Data sheet


# CSS-WBG4C4115AA10Z

## CSS High Resolution

**COLOR SENSORS**

SICK
Sensor Intelligence.


Illustration may differ

## Ordering information

| Type | part no. |
|---|---|
| CSS-WBG4C4115AA10Z | 1120173 |

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

## Detailed technical data

### Features

| | |
|---|---|
| **Parameter presettings** | None |
| **Housing design** | Small |
| **Dimensions (W x H x D)** | 26 mm x 62 mm x 47.5 mm |
| **Light source** | LED, RGB [1] |
| **Light emission** | Long side of housing |
| **Light spot size** | Ø 3.5 mm ... 6.5 mm [2] |
| **Light spot direction** | Round |
| **Wave length** | 450 nm, 550 nm, 610 nm |
| **LED risk group marking** | 2 |
| **Color mode** | C (Color)<br>C + I (Color + Illumination) |
| **Sensing distance** | 50 mm ... 150 mm |
| **Teach-in mode** | Single value teach-in<br>Multi value teach-in |
| **Output mode** | 2 colors in standard mode/best fit mode<br>3 colors in coded mode |
| **Output (channel)** | 2 × hardware switching outputs<br>24 x virtual switching outputs via IO-Link |
| **Adjustment of the sensitivity** | Continuous: 0 ... 999 |

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

[2] Depends on the sensing distance.

| | |
|---|---|
| **Available job banks** | 4 |
| **Safety-related parameters** | |
| $MTTF_D$ | 179.9 years |

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

[2] Depends on the sensing distance.

## Interfaces

| | |
|---|---|
| **IO-Link** | ✓ , IO-Link V1.1.2 |
| VendorID | 26 |
| DeviceID HEX | 80028E |
| DeviceID DEC | 8389262 |
| **Process data structure** | Byte 0 ... 3 = switching output and status<br>Byte 4 ... 11 = measured color values and color adjustment values |
| **Digital output** | $Q_1$, $Q_2$ |
| Number | 2 |
| **Digital input** | $In_1$, $In_2$ |
| Number | 2 |

## 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 |
| **Time delay** | None |
| **Protection class** | III |
| **Circuit protection** | $U_V$ connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |
| **Connection type** | |
| | Plug, M12, 5-pin |

[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 $U_V$ tolerances.

[3] Without load.

[4] Total current of all Outputs.

## Mechanics

| | |
|---|---|
| **Housing material** | VISTAL® |
| **Optics material** | Glass |
| **Weight** | 70 g |

## 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) |
| **Enclosure rating** | IP67 |
| **UL File No.** | E181493 |

## Connection type/pinouts

| | |
|---|---|
| **Connection type** | |
| | Plug, M12, 5-pin |
| **Pinouts** | |
| BN 1 | + (L+) |
| WH 2 | $Q_{L2}/IN_1$ |
| BU 3 | - (M) |
| BK 4 | $Q_{L1}/C$ |
| GY 5 | $In_2$ |

## Classifications

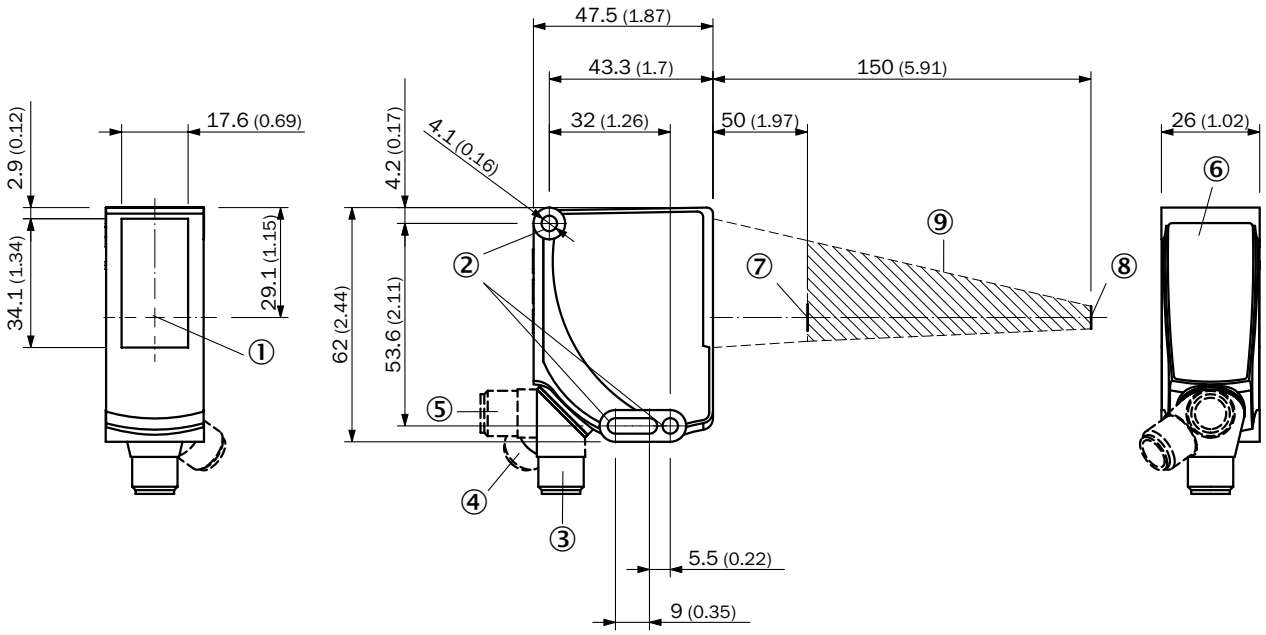
| | |
|---|---|
| **ECLASS 5.0** | 27270907 |
| **ECLASS 5.1.4** | 27270907 |
| **ECLASS 6.0** | 27270907 |
| **ECLASS 6.2** | 27270907 |
| **ECLASS 7.0** | 27270907 |
| **ECLASS 8.0** | 27270907 |
| **ECLASS 8.1** | 27270907 |
| **ECLASS 9.0** | 27270907 |
| **ECLASS 10.0** | 27270907 |
| **ECLASS 11.0** | 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 |

## Certificates

| | |
|---|---|
| **EU declaration of conformity** | ✓ |
| **UK declaration of conformity** | ✓ |
| **ACMA declaration of conformity** | ✓ |

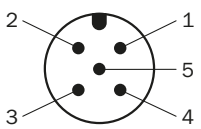
| | |
|---|---|
| **Moroccan declaration of conformity** | ✓ |
| **China RoHS** | ✓ |
| **cULus certificate** | ✓ |
| **IO-Link certificate** | ✓ |
| **Photobiological safety (IEC EN 62471)** | ✓ |
| **Information according to Art. 3 of Data Act (Regulation EU 2023/2854)** | ✓ |

## Dimensional drawing, sensor



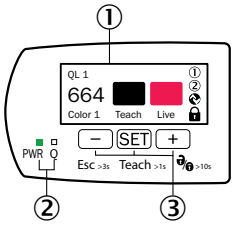

Dimensions in mm (inch)
① Optical axis
② fixing hole
③ M12 male connector, delivery state
④ M12 male connector, end stop right
⑤ M12 male connector, end stop left
⑥ display and adjustment elements
⑦ Light spot size (distance): Ø 6.5 mm (50 mm)
⑧ Light spot size (distance): Ø 5.6 mm (150 mm)
⑨ working range

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



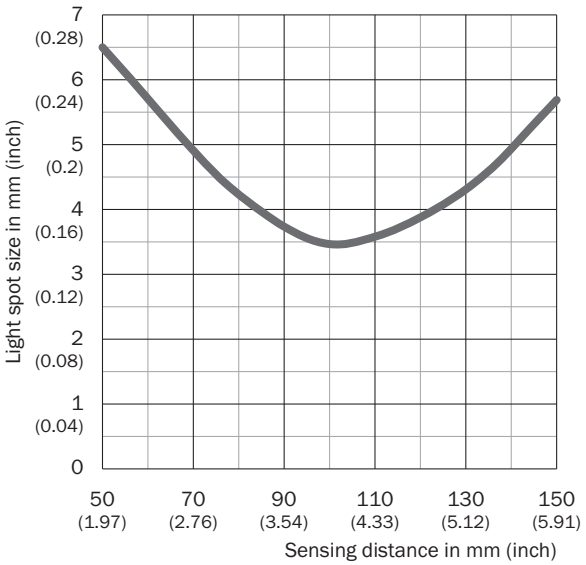

Male connector, M12, 5-pin, A-coded

## display and adjustment elements




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

## Light spot size




## Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|---|---|
| Mounting systems | | | |
|  | • **Description:** Plate K for universal clamp bracket<br>• **Material:** Steel<br>• **Details:** Steel, zinc coated<br>• **Items supplied:** Universal clamp (2022726), mounting hardware<br>• **Usable for:** 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 | BEF-KHS-K01 | 2022718 |

| | Brief description | Type | part no. |
|---|---|---|---|
| network devices | | | |
|  | | IOLA2US-01101<br>(SiLink2 Master) | 1061790 |
|  | | SIG350-0004AP100 | 6076871 |
|  | | SIG350-0005AP100 | 6076923 |
|  | | SIG350-0006AP100 | 6076924 |
| connectors and cables | | | |
|  | • **Connection type head A:** Male connector, M12, 5-pin, straight, A-coded<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** ≤ 0.75 mm²<br>• **Note:** For field bus technology | STE-1205-G | 6022083 |
|  | • **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 5-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals, Uncontaminated zones | YF2A15-050VB5XLEAX | 2096240 |

# 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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