



# VISION SENSOR CS 50

THE WORLD'S SMALLEST  
VISION SENSOR

 **di-soric**

# PERFORMANCE THAT CAN BE SEEN. THE CS 50 FEATURES.

## TOP PERFORMANCE FOR NUMEROUS APPLICATIONS.

Vision Sensor CS 50 – the world's smallest Vision Sensor offers powerful performance with easy handling for numerous verification tasks in the area of industrial application – the very best performance for completeness checks, rotation verifications, presence checks, counting objects and much more.

### Up to 300% faster PERFORMANCE

The CS 50 offers a significant increase in speed compared to the existing vision sensors. A process speed with up to 2,500 component inspections per minute is possible.

### THE WORLD'S SMALLEST industrial Vision Sensor

The CS 50 is the world's smallest Vision Sensor – this also means it can be integrated easily into machines and systems that have limited space.

### EASY & INTUITIVE

Our new CS Vision Software can be operated by every sensor user – for everyone who wants to run their applications intuitively with a robust and powerful product.

### Standard INTER- FACES on board

In addition to our PROFINET and RS232 standard protocols, the CS 50 is also able to communicate with your industrial environment via Ethernet IP and TCP IP.



### CLICK-ZOOM & Liquid Lens Autofocus

Digitally adjusting the focal length and the Liquid Lens Autofocus option when changing a lens does not require the use of hardware and prevents misalignment.

### 1.4 GB of free memory

With approximately 1.4 GB of RAM, there is enough space for practically an unlimited amount of jobs.

### di-soric LINK for PLC-compliant communication

As the sole producer, we supply PLC-compliant data formats for a fast, convenient connection to your PLC. This makes it possible to control the parameters in a job via external systems using a direct connection to your machine control system.

# AS EASY TO USE AS A SENSOR. THE CS 50 TOOLS.

## EFFICIENT TOOLS FOR A VARIETY OF TASKS.

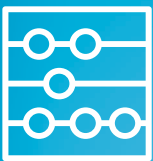
The 5 integrated tools make it possible to efficiently, quickly and practically implement your verification tasks. The values are linked logically and can be exported explicitly as pixel values or statistical values. The individual tasks are intuitively designed and can be set up and implemented easily.



### LOCATE

The Locate tool dynamically finds an unlimited amount of samples within a freely selectable image section – simultaneously.

- It teaches in an edge-, shape- and blob-based sample.
- Determines the values for the X, Y and rotation coordinates of an edge pattern.
- Determines the coordinates for tracking other tools.



### COUNT

The Count tool counts the number of particular objects within a search window. It counts objects that have been taught into an image and is ideal for checking the correct number of parts within a workpiece carrier.

- Tests the correct number of holes within a part.
- Finds and determines the number of objects within an image.

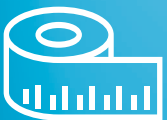
The Count tool can count blobs as well as outlines.



### PRESENCE

The Presence tool detects the presence/absence of a feature based on pixel values/contrast.

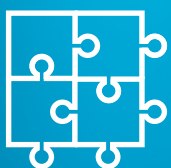
- Counts the number of pixels within an intensity field from 0 to 255.
- Counts the pixels within an image using contrast transition.



### MEASURE

The Measure tool carries out pixel-based height or width measurements between edges or points. Angle- and radius-measurements can also be carried out.

- It detects two edges or points and measures the distance between them.
- It discharges measured parts outside of the user-defined limits.

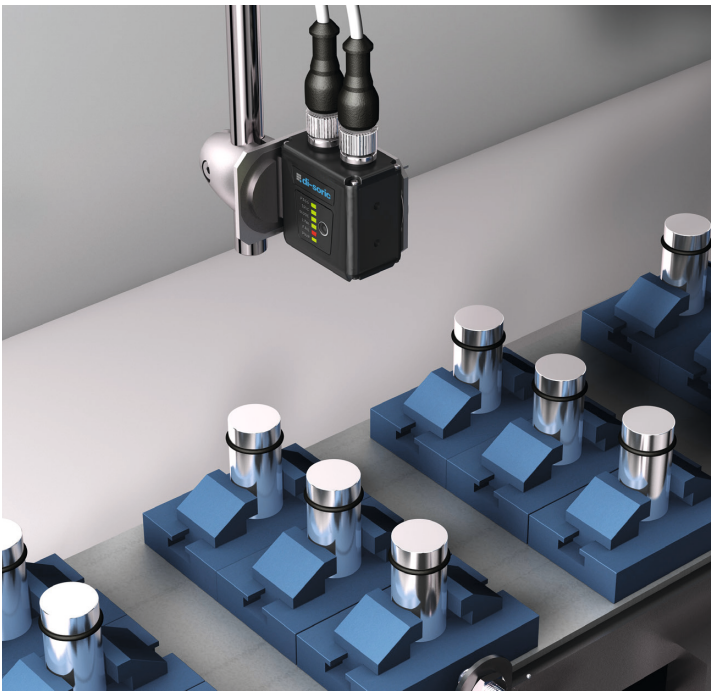
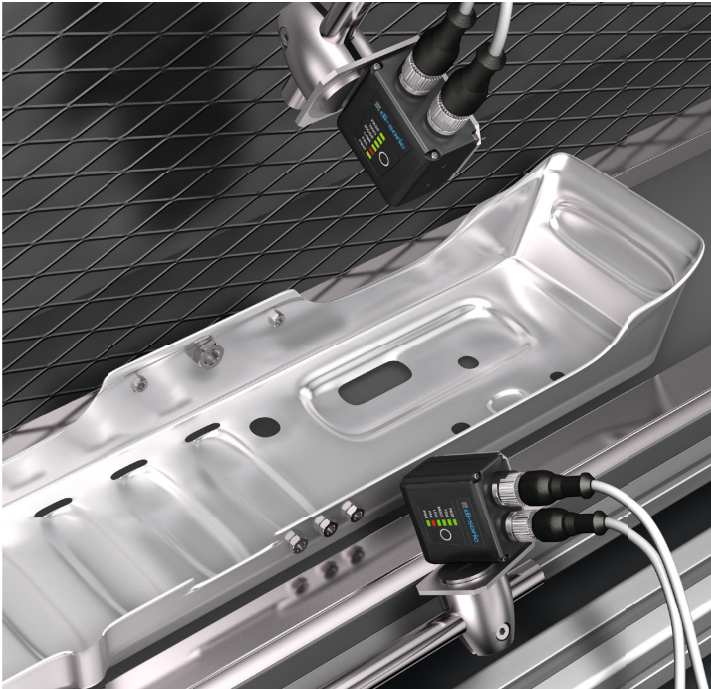
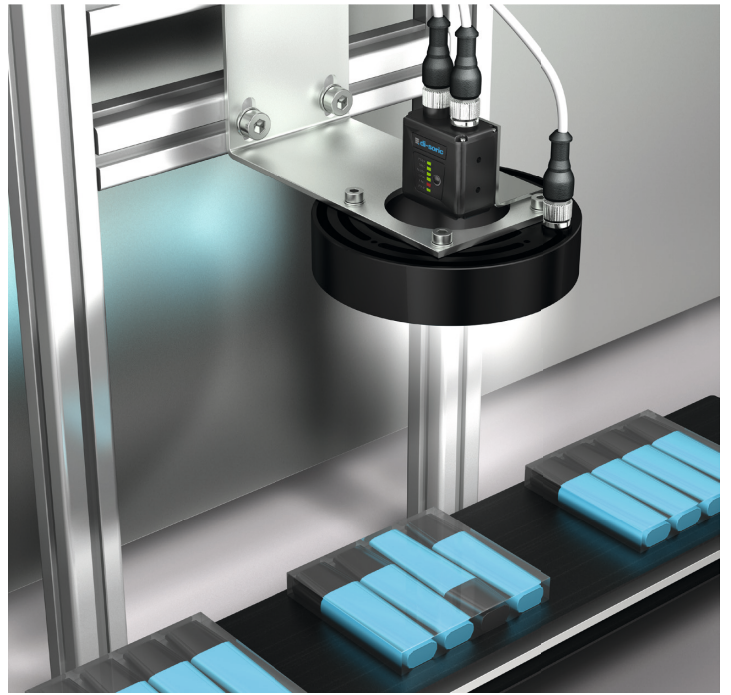


### LOGIC

The Logic tool makes it possible to make connections among CS 50 boolean results simply and logically.

- The connections make it possible to combine multiple tool results and pass these along to the respective camera outputs.
- This makes it possible to carry out logical operations quickly and easily.
- Logical connections can be used on the CS 50 and without using your PLC.





# TECHNICAL DATA

## VISION SENSOR CS 50

	CS 50 BM2-2-ES-G1 BM2-2-ES-G5	CS 50 BM2-4-ES-G1 BM2-4-ES-G5	CS 50 BM2-4L-ES-G1 BM2-4L-ES-G5
Housing dimensions H/W/D	25.4 / 44.5 / 44.5 mm	25.4 / 44.5 / 44.5 mm	25.4 / 44.5 / 44.5 mm
Service voltage	5...30VDC	5...30VDC	5...30VDC
Working distance	50 – 300 mm	40 – 150 mm	75 – 1200 mm
Selectable focal length	5 mm / 10 mm	16 mm / 32 mm	16 mm / 32 mm
Internal lights	<ul style="list-style-type: none"> <li>■ G1: High power red</li> <li>■ G5: High power white</li> </ul>	<ul style="list-style-type: none"> <li>■ G1: High power red</li> <li>■ G5: High power white</li> </ul>	<ul style="list-style-type: none"> <li>■ G1: High power red</li> <li>■ G5: High power white</li> </ul>
Image output	sw/VGA	sw/VGA	sw/VGA
Tools	<ul style="list-style-type: none"> <li>■ Locate</li> <li>■ Count</li> <li>■ Presence</li> <li>■ Measure</li> <li>■ Logic</li> </ul>	<ul style="list-style-type: none"> <li>■ Locate</li> <li>■ Count</li> <li>■ Presence</li> <li>■ Measure</li> <li>■ Logic</li> </ul>	<ul style="list-style-type: none"> <li>■ Locate</li> <li>■ Count</li> <li>■ Presence</li> <li>■ Measure</li> <li>■ Logic</li> </ul>
Number of jobs	Unlimited (1,4 GB)	Unlimited (1,4 GB)	Unlimited (1,4 GB)
Focusing	Electronic Autofocus	Electronic Autofocus	Electronic Autofocus
Interfaces & protocols	RS232 Ethernet-IP, TCP-IP, ProfiNet	RS232 Ethernet-IP, TCP-IP, ProfiNet	RS232 Ethernet-IP, TCP-IP, ProfiNet
Digi I/Os	1 (Trigger)/3	1 (Trigger)/3	1 (Trigger)/3
Image storage	via FTP	via FTP	via FTP
Accessories	<ul style="list-style-type: none"> <li>■ Filter</li> <li>■ Diffuser</li> <li>■ Polarizer</li> <li>■ Holder</li> <li>■ Cable</li> <li>■ HMI</li> <li>■ Additional high power lighting</li> </ul>	<ul style="list-style-type: none"> <li>■ Filter</li> <li>■ Diffuser</li> <li>■ Polarizer</li> <li>■ Holder</li> <li>■ Cable</li> <li>■ HMI</li> <li>■ Additional high power lighting</li> </ul>	<ul style="list-style-type: none"> <li>■ Filter</li> <li>■ Diffuser</li> <li>■ Polarizer</li> <li>■ Holder</li> <li>■ Cable</li> <li>■ HMI</li> <li>■ Additional high power lighting</li> </ul>



**SOLUTIONS. CLEVER. PRACTICAL.**

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