CSM-WP11121P

CSM

COLOR SENSORS

SICK
Sensor Intelligence.

CSM-WP11121P | CSM
COLOR SENSORS

Illustration may differ

Ordering information

Type	Part no.
CSM-WP11121P	1096805

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

Detailed technical data

Features

Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Sensing distance	≤ 12.5 mm
Sensing distance tolerance	± 3 mm
Housing design	Small
Light source	LED, RGB [1]
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] 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	< 50 mA [3]
Switching frequency	1.7 kHz [4]
Response time	300 µs [5]

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

Jitter	150 µs
Switching output	PNP
Switching output (voltage)	PNP: HIGH = $U_V \leq 2$ V / LOW approx. 0 V
Switching mode	Light/dark switching
Output (channel)	1 color
Output current $I_{max.}$	< 100 mA [6]
Input, teach-in (ET)	PNP: Teach: U = 10 V ... < V_S, Run: U < 2 V or open
Connection type	Male connector M8, 4-pin
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	Approx. 20 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA

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[6] At supply voltage > 24 V, I_{max} = 50 mA. I_{max} is consumption count of all Q_n.

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.E348498 & NRKH7.E348498

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

Connection/Pin assignment

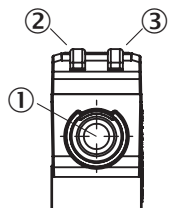| Connection type	Male connector M8, 4-pin
Pin assignment	
BN 1	+ (L+)
WH 2	ET
BU 3	- (M)
BK 4	Q

Dimensional drawing (Dimensions in mm (inch))
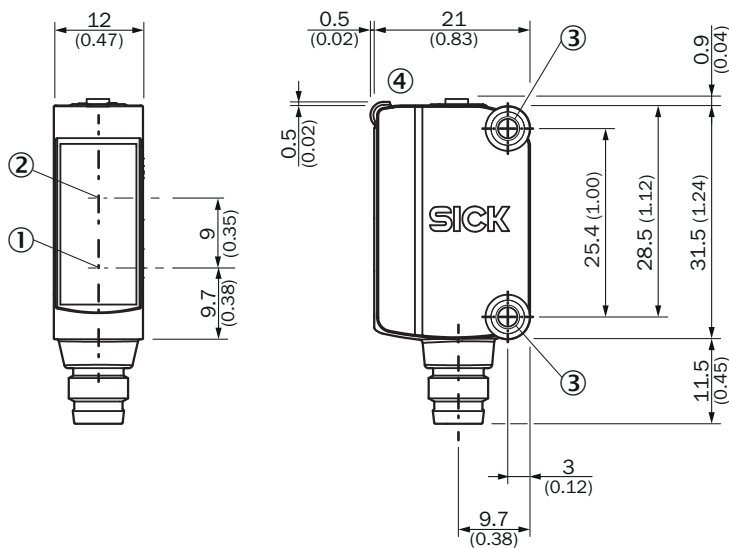
① Center of optical axis, sender
② Center of optical axis, receiver
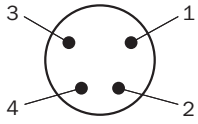③ Mounting holes M3
④ Display and adjustment elements

Adjustments

Display and adjustment elements

① Teach-in button
② LED yellow
③ LED green

Pin assignment
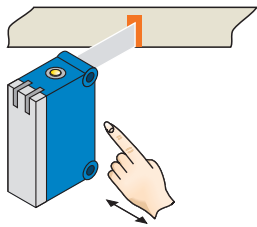
Connection type. see table: Connection/PIN assignment

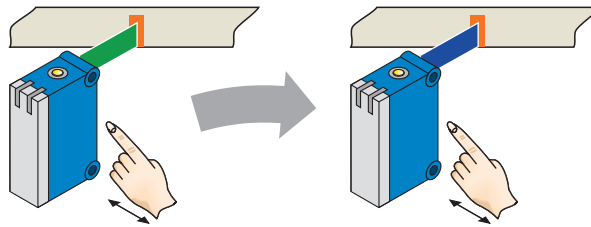Male connector, M8, 4-pin, uncoded

Concept of operation
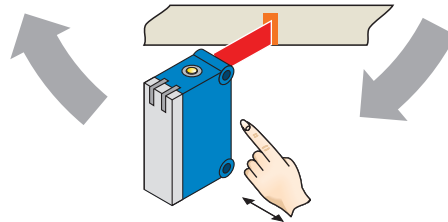
Setting the switching threshold

1. Trigger teach-in

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

2. Select color tolerance

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

Press teach-in button when
transmitted light is blue
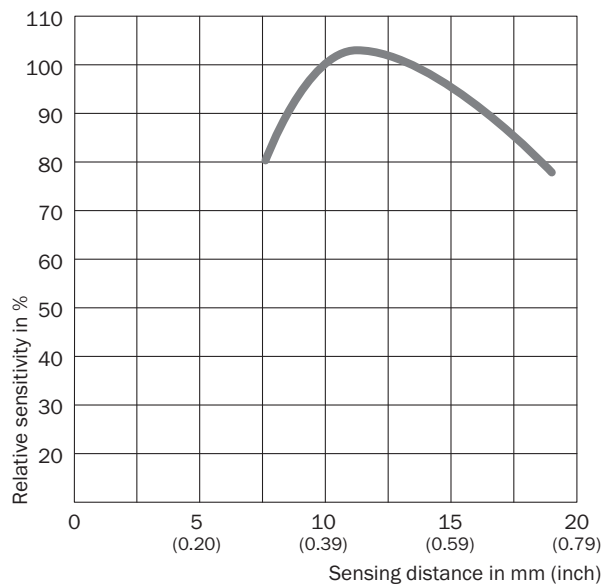**= tolerance precise.**

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

Teach-in can also be performed using an external control signal (only dynamic teach-in).

Keylock activation and deactivation: hold down teach-in button > 30 s.

Sensing distance

Graph: Relative sensitivity in % (y-axis, 0–110) vs. Sensing distance in mm (inch) (x-axis, 0 to 20 (0.79))

x-axis labels: 0, 5 (0.20), 10 (0.39), 15 (0.59), 20 (0.79)

Recommended accessories

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

Brief description	Type	Part no.
Mounting brackets and plates		
Stainless steel (1.4301)	BEF-WN-G6	2062909
Plug connectors and cables		
• **Connection type head A:** Female connector, M8, 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	YF8U14-050VA3XLEAX	2095889
• **Connection type head A:** Male connector, M8, 4-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323

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.

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