CSS-WBGAD4118RZZZZ

CSS High Resolution

COLOR SENSORS

SICK
Sensor Intelligence.

CSS-WBGAD4118RZZZZ | CSS High Resolution

COLOR SENSORS

Ordering information

Type	Part no.
CSS-WBGAD4118RZZZZ	1120176

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

Illustration may differ

Detailed technical data

Features

Dimensions (W x H x D)	26 mm x 62 mm x 47.5 mm
Sensing distance	50 mm ... 500 mm
Housing design	S housing
Light source	LED, RGB [1]
LED risk group marking	2
Wave length	450 nm
Light emission	Long side of housing
Light spot size	Ø 8 mm ... 32 mm [2]
Light spot direction	Round, large
Teach-in mode	Single value teach-in
Color mode	C (Color)
Output mode	4 colors in standard mode/best fit mode
Adjustment of the sensitivity	Continuous: 0 ... 999
Available job banks	4
Output (channel)	4 x hardware switching outputs
Parameter presettings	None

[1] Average service life: 100,000 h at T_U = +25 °C.

[2] Depends on the sensing distance.

Mechanics/electronics

Supply voltage	10.8 V DC ... 28.8 V DC [1]

[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] Total current of all Outputs.

Ripple	≤ 5 V$_{pp}$ [2]
Current consumption	< 150 mA [3]
Switching frequency	4 kHz
Response time	120 µs
Jitter	60 µs
Switching output	Push-pull: PNP/NPN
Switching output (voltage)	Push-pull: PNP/NPN HIGH = U$_V$ - 3 V/LOW ≤ 3 V
Output current I$_{max.}$	100 mA [4]
Input, teach-in (ET)	Teach: U = 10 V … < V$_S$
Input, blanking input (AT)	Blanked: U = 10 V … < Uv
Retention time (ET)	3 s, non-volatile memory
Connection type	Male connector M12, 8-pin
Protection class	III
Circuit protection	U$_V$ connections, reverse polarity protected
Enclosure rating	IP67
Weight	70 g
Housing material	Plastic, VISTAL®
Optics material	Glass

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[2] May not exceed or fall below U$_V$ tolerances.

[3] Without load.

[4] Total current of all Outputs.

Communication interface

Modbus		✔, RS-485
Digital output		Q$_1$, Q$_2$
	Number	2
Digital input		In$_1$, In$_2$
	Number	2

Ambient data

Ambient operating temperature	–20 °C … +55 °C
Ambient temperature, storage	–25 °C … +75 °C
Shock load	According to IEC 60068-2-27 (30 g/11 ms)
UL File No.	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

Connection type/pinouts

| **Connection type**	Male connector M12, 8-pin
Pinouts	
WH 1	In_1
BN 2	+ (L+)
GN 3	Q_{L1}
YE 4	Q_{L2}
GY 5	In_2
PK 6	RS-485_A
BU 7	- (M)
RD 8	RS-485_B

Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing, sensor
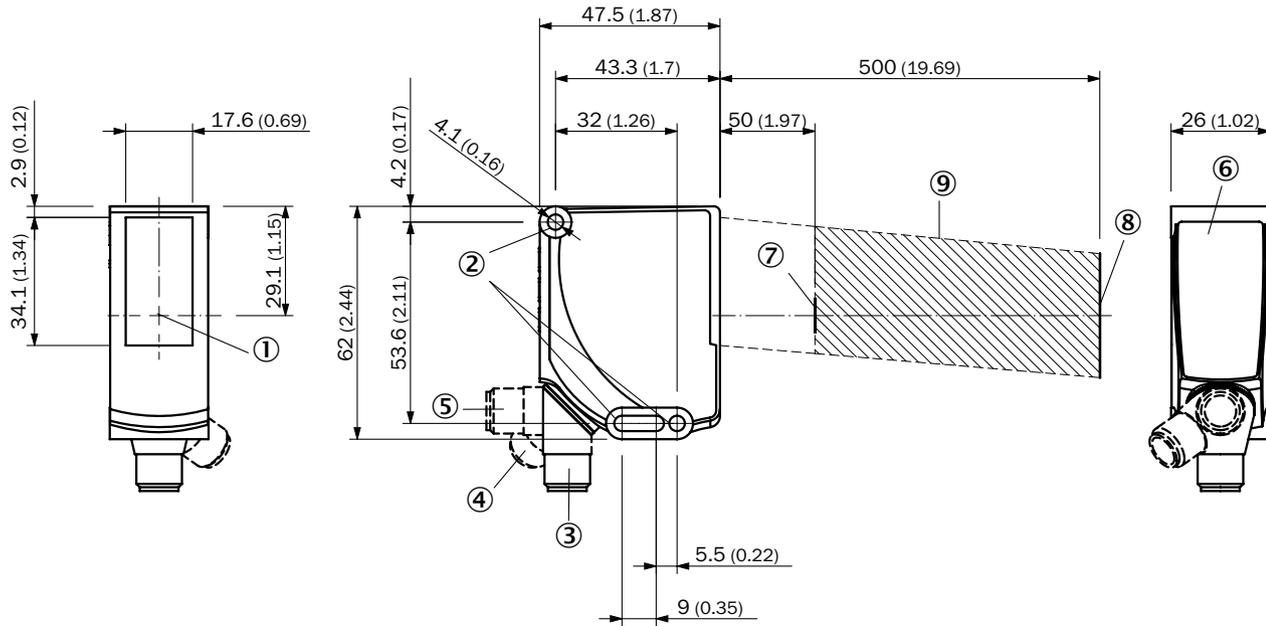
① Optical axis
② Fixing hole
③ M12 male connector, delivery state
④ M12 male connector, end stop right
⑤ M12 male connector, end stop left
⑥ Display and adjustment elements
⑦ Light spot size (distance): Ø 8.8 mm (50 mm)
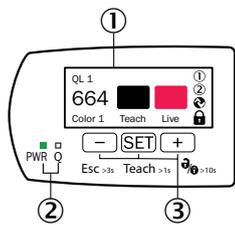⑧ Light spot size (distance): Ø 32 mm (500 mm)
⑨ Working range

Pinouts

Pinouts, see Technical details: **Connection type/pinouts**
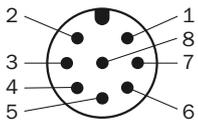
Connector M12, 8-pin, A-coded

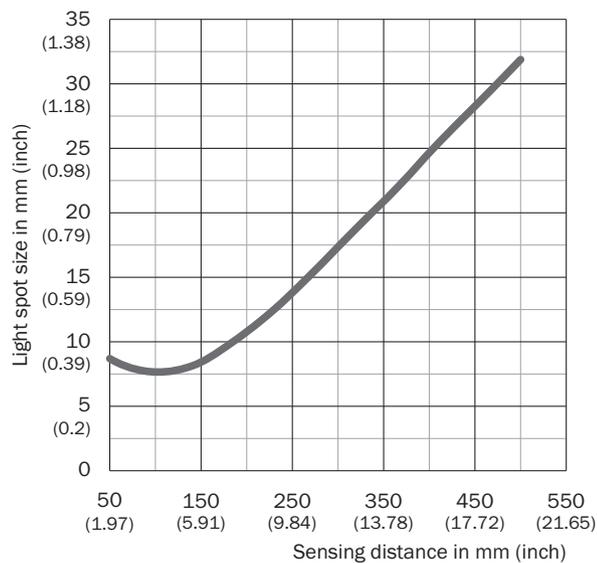## Adjustments

Display and adjustment elements

① TFT display
② LEDs (status display)
③ Plus/minus button

Light spot size

Y-axis: Light spot size in mm (inch) — 0, 5 (0.2), 10 (0.39), 15 (0.59), 20 (0.79), 25 (0.98), 30 (1.18), 35 (1.38)

X-axis: Sensing distance in mm (inch) — 50 (1.97), 150 (5.91), 250 (9.84), 350 (13.78), 450 (17.72), 550 (21.65)

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate K for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware	BEF-KHS-K01	2022718
	Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12G-A	4056054
	Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-A	4056052
Mounting brackets and plates			
	Adaptation of CSS High Resolution and CSS High Speed to third party hole pattern, Aluminum, mounting hardware for the sensor included	BEF-AP-CSS	2137662
Others			
	• **Connection type head A:** Female connector, M12, 8-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 8-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with oils and lubricants, Drag chain operation, Robot	YF2A18-050UA5XLEAX	2095653

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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