

Gocator® 5500 Series

3D SMART LINE CONFOCAL SENSORS



The Gocator® 5500 series adds patented **line confocal imaging** (LCI) technology to the Gocator® family of 3D smart sensors. These line confocal sensors deliver high speed, wide coverage line scanning with simultaneous generation of **3D topography**, **3D tomography**, and **2D intensity** data. This allows Gocator® 5500s to scan practically any material type—including multi-layered, transparent/translucent, curved edge, shiny/specular, high-contrast textured, mixed, and many more—with submicron precision, and at a level of quality and speed that outperforms competing confocal technologies.

- Simultaneous Generation of Multiple Profiles from Multi-Layer Structures
- Generates 1792 Data Points per Profile
- Fast Scan Rates (Over 10 KHz with PC Acceleration)
- Handles Wide Variety of Material Types
- Dual-Axis Optical Design Provides Higher Signal Quality
- Runs LMI's Next Generation Measurement and Inspection Software

DUAL-AXIS OPTICAL DESIGN TO DETECT FINER FEATURES

Gocator 5500 Sensors use a dual-axis optical system that improves noise immunity and provides higher signal quality. This makes it possible to scan difficult surfaces and very fine features.

GENERATES 3D TOMOGRAPHY, 3D TOPOGRAPHY, AND 2D INTENSITY DATA

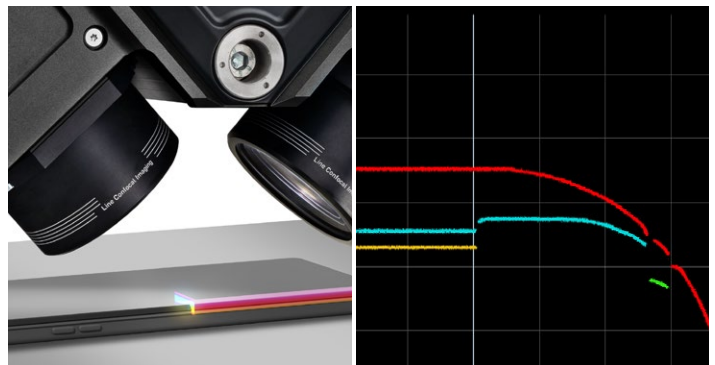
Gocator® 5500 sensors simultaneously generate 3D tomography, 3D topography, and 2D intensity data for each layer of a material, making it possible to measure the thickness of individual layers or detect defects on secondary layers.

HIGH SPEED. HIGH RESOLUTION.

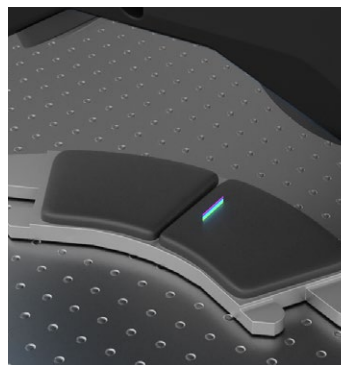
Gocator® 5500 sensors feature a custom high-speed imager and high-performance electronics to deliver metrology-grade inspection at up to 5 kHz, with scaling fields of view, X resolutions up to 2.5 microns, and Z repeatability up to 0.05 microns.

MEASUREMENT AND INSPECTION SOFTWARE INCLUDED

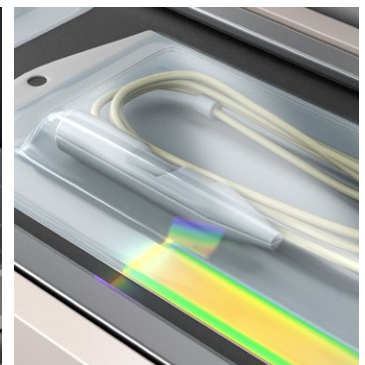
Gocator® 5500 sensors are built on LMI's leading smart sensor design architecture that includes an easy-to-use web-based interface with built-in measurement tools, I/O connectivity, and multi-layer profiling support accelerated using a PC.



Multi-layer phone display inspection and its software output



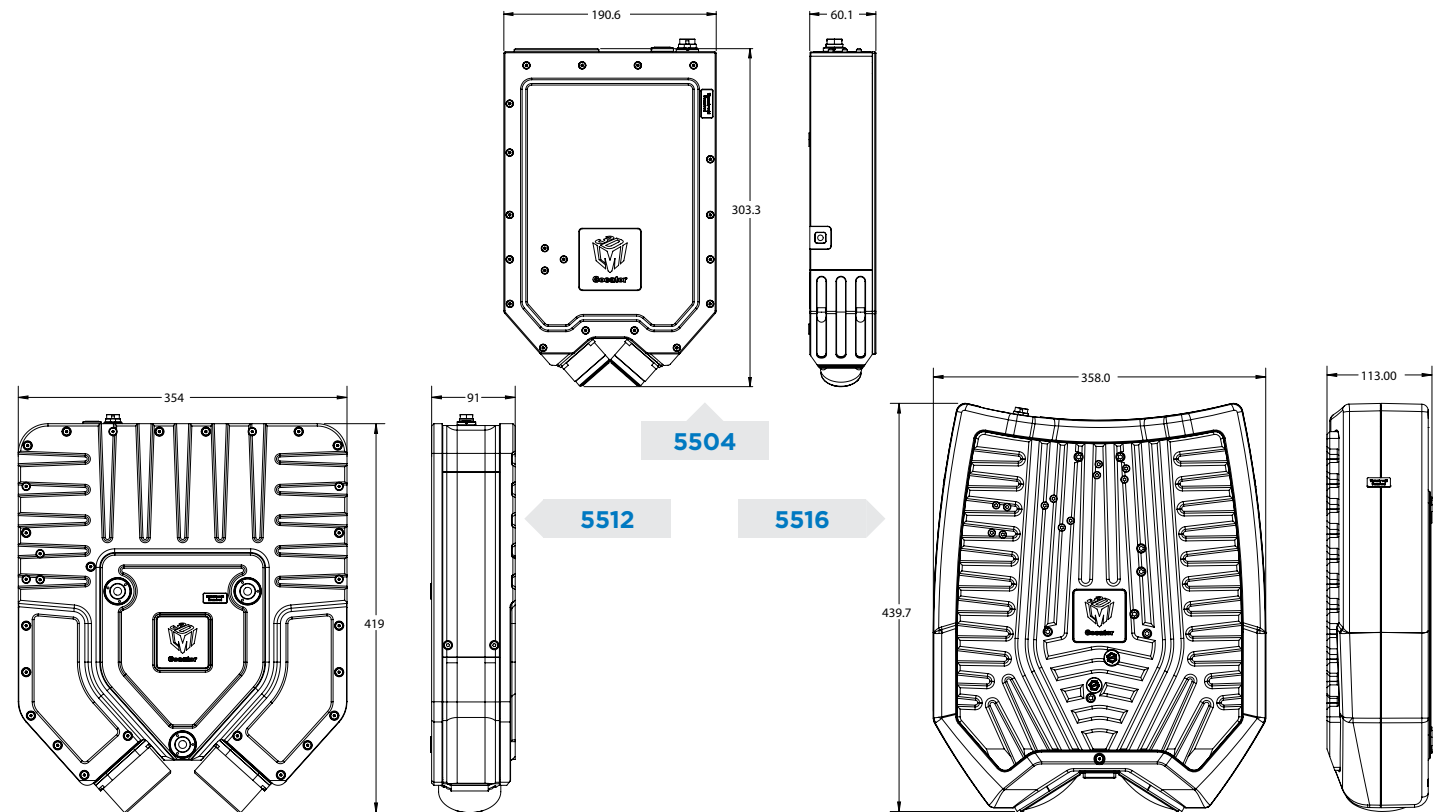
Brake pad roughness inspection



Medical seal integrity inspection

GOCATOR 5500 SERIES MODELS	5504	5512	<i>Coming Soon</i> 5516
Data Points / Profile	1792	1792	1792
Resolution X (µm) (Profile Data Interval)	2.5	6.5	9.9
Repeatability Z (µm)	0.05	0.2	0.25
Clearance Distance (CD) (mm)	7.8	19.1	60.75
Measurement Range (MR) (mm)	1.1	3	5.5
Field of View (FOV) (mm)	4.3	11.6	17.0
Dimensions (mm)	60x190x303	91x345x419	113x358x440
Housing	IP67	IP55	IP50
Weight (kg)	5	19	21

ALL 5500 SERIES MODELS	
Scan Rate	> 10 kHz (when accelerated using PC, without acceleration 300 Hz) (Full MR: G5504 2100 Hz, G5512 4200 Hz, G5516 3800 Hz)
Interface	Gigabit Ethernet
Inputs	Differential / Single Ended Encoder, Trigger
Outputs	2x Digital output
Input Voltage (Power)	Gocator 5512/5516: +24-48 VDC (+/- 5%) @ 62 W, Gocator 5504: +24-48 VDC (+/-5%) @ 48 W
Operating Temperature	15 to 35°C
Storage Temperature	-30 to 70°C
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
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, robots, and PLCs.



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