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Product data sheet



CSS-WBGAD4115AA10Z

CSS High Resolution

COLOR SENSORS

SICK
Sensor Intelligence.

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CSS-WBGAD4115AA10Z | CSS High Resolution

COLOR SENSORS



Illustration may differ

Ordering information

Type	Part no.
CSS-WBGAD4115AA10Z	1120174

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

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, 550 nm, 610 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 Multi value teach-in
Color mode	C (Color) C + I (Color + Illumination)
Output mode	2 colors in standard mode/best fit mode 3 colors in coded mode
Adjustment of the sensitivity	Continuous: 0 ... 999
Available job banks	4
Output (channel)	2 × hardware switching outputs 24 x virtual switching outputs via IO-Link
Parameter presettings	None

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

[2] Depends on the sensing distance.

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Mechanics/electronics

Supply voltage	10.8 V DC ... 28.8 V DC [1]
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, 5-pin
Protection class	III
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP67
Weight	70 g
Housing material	Plastic, 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 exceed or fall below U_V tolerances.
[3] Without load.
[4] Total current of all Outputs.

Communication interface

IO-Link	✓, IO-Link
VendorID	26
DeviceID HEX	80028E
DeviceID DEC	8389262
Process data structure	Byte 0 ... 3 = Switching output and status Byte 4 ... 11 = Color measurement values and color match values
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

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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

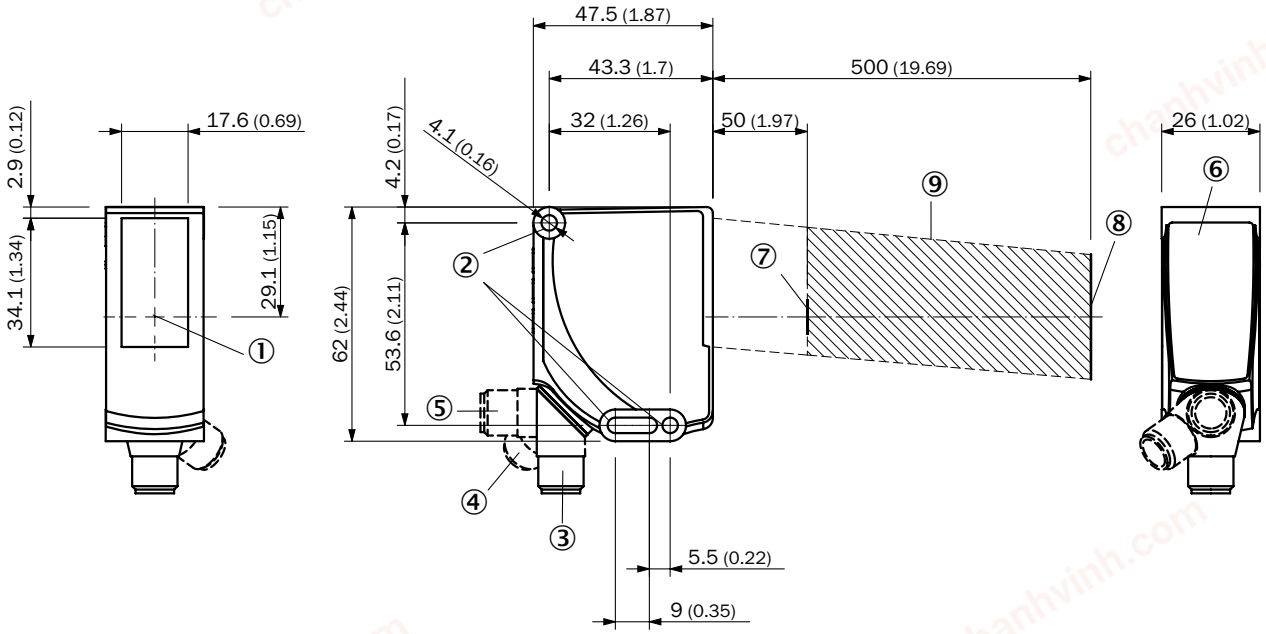
Connection/Pin assignment

Connection type	Male connector M12, 5-pin
Pin assignment	
BN 1	+ (L+)
WH 2	Q_{L2}/IN_1
BU 3	- (M)
BK 4	Q_{L1}/C
GY 5	In_2

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Dimensional drawing (Dimensions in mm (inch))

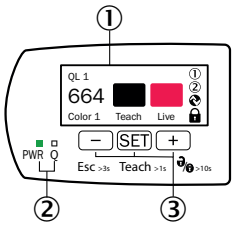
CSS-xx**G**x**D**x**1**xxxxxxx



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

Adjustments

Display and adjustment elements

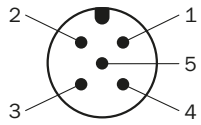


① TFT display
② LEDs (status display)
③ Plus/minus button

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Pin assignment

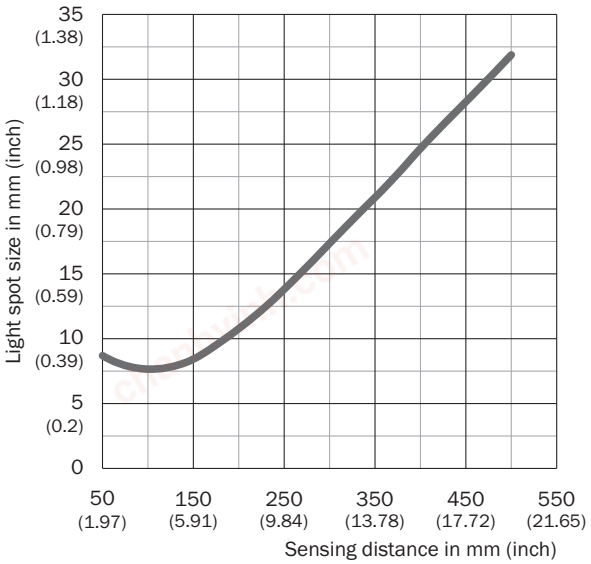
See table: **Connection/pin assignment**



Male connector, M12, 5-pin, A-coded

Light spot size

CSS-xxx**AD**xxxxxxxxx



Recommended accessories

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

	Brief description	Type	Part no.
Connection modules			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
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

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	Brief description	Type	Part no.
	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
Plug connectors and cables			
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals	YF2A15-050VB5XLEAX	2096240
	• **Connection type head A:** Male connector, M12, 5-pin, straight • **Description:** Unshielded, Head A: male connector, M12, 5-pin, straight, unshielded, for cable diameter 4 mm ... 6 mm Head B: - • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Note:** For field bus technology	STE-1205-G	6022083
Sensor Integration Gateway			
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, PROFINET, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0004AP100	6076871
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, EtherNet/IP™, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0005AP100	6076923
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, EtherCAT®, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0006AP100	6076924

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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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