Product data sheet

CSM-WP117A2P

CSM

COLOR SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	Part no.
CSM-WP117A2P	1067294

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 [1]
Sensing distance tolerance	± 3 mm
Housing design (light emission)	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	1-point teach-in

[1] From front 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	< 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 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} = 30 mA. I_{max} is consumption count of all Q_n.

Response time	300 µs [5]
Jitter	150 µs
Switching output	PNP
Switching output (voltage)	PNP: HIGH = V_S– ≤ 2 V / LOW approx. 0 V
Output (channel)	8 colors via IO-Link
Output current $I_{max.}$	< 100 mA [6]
Input, teach-in (ET)	PNP Teach: U = 10 V ... < U_V Run: U < 2 V or open
Connection type	Cable with M12 male connector, 4-pin, 0.2 m
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	25 g
Housing material	Plastic, ABS

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Communication interface

Communication interface	IO-Link
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure A	Bit 0 = switching signal Q_{L1} Bit 1 = switching signal Q_{L2} Bit 2 = Quality of Run Alarm Bit 3 ... 5 = Emission Color Bit 6 ... 15 = Measurment Value RGB
Process data structure B	Bit 0 = switching signal Q_{L1} Bit 1 = switching signal Q_{L2} Bit 2 = switching signal Q_{L3} Bit 3 = switching signal Q_{L4} Bit 4 = switching signal Q_{L5} Bit 5 = switching signal Q_{L6} Bit 6 = switching signal Q_{L7} Bit 7 = switching signal Q_{L8} Bit 9 ... 15 = empty
VendorID	26
DeviceID HEX	800071
DeviceID DEC	8388721

Ambient data

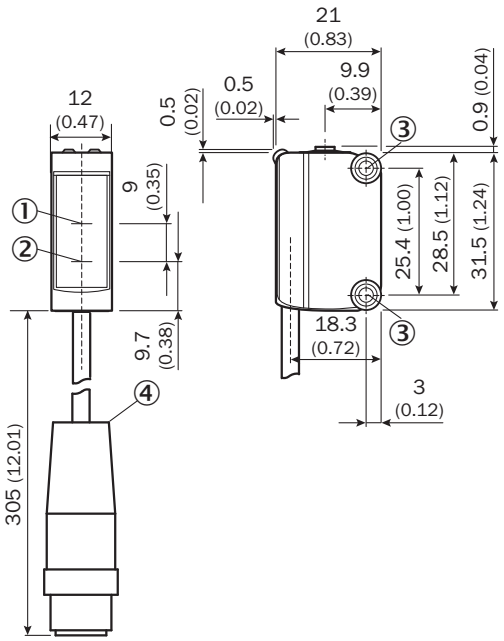
Ambient operating temperature	–10 °C ... +55 °C
Ambient storage temperature	–20 °C ... +75 °C

Shock load	According to IEC 60068
UL File No.	NRKH.E348498 & NRKH7.E348498

Classifications

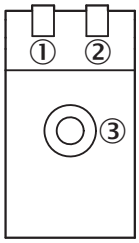
ECl@ss 5.0	27270907
ECl@ss 5.1.4	27270907
ECl@ss 6.0	27270907
ECl@ss 6.2	27270907
ECl@ss 7.0	27270907
ECl@ss 8.0	27270907
ECl@ss 8.1	27270907
ECl@ss 9.0	27270907
ECl@ss 10.0	27270907
ECl@ss 11.0	27270907
ETIM 5.0	EC001817
ETIM 6.0	EC001817
ETIM 7.0	EC001817
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))



① Optical axis, receiver
② Optical axis, sender
③ M3 mounting hole
④ Cable with male connector

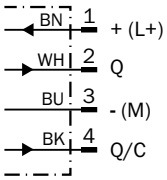
Adjustments



① LED indicator, yellow: Status switching output Q
② LED indicator green: Supply voltage active
③ Teach-in button

Connection diagram

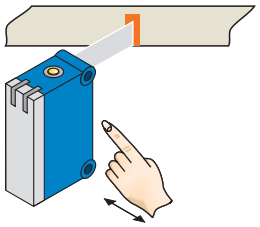
Cd-309



Concept of operation

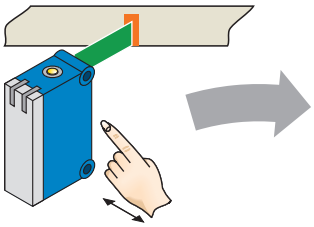
Setting the switching threshold

1. Trigger teach-in

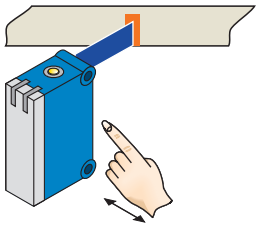


Position object in light field.
Press teach-in button > 1 s.

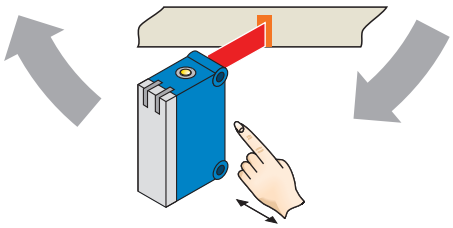
2. Select color tolerance



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



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

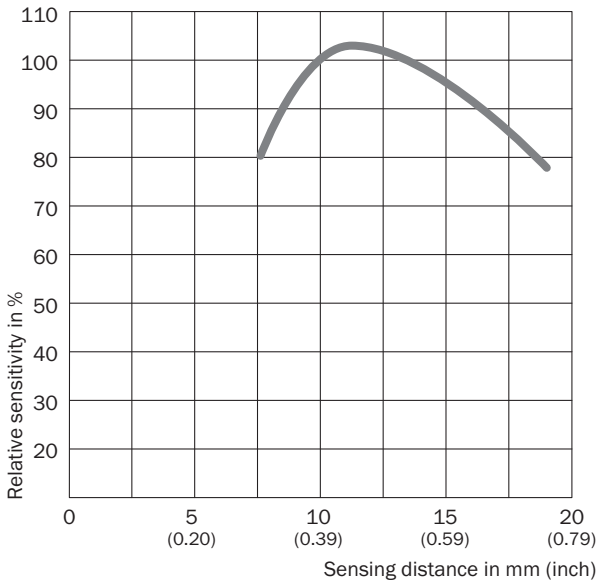


Press teach-in button when transmitted light is red
= tolerance coarse.

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



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
Cloning module			
	IO-Link version V1.1, Port class 2, PIN 2, 4, 5 galvanically connected, Supply voltage 18 V DC ... 32 V DC (limit values, operation in short-circuit protected network max. 8 A)	IOLP2ZZ-M3201 (SICK Memory Stick)	1064290
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
	SIG200-0A0412200	SIG200-0A0412200	1089794
	SIG200-0A0G12200	SIG200-0A0G12200	1102605
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932

Recommended services

Additional services ➜ www.sick.com/CSM

	Type	Part no.
Function Block Factory		
• **Description:** The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here.	Function Block Factory	On request

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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