

# 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 16 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

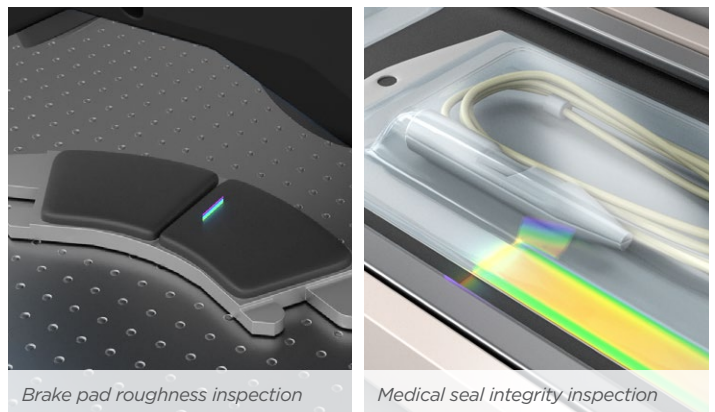
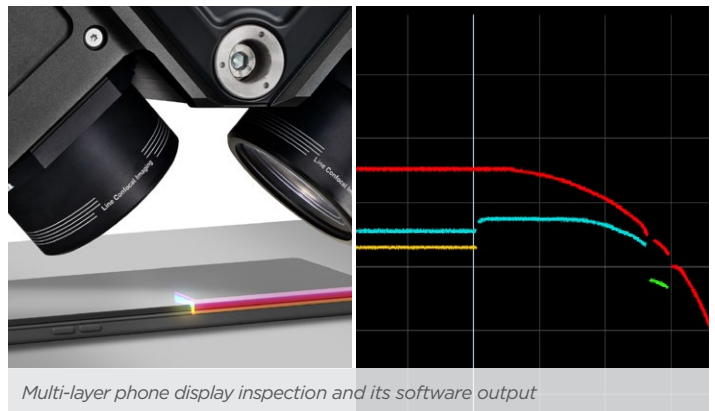
Gocator® 5500 sensors simultaneously generate 3D tomography, 3D topography, and 2D intensity data for each layer of a material, making it possible to measure the thickness of individual layers or detect defects on secondary layers.

### HIGH SPEED. HIGH RESOLUTION.

Gocator® 5500 sensors feature a custom high-speed imager and high-performance electronics to deliver metrology-grade inspection at over 16 kHz with PC acceleration, with scaling fields of view, X resolutions up to 2.5 microns, and Z repeatability up to 0.05 microns.

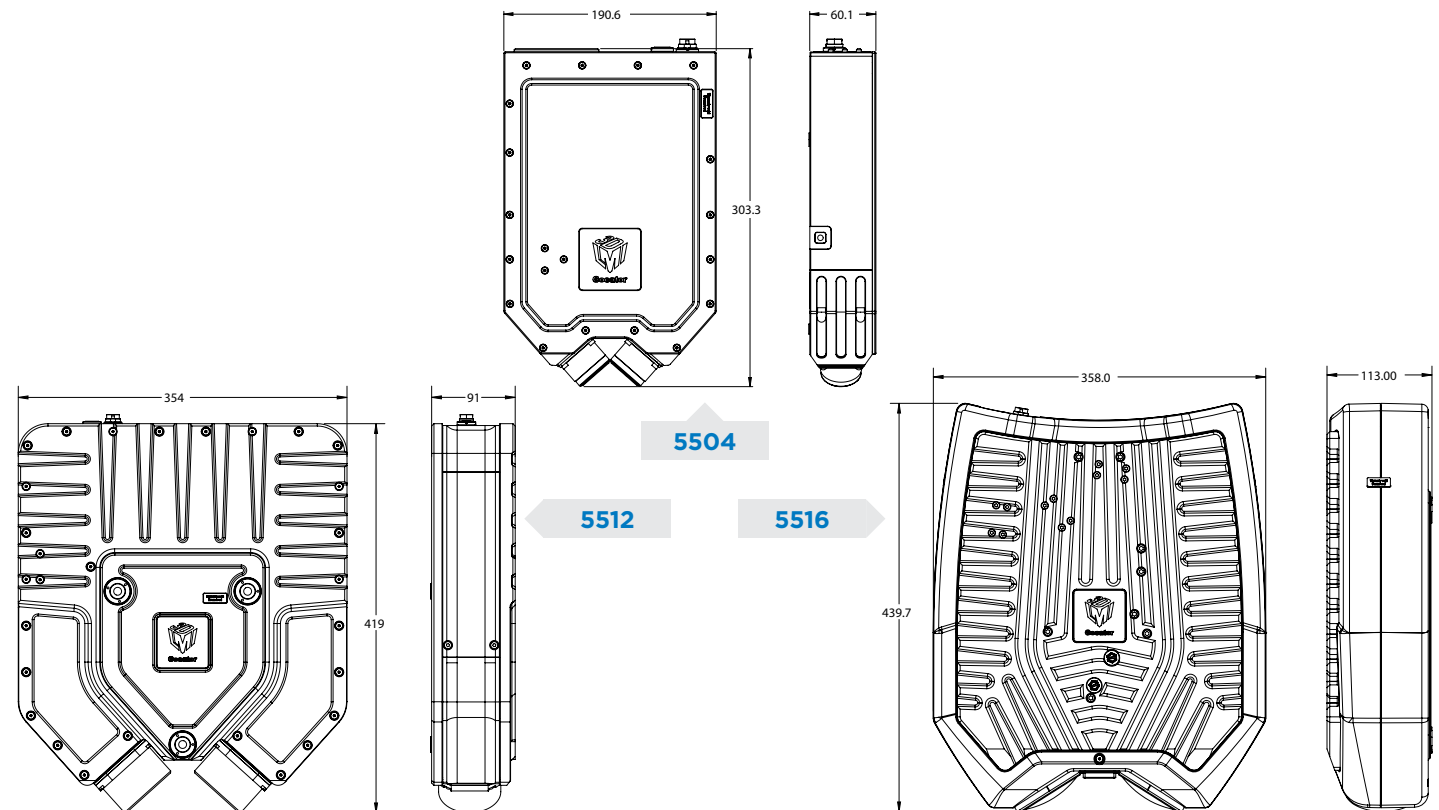
### MEASUREMENT AND INSPECTION SOFTWARE INCLUDED

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.



<b>GOCATOR 5500 SERIES MODELS</b>	<b>5504</b>	<b>5512</b>	<i>Coming Soon</i> <b>5516</b>
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	61.3
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

<b>ALL 5500 SERIES MODELS</b>	
Scan Rate	> 16 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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