



IVC-3D

The first Smart Camera available for three dimensional solutions in factory automation

The world of Vision is not flat anymore...

If height is important in your product or process you need the IVC-3D. Improve quality and save money by looking at the 3rd dimension!

Every day SICK sensor solutions simplify production for thousands of companies around the globe. Our 3D smart camera, the IVC-3D, brings a new dimension to sensor intelligence and to flexible automation solutions.

IVC-3D is the first system in the world that combines the flexibility of smart cameras and the power of high-speed 3D in a robust industrial package.



A 3D smart camera for stand-alone solutions in factory automation

The IVC-3D is a Smart Camera, it uses a PC or laptop for set-up only and from then on operates stand alone or as part of the factory network. The inspection result can be sent directly to the PLC or handling equipment and results monitored via Ethernet. The 3D image is scanned while the object passes the IVC-3D on the conveyor belt.

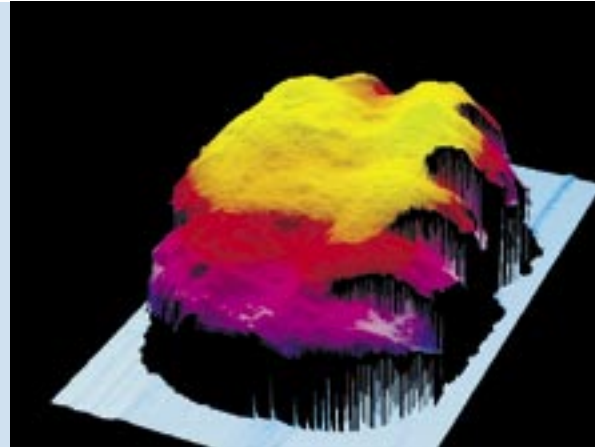


Some application examples where 3D makes the difference!

Inspection and volume measurement of bread in bakeries

Misshaped bread will be rejected automatically to increase quality and reduce problems in the packaging station.

The volume measurement can be used for on-line adjustments of the process parameters.



Verification of content in praline boxes

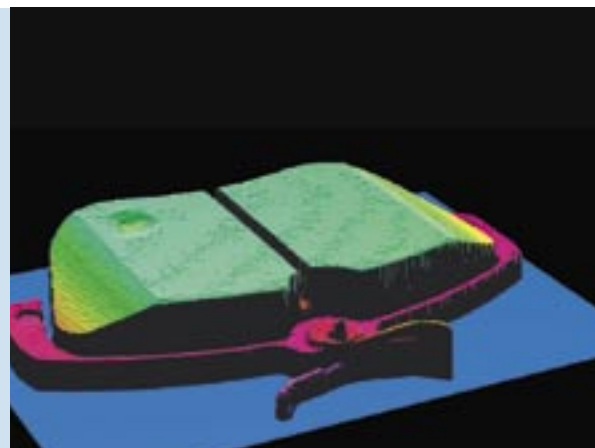
Checks that all pralines are produced correctly and placed in the right position in the box.

Contrast-independent inspection by 3D is the solution to check the shape of dark pralines on a dark background.



Inspection of brake plates in automotive industry

Three features are inspected on the brake plate: the surface, height position of the plug, and the angle of the metallic spring. All are 3D features and are inspected simultaneously.



New possibilities with high speed 3D vision!

Why be satisfied with only two of our three dimensions?

The world we live in has three dimensions and so have also all the things we produce. The majority of cameras currently on production lines only look at two dimensions, missing out on vital information to improve your process and save you money. When height matters, IVC-3D is the

smart camera you need for robust vision solutions in factory automation. IVC-3D is the first system in the world that combines the flexibility of smart cameras and the power of high speed 3D in one robust industrial package.

Traditional 2D



Which object is on top?



Robot Guidance & Bin Picking

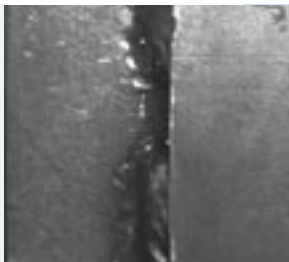
3D by SICK IVP



Do you see the short pin?



Inspection of Connector Pins



Can you see the nonwelded area?



Inspection and tracking of Weld Seams



The images above are 3D images with height represented as intensity.

Going from 2D to 3D is a small step for the application engineer but a giant leap in inspection performance and solution robustness

IVC Studio, the easy-to-use development environment for both IVC-3D and IVC-2D, includes many powerful 3D tools such as profile inspection, volume measurement etc. As in the images above, 3D data can be represented as grey scale

images where intensity corresponds to height. You can apply all our high performance imaging and measurement tools to these images to bring a new dimension to vision.



Increase yield and quality with true 3D shape inspection

The real world has three dimensions! Using traditional 2D camera solutions will always be a compromise when height matters to you. IVC-3D is the first smart camera in the world that inspects all three dimensions, giving you unsurpassed inspection results and robustness.

Robust and reliable solutions with contrast independent inspection

3D is superior when there is low contrast between the object and background or within the object itself. 3D based inspection is also very robust against changes in the ambient light, giving you an installation that works day after day year after year.

Short development time with IVC Studio

Connect your laptop and you have instant access to more than one hundred well-defined and easy-to-use vision tools. The powerful development environment, IVC Studio, is designed for professionals with high demand on fast prototyping and debugging.

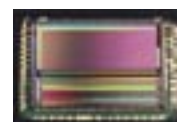


Everything you need for a solution in a robust housing

IVC-3D combines advanced optics and a high quality laser in a robust industrial IP 65 package, thus there is no need for additional protection in many industries. No additional lighting is required and because laser triangulation is very robust against stray light, it reduces the need for bulky and expensive light shields.

Top performance to meet production demands of tomorrow

The unsurpassed 3D performance comes from SICK IVP's patented CMOS sensor technology. The powerful image processor integrated on the sensor chip allows for extremely fast 3D image acquisition.



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More representatives and agencies in all major industrial nations at www.sick.com

Specifications

Performance	5000 profiles per second
Ethernet Interface	Ethernet 100Mbit/s
Serial interface	RS 485
Digital I/O	2 inputs 3 outputs
Encoder interface	RS 422 compatible
Enclosure rating	IP 65
Laser class	2/2M

	IVC-3D 200	IVC-3D 50
Max field of view cross movement	810 mm	180 mm
Max field of view in height	400 mm	100 mm
Selected rectangular field of view HxW	200x600 mm	50x150 mm
Resolution in height	0.2 mm	0.04 mm
Max profile width	1024 points	1024 points
Profile speed	5000 profiles/second	5000 profiles/second
Weight	Approximately 4 kg	Approximately 3.2 kg
Dimensions	387 mm x 163 mm x 69 mm L x H x D	294 mm x 163 mm x 69 mm L x H x D

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