



## **CSS-WBFA54118RZZZZ**

CSS/CSX High Speed

**COLOR SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	part no.
CSS-WBFA54118RZZZ	1113518

Other models and accessories → [www.sick.com/CSS\\_CSX\\_High\\_Speed](http://www.sick.com/CSS_CSX_High_Speed)

## Detailed technical data

## Features

<b>Dimensions (W x H x D)</b>	26 mm x 62 mm x 47.5 mm
<b>Sensing distance</b>	60 mm
<b>Sensing distance tolerance</b>	± 9 mm
<b>Housing design</b>	S housing
<b>Light source</b>	LED, RGB <sup>1)</sup>
<b>LED risk group marking</b>	1
<b>Wave length</b>	460 nm, 530 nm, 625 nm
<b>Light emission</b>	Long side of housing
<b>Light spot size</b>	Ø 12 mm
<b>Light spot direction</b>	Round, large
<b>Teach-in mode</b>	Single value teach-in Multi value teach-in
<b>Color mode</b>	C (Color) C + I (Color + Illumination)
<b>Output mode</b>	4 colors in standard mode/best fit mode 15 colors in coded mode
<b>Adjustment of the sensitivity</b>	Continuous: 0 ... 999
<b>Available job banks</b>	4
<b>Output (channel)</b>	4 x hardware switching outputs 24 x virtual switching outputs via RS-485

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

Parameter presettings	None
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1) Average service life: 100,000 h at  $T_U = +25$  °C.

## Mechanics/electronics

Supply voltage	10.8 V DC ... 28.8 V DC <sup>1)</sup>
Ripple	$\leq 5$ V <sub>pp</sub> <sup>2)</sup>
Current consumption	$< 120$ mA <sup>3)</sup>
Switching frequency	13.8 kHz
Response time	36 µs
Jitter	18 µs
Switching output	Push-pull: PNP/NPN
Switching output (voltage)	Push-pull: PNP/NPN HIGH = U <sub>V</sub> - 3 V/LOW $\leq$ 3 V
Output current I <sub>max.</sub>	100 mA <sup>4)</sup>
Input, teach-in (ET)	Teach: U = 10 V ... < V <sub>S</sub>
Input, blanking input (AT)	Blanked: U = 10 V ... < U <sub>V</sub>
Retention time (ET)	3 s, non-volatile memory
Connection type	Male connector M12, 8-pin
Protection class	III
Circuit protection	U <sub>V</sub> connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	68 g
Housing material	VISTAL®
Optics material	Glass

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<sub>V</sub> tolerances.

3) Without load.

4) Total current of all Outputs.

## Communication interface

Modbus	✓ , RS-485
Digital output	Q <sub>1</sub> , Q <sub>2</sub>
	Number
Digital input	In <sub>1</sub> , In <sub>2</sub>
	Number

## Ambient data

Ambient operating temperature	-20 °C ... +60 °C
Ambient temperature, storage	-25 °C ... +75 °C
Shock load	According to IEC 60068-2-27 (30 g/11 ms)
UL File No.	E181493

## Connection type/pinouts

Connection type	Male connector M12, 8-pin
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Pinouts	
WH 1	In <sub>1</sub>
BN 2	+(L+)
GN 3	Q <sub>L1</sub>
YE 4	Q <sub>L2</sub>
GY 5	In <sub>2</sub>
PK 6	RS-485_A
BU 7	-(M)
RD 8	RS-485_B

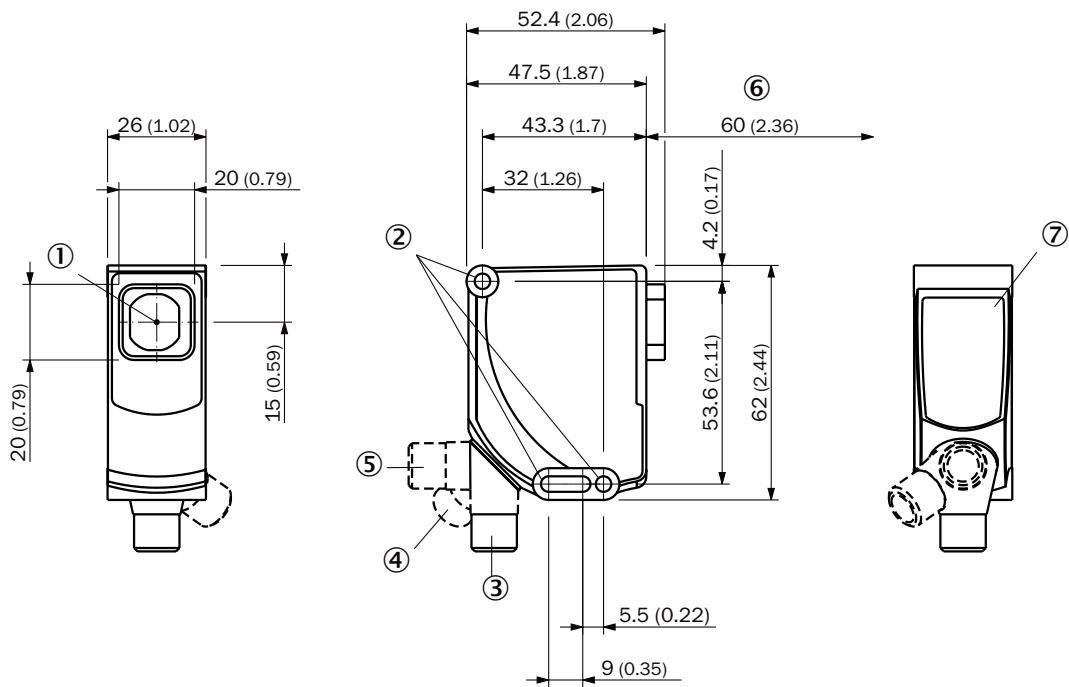
## Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>IO-Link</b>	✓
<b>Photobiological safety (IEC EN 62471)</b>	✓

## Classifications

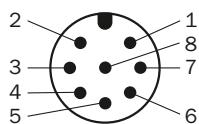
<b>ECLASS 5.0</b>	27270907
<b>ECLASS 5.1.4</b>	27270907
<b>ECLASS 6.0</b>	27270907
<b>ECLASS 6.2</b>	27270907
<b>ECLASS 7.0</b>	27270907
<b>ECLASS 8.0</b>	27270907
<b>ECLASS 8.1</b>	27270907
<b>ECLASS 9.0</b>	27270907
<b>ECLASS 10.0</b>	27270907
<b>ECLASS 11.0</b>	27270907
<b>ECLASS 12.0</b>	27270907
<b>ETIM 5.0</b>	EC001817
<b>ETIM 6.0</b>	EC001817
<b>ETIM 7.0</b>	EC001817
<b>ETIM 8.0</b>	EC001817
<b>UNSPSC 16.0901</b>	39121528

## Dimensional drawing, sensor



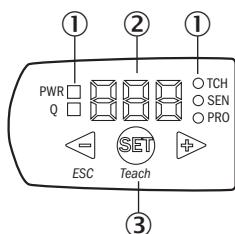
Dimensions in mm (inch)

- ① Optical axis
- ② fixing hole
- ③ M12 male connector, delivery state
- ④ M12 male connector, end stop right
- ⑤ M12 male connector, end stop left
- ⑥ Sensing distance
- ⑦ display and adjustment elements

Pinouts, see table Technical data: **Connection type/pinouts**

Connector M12, 8-pin, A-coded

## display and adjustment elements



- ① LEDs (status display)
- ② 7-segment display

③ Plus/minus button

## Recommended accessories

Other models and accessories → [www.sick.com/CSS\\_CSX\\_High\\_Speed](http://www.sick.com/CSS_CSX_High_Speed)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 8-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 8-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A18-050UA5XLEAX	2095653
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate K for universal clamp bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Universal clamp (2022726), mounting hardware</li> <li><b>Usable for:</b> W11-2, W12-3, W14-2, W18-3, W23-2, W24-2, W27-3, W30, W32, W34, W36, PL50A, PL80A, P250, UC12, LUT3, KT2, KT5-2, KT8, CS8, DT2, DS30, DS40, W12-2 Laser, W16, W26, KT5</li> </ul>	BEF-KHS-K01	2022718
	<ul style="list-style-type: none"> <li><b>Description:</b> Adaptation of CSS High Resolution and CSS High Speed to third party hole pattern</li> <li><b>Material:</b> Aluminum</li> <li><b>Details:</b> Aluminum</li> <li><b>Items supplied:</b> Mounting hardware for the sensor included</li> </ul>	BEF-AP-CSS	2137662

## 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."**

## WORLDWIDE PRESENCE:

Contacts and other locations [www.sick.com](http://www.sick.com)