Adjustments

③

⑥

③ LED signal strength indicator
⑥ Teach-in button

Connection diagram Cd-092

```
BN   1   + (L+)
WH   2   Teach
BU   3   - (M)
BK   4   Q
```
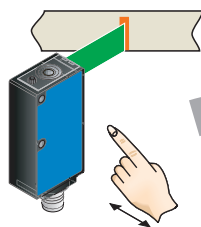
Setting the switching threshold
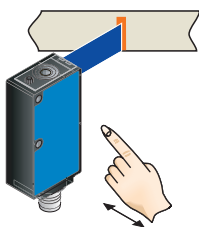
1. Trigger teach-in

Position object in light field.
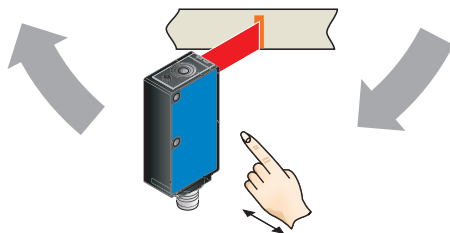Press teach-in button > 1 s.

2. Select color tolerance

Press teach-in button > 1 s
when transmitted light is green
= tolerance medium (standard
setting).

Press teach-in button > 1 s
when transmitted light is blue
= tolerance precise.

Press teach-in button > 1 s
when transmitted light is red
= tolerance coarse.

Recommended accessories

Other models and accessories ➜ www.sick.com/CSM1

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Mounting hardware included • **Suitable for:** W9-3	BEF-WN-W9-2	2022855
	• **Description:** Plate L for universal clamp bracket • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Universal clamp (2022726), mounting hardware • **Usable for:** W8, W100, W140-2, W150, W160, W9-2, W250, P250, LUT2, KT3, CSM1, G6, W100-2, W250, LUT2, W9-3, W150, CSM, LUTM, G10, W8, P250, KTM Core, KTM Prime	BEF-KHS-L01	2023057

Brief description	Type	part no.
connectors and cables		
• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	DOS-1204-G	6007302
• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	DOS-1204-W	6007303
• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-020VB3XLEAX	2096234
• **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:** Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-100VB3XLEAX	2096236
• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 15 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-150VB3XLEAX	2096237
• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A14-020VB3XLEAX	2095895
• **Connection type head A:** Female connector, M12, 4-pin, angled, 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:** Zones with chemicals, Uncontaminated zones	YG2A14-050VB3XLEAX	2095897
• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A14-100VB3XLEAX	2095898
• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YG2A14-C60VB3XLEAX	2145709
• **Connection type head A:** Female connector, M12, 4-pin, angled, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded	YG2A14-010VB3XLEAX	2145710

Brief description	Type	part no.
• **Application:** Zones with chemicals, Uncontaminated zones • **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 0.6 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-C60VB3XLEAX	2145707
• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-010VB3XLEAX	2145708

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.

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