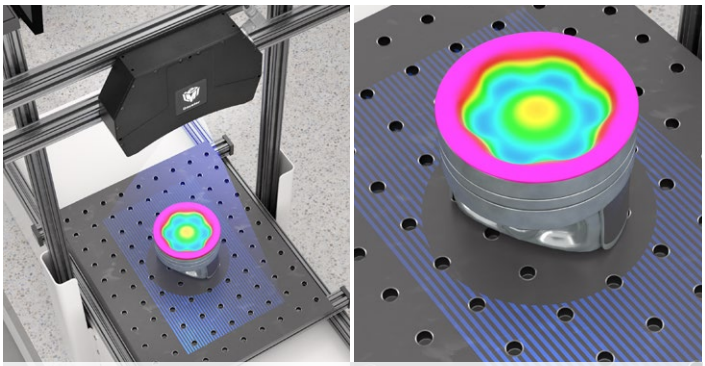
LMI TECHNOLOGIES

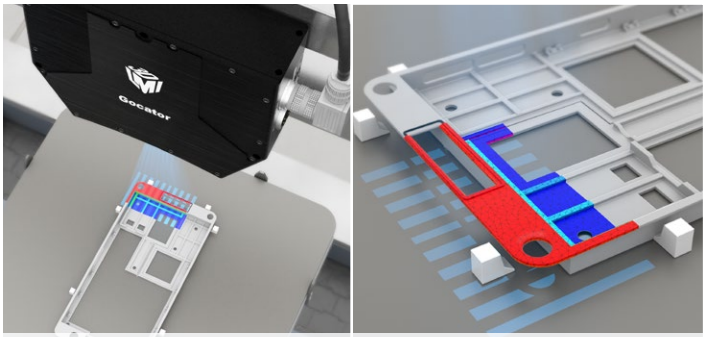
Gocator®

3D SMART SNAPSHOT SENSORS





Piston bowl volume inspection using Gocator 3520



Midplate inspection using Gocator 3506

Gocator 3D snapshot sensors combine blue-LED structured light with built-in 3D measurement tools for high-precision area scanning and inspection. As opposed to lasers that are used to scan moving objects, snapshot sensors use a single snapshot scan to inspect stationary objects or objects with start/stop motion.

- 2 or 5-megapixel stereo camera design
- Fast scan rates (up to 6 Hz with PC or GoMax® acceleration)
- Pre-calibrated, up to 20 microns XY resolution 3D data in a single snapshot
- Up to 282 x 175 mm field of view (FOV)
- Accurate 3D measurement with blue LED structured light projection
- Industrial design for long life

PROFINET® Modbus EtherNet/IP ASCII

EASY ROBOT INTEGRATION

Ideal for inline applications where objects are momentarily stationary such as flexible robotic inspection and pick-and-place, snapshot sensors minimize the cost of expensive motion system components and errors due to vibration.

STEREO CAMERA DESIGN

Stereo cameras capture more data and therefore produce less occlusions. With a single camera, any occlusion caused by surface geometry that blocks projected light or the camera's view will result in no data. Stereo cameras, on the other hand, effectively use three views of the part to capture more data.

BUILT-IN HARDWARE ACCELERATION

In addition to their powerful scanning engines, every Gocator structured light 3D snapshot sensor comes with next-generation dual-core controllers, which significantly increase onboard processing speed to match inline production speed.

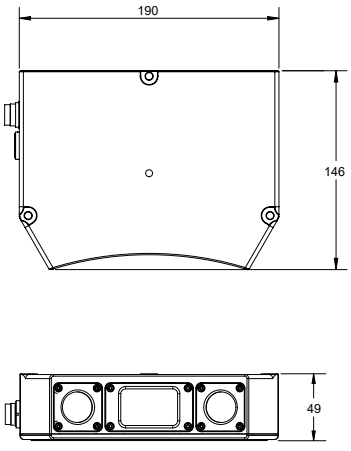
RUGGED INDUSTRIAL DESIGN

Rugged housing, small form factor, and light weight make these sensors ideal for fitting into small spaces and mounting on robots. Gocator snapshot sensors feature an IP67-rated design with an industrial projector offering lifetimes up to 10 years of continuous operation.

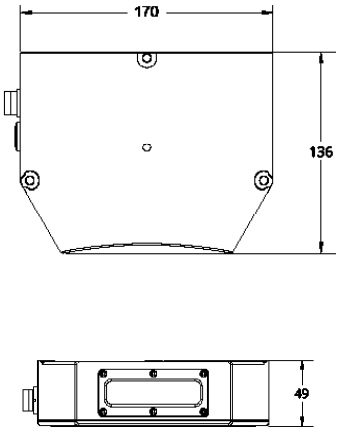
GOCATOR SNAPSHOT SENSORS	3210	3506	3520
Scan Rate (Hz)	4	3	3
Imager Resolution (Megapixels)	2	5	5
Clearance Distance (CD) (mm)	165	87	203
Measurement Range (MR) (mm)	110	25	150
Field of View (FOV) (mm)	71 x 98 - 100 x 154	27 x 45 - 30 x 45	179 x 115 - 282 x 175
Z repeatability (µm)	4.7	2.0	4.6
Resolution XY (µm)	60 - 90	20 - 25	74 - 121
VDE Accuracy (mm)	0.035	0.012[1]	0.090[2] - 0.200[3]
Accuracy XYZ (µm)[4]	N/A	N/A	N/A
Dimensions (mm)	49 x 146 x 190	49 x 136 x 170	55 x 167 x 260
Weight (kg)	1.7	1.52	2.6
Input Voltage	+24 to +48 VDC (50 Watts); Ripple +/- 10%	+24 to +48 VDC (25 Watts); Ripple +/- 10%	48 VDC (50 Watts); Ripple +/- 10%
Operating temperature	0 to 45 °C	0 to 50 °C	0 to 40 °C
Storage Temperature	-30 to 70 °C		
Light Source	Blue LED (465 nm)		
Interface	Gigabit Ethernet		
Inputs	Differential Encoder, Trigger		
Outputs	2x Digital Output, RS485 Serial (115 kbaud)		
Factory Communication	PROFINET, Modbus, EtherNet/IP, ASCII, Gocator		
Housing	Gasketed Aluminium Enclosure, IP67		
Vibration Resistance	10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction		
Shock Resistance	15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions		
SOFTWARE AND BUILT-IN 3D MEASUREMENT TOOLS			
3D Feature Tools	Openings (holes, slots), Cylinders, Studs (threaded and non-threaded), Plane		
3D Volumetric Tools	Volumes, Areas, Bounding boxes, Positions (min, max, centroid), Ellipses, Orientations		
Scanning Software	Browser-based GUI and open source SDK for configuration and real-time 3D visualization. Open source SDK, native drivers, and industrial protocols for integration with user applications, third-party image processing applications, and PLCs.		

[1] Based on 2634, Part 2
[2] VDE within central 100 mm measurement range
[3] VDE within full 150 mm measurement range
[4] Based on sphere-fitting at various positions in the scan volume.

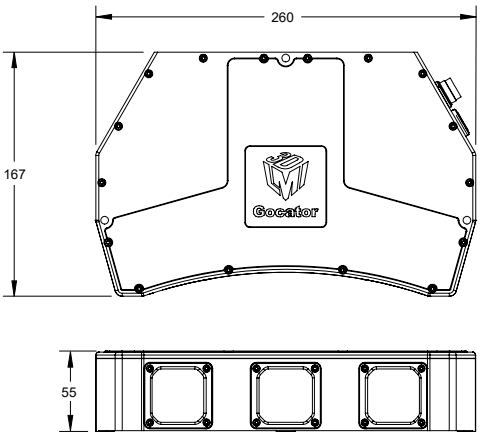
Gocator 3210



Gocator 3506



Gocator 3520



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