SICK.COM

PRODUCT OVERVIEW

CSS High Resolution

Color sensors

SICK Sensor Intelligence

COLOR SENSORS

CSS High Resolution

Detects even very slight color nuances and masters changing distances

With its high color resolution and an innovative teach-in method, the new CSS High Resolution color sensor can even distinguish between fine color nuances. It also detects color gradients and structured materials like wood. Besides sensing distances of up to 500 mm, the CSS High Resolution comes with an automatic sensing distance regulation feature: The CSS High Resolution detects colors precisely even at changing distances and with varying object sizes. Furthermore, the full color TFT sensor display shows color values (L*a*b or RGB) as well as the similarity of a detected color to a taught-in color. Up to 24 colors per identification task (job) can be transferred via the IO-Link interface and saved externally. Thanks to an application-specific setup assistant, the sensor can be quickly installed via the SOPAS software.

CSS High Resolution AT A GLANCE

BENEFITS

- Attractive alternative to expensive color measurement solutions thanks to the output of color values and high color resolution
- Saves resources and increases process flexibility because up to 24 colors per identification task (job) can be transferred via IO-Link or saved
- Can be used in many applications thanks to the large sensing distance and automatic sensing distance regulation
- Quick and easy commissioning
- Display of color values on the sensor display
- Fast sensor configuration with the help of the SOPAS software

FEATURES

- High color resolution
- Detects color gradients and structured materials
- Sensing distances up to 500 mm
- Automatic sensing distance regulation
- Output of color values (L*a*b/RGB) and color similarity
- Up to 24 colors per identification task (job) can be saved
- IO-Link interface, application-specific setup assistance via SOPAS
- Full color TFT display

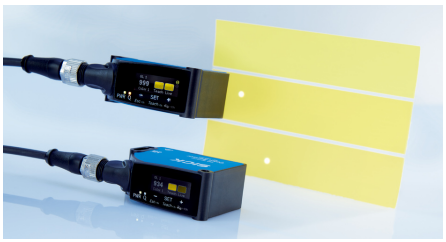
TECHNICAL DATA OVERVIEW

Sensing distance	50 mm
Light spot size	Ø 3.5 mm Ø 6.5 mm 8 mm 32 mm
Adjustment	Single value teach-in Multi value teach-in
Connection type	Male connector

ADVANTAGES

Detects even very minor color differences

With its especially high color resolution and large depth of field, the CSS High Resolution color sensor can distinguish between color nuances that are even hard for the human eye to recognize. Color gradients and structured materials and surfaces such as stone or fabric also present no challenge thanks to the innovative teach-in method.



Slight color nuances
The CSS High Resolution precisely detects even very slight color differences.

Structured material
Natural materials such as wood, stone and leather as well as woven materials with an inhomogeneous color structure are reliably detected by the sensor.

Color gradients and mixtures
The color sensor even detects demanding heterogeneously colored materials.

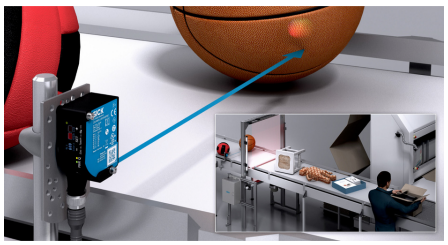
→ Thanks to its high performance and numerous application areas, the CSS High Resolution color sensor is an attractive alternative to expensive color measurement systems.

Innovative feature: the automatic sensing distance regulation

Different distances to the object normally affects the color perception of a sensor. SICK compensates for this effect with the automatic sensing distance regulation feature, using which the CSS High Resolution can correctly sort colors even with varying object heights. The automatic sensing distance regulation enables the sensor to detect different object sizes at changing distances in a process without having to teach in the device again. This saves time and ensures flexibility.

Sensing distance up to 500 mm
The large sensing distance means more flexibility when designing the machine and process.

Object distance irrelevant
The CSS High Resolution detects colors precisely regardless of the distance of the object.



Automatic adjustment of the color evaluation
The color evaluation automatically adjusts to the distance. No mechanical focus adjustment is necessary.

→ The automatic sensing distance regulation makes the CSS High Resolution suitable for applications with changing distances and object sizes.

Precise color value display on a full color TFT display

The CSS High Resolution color sensor shows color values (RGB or L*a*b) on its display. It can also determine and visualize the difference between the taught-in color and the detected color. Not only raw data but also processed data are therefore available.

RGB and L*a*b output
In addition to displaying RGB color values, the CSS High Resolution also supports the L*a*b color space.

Display of color similarity
The similarity of a detected color to a taught-in color is also shown on the sensor display and transferred via IO-Link.

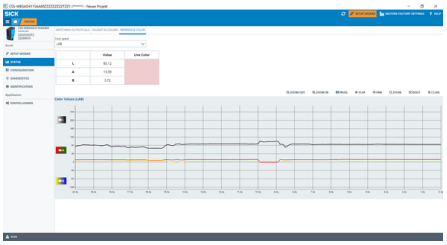
Full color TFT display
Thanks to its display, the CSS High Resolution is intuitive to operate. This makes it largely unnecessary to refer to the documentation for explanations.

⟶ On its full color display, CSS High Resolution shows not only the RGB values but also L*a*b values as well as the similarity of the detected color to a taught-in color.

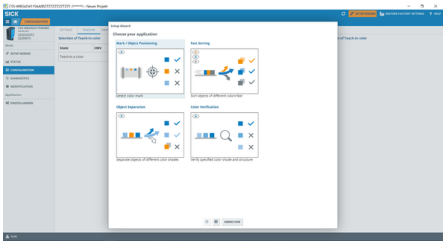
More possibilities thanks to IO-Link

Thanks to the smart setup assistant in the SOPAS software, the color sensor is especially quick to install. Furthermore, the simple diagnostics, monitoring and adjustment of the CSS High Resolution during operation provides efficiency gains.

24 colors can be saved in parallel
Up to 24 colors can be transferred in parallel via the IO-Link interface and saved externally.



Fast commissioning
Using the setup assistant in the SOPAS interface, the new CSS High Resolution can be quickly and precisely configured for the specific application.



Intelligent real-time monitoring
Continuous monitoring in real time, fast diagnostics, and lots of process data thanks to IO-Link.

⟶ Thanks to its many intelligent tools, the CSS High Resolution color sensor saves valuable resources and increases the system productivity through predictive maintenance.

Select the right product variant and accessories directly online. There you will also find example applications as well as downloads such as CAD dimensional models, operating instructions and software.
www.sick.com/CSS_High_Resolution

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnership with our customers is more than just a promise: Together, we optimize productivity, elevate quality, protect health and safety, and sustain the future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions.

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