



## Vision Sensors Inspector

An intelligent vision solution in an easy-to-use sensor package.

## Inspector: An intelligent vision solution in an easy-to-use sensor package.



The Inspector vision sensor inspects part details such as contour, contrast, and greyscale areas at any position or rotation of the part.

### **Looking for clues to improve quality control? The Inspector vision sensor is on the case.**

The Inspector is an intelligent vision solution in an easy-to-use sensor package. No matter what angle or orientation your product comes down the line, the Inspector is up to the challenge – verifying completeness and quality. And the Inspector provides a simple pass/fail output, ensuring only the correct product makes it through. Plus, the Inspector is fast, able to keep up to the quickest line speeds.

### **Industry proven**

Inspector can be used with great advantage in any industry: thanks to its robust and reliable design, and IP 67 metal housing, it is perfect for the toughest environments, such as the automotive industry – and thanks to its' intelligent and fast algorithms, it can follow the speed of any production line in the packaging industry.

### **Robust intelligence – for easy managing**

The key to solving vision problems is to work on a good quality image and apply robust algorithms. The Inspector comes with a unique integrated dome light that delivers high quality images even on glossy and reflective surfaces – this without complex set-ups. On this image, Inspector applies a pattern match algorithm that finds the part independently of orientation – even in varying ambient light situations.

### **Easy-to-use PC tool**

The sophisticated PC interface offers apart from easy-to-use set-up also monitoring, statistic read out, image recording and emulator testing on images from file for full production control.



# Applications.

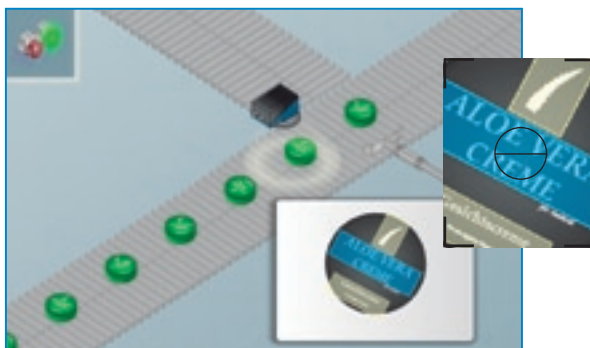


## Packaging

- Label position on bottles, cartons (vignette), cases, etc.
- Date code presence
- Cap inspection – presence, position, height, integrity or damage
- Blister packs – are all tablets in the blister, is the blister damaged, foil sealed
- Sterile soft bags – are all components inserted
- Level control of fluids where non-volumetric filling is applied
- Uniformity of positioning of packs in bulk

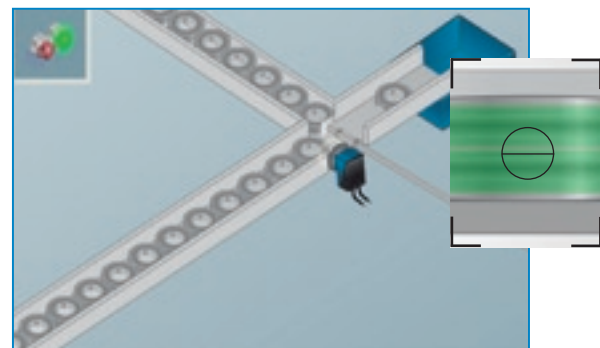
## Small part assembly

- Bowl feeder inspection
- Verification of part assembly before next station
- Verify correct type in multi-type production lines
- Verify presence of holes, nuts, safety springs, and simmer rings
- Surface inspection for defects



### Fast logo inspection and date code presence on lotion

Inspector is ideally used for label inspection. It handles multi-inspections such as date code presence and logo identification simultaneous. Due to the sophisticated locator algorithm it finds the details of interest in any rotation of the lotion and at demanding production speeds. An additional advantage is the high-speed Ethernet interface which enables full production control by monitoring over network.



### Robust ball bearing type verification

Inspector can with advantage be used for verifying that a specific ball bearing type is currently produced in a multi-type production line. Inspector distinguishes easily between the different in-prints, cavities and sizes of the ball bearing types. The memory of Inspector stores up to 16 different reference objects which are then selectable by the four input pins. A main advantage of Inspector on this type of application is the unique integrated dome light that overcomes the difficulties of reflective metallic surfaces.



Technical data		Inspector I10	1R111 Standard	1D111 Dome
Nominal scanning distance/Field of view	50 ... 200 mm <sup>1)</sup> /20 x 20 ... 72 x 72 mm <sup>2</sup>			
	50 mm/ 30 x 30 mm <sup>2</sup>			
Measurement features	Contour, pixel count, edge pixel count			
Multiple feature inspections	32 regions			
Number of reference objects	16			
PC functions	Log, Emulator, Record			
Resolution	384 x 384			
Light source	6 high power LEDs			
	Ring light			
	Dome light			
Supply voltage Vs	24 V ±20 % DC			
- Residual ripple	< 5 V			
- Current consumption	< 450 mA without load			
Switching outputs	(B-type) 24 V			
- No object detected, object detected but fail, object detected and pass				
- Outputs currents I <sub>A</sub>	100 mA/each output			
- Response time	≥ 10 ms			
Trigger out to external light	5 V TTL			
Switching inputs	24 V			
- External trigger				
- Encoder				
- External teach				
- Reference object selection				
Interface	Ethernet			
Ambient temperature	Operation: 0 ... 45° C			
	Storage: -20° C ... 70° C			
Housing material	Aluminium, plastic window			
Enclosure rating	IP 67			
Weight	350 g			
	400 g			
Shock load	single shock 15 g, period 6 ms half sinus			

<sup>1)</sup> Focus up to 1000mm distance possible but external illumination might be needed  
field of view at 1000mm distance is 315 mm x 315 mm<sup>2</sup>

Order information			
Inspector Vision Sensors		Accessories	
Type	Order no.	Type	Order no.
VSPI-1R111	1042779	DOL-1212-G02MA Cable 2 meter, M12	6036555
VSPI-1D111	1044038	DOL-1212-G05MA Cable 5 meter, M12	6036556
		SSL-2J04-G03ME Cable 3 meter, RJ45	6029630
		SSL-2J04-G05ME Cable 5 meter, RJ45	6035389
		SSL-2J04-G10ME Cable 10 meter, RJ45	6030928
		T-coupler 12/12/8P. M12x1	6034950
		Universal arm	2029022
		Inspector Angle bracket	2045167
		Inspector Light/Filter adapter	2045397
		Inspector Universal adapter	2045400

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