LMI TECHNOLOGIES

Gocator® 2500 Series
3D SMART LINE PROFILE SENSORS

BLUE LASER | RED LASER

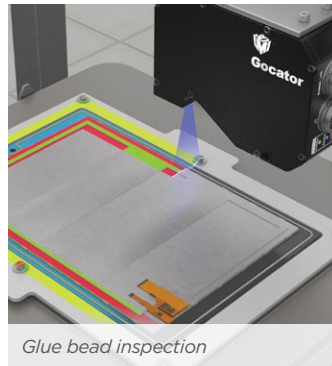Gocator 2500 3D smart sensors are the fastest, most compact, and advanced Gocator laser line profilers to date. Designed for high performance small parts inspection, these line profilers achieve inspection rates up to 20 kHz (including scan, measure, and control) and high X resolutions down to 8 microns. A custom 2MP high speed imager, optimized optical design, and blue laser light generate excellent data with highly repeatable results on shiny and other challenging surfaces.

Phone component & frame inspection

- Pre-calibrated to scan out-of-the-box
- X resolution down to 8µm
- Scan rates up to 20,000 Hz for High-Speed 3D Measurement and Inspection
- Setup & control via web browser or SDK
- Built-in tools, no programming
- Extend with GDK and GoMax
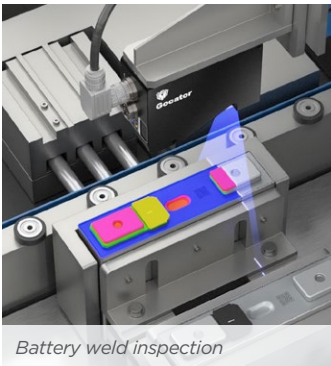
Battery weld inspection

Glue bead inspection

PROFINET Modbus EtherNet/IP ASCII

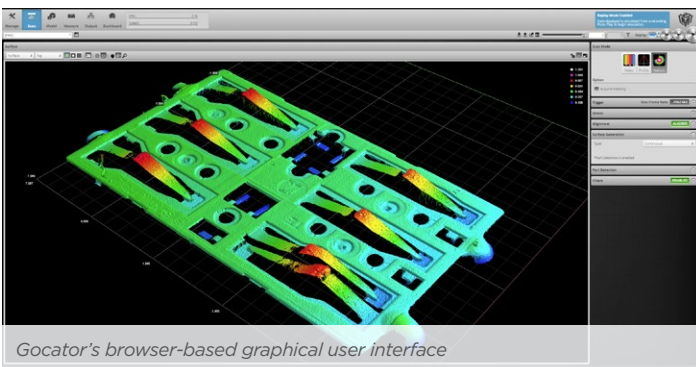*Gocator's browser-based graphical user interface*

INSPECT WITH SPEED AND PRECISION
See and do more with micron resolution and faster scan rates. Take advantage of the higher speed by enabling multiple exposures to measure high-contrast targets at production speed. With an X resolution down to 8 µm, small features such as edges or gaps can be easily measured.

LARGE FIELD OF VIEW AND MEASUREMENT RANGE
Accomplish more with fewer sensors, while still capturing the finest surface and edge details with a large field of view. A large measurement range lets you handle a wider variety of parts.

GOCATOR 2500 SERIES MODELS	2510	2512	2520	2522	2530	2540	2550
Data Points / Profile	1920	1920	1920	1920	1920	1920	1920
Scan Rate (Hz) *	2400 - 20000	2400 - 20000	1600 - 20000	1600 - 20000	2000 - 20000	1700 - 20000	1800 - 20000
Resolution X (µm) (Profile Data Interval)	8.0	8.0	13.0 - 17.0	13.0 - 17.0	28.0 - 54.0	64.0 - 160.0	80.0 - 270.0
Linearity Z (+/- % of MR) **	0.015	0.015	0.006	0.006	0.01	0.05	0.06
Repeatability Z (µm) **	0.2	0.2	0.4	0.4	0.5	1.2	2.0
Clearance Distance (CD) (mm)	17.0	17.0	47.5	17.75	40	152	216
Measurement Range (MR) (mm)	6	6	25	25	80	295	595
Field of View (FOV) (mm)	13.0 - 14.5 (diffuse)	13.0 - 14.5 (diffuse & specular)	25.0 - 32.5 (diffuse)	25.0 - 32.5 (diffuse) 25.0 (specular)	48.0 - 100.0 (diffuse)	120.0 - 292.0 (diffuse)	154.0 - 518.0 (diffuse)
Laser Class	2 (blue, 405 nm)	2 (blue, 405 nm)	2, 3B (blue, 405 nm)	2 (blue, 405 nm)	2, 3R (blue, 405 nm)	2, 3R, 3B (red, 660 nm; blue, 405 nm)	2, 3R, 3B (red, 660 nm; blue, 405 nm)
Dimensions (mm)	46 x 80 x 110	46 x 80 x 110	46 x 80 x 110	46 x 110 x 110	46 x 80 x 110	55 x 105 x 195	55 x 105 x 195
Protective Cover ***	-	-	-	-	-	●	●
Weight (kg)	0.65	0.65	0.65	0.65	0.65	1.48	1.48

ALL 2500 SERIES MODELS		
Interface	Gigabit Ethernet	
Inputs	Differential Encoder, Laser Safety Enable, Trigger	
Outputs	2x Digital output, RS-485 Serial (115 kBaud)	
Factory Communication	PROFINET, Modbus, EtherNet/IP, ASCII, Gocator	
Input Voltage (Power)	+24 to +48 VDC (15 Watts); Ripple +/- 10%	* **Speed Ranges** are from default configuration (full field-of-view and full measurement range) to high speed configuration (reduced field-of-view and measurement range, uniform spacing disabled, optimized data spacing and output, acceleration enabled).
Housing	Gasketed aluminum enclosure, IP67	
Operating Temperature	0 to 40°C	** These results are achieved with LMI standard target and optimized sensor configuration.
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	*** **Protective Covers** are now available for specific G2 sensor models. The cover protects the sensor's camera and laser windows from scratching caused by dust, debris, and cleaning.
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.	

2510/2512/2520/2522/2530

(Z)
(X)

72
80
37.75
110
46

specular 'nose' on 2522 only
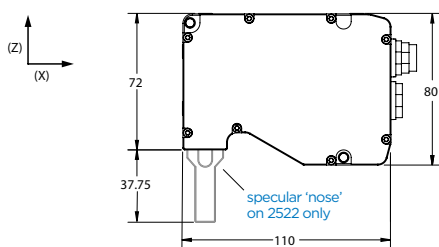
Mounting positions are identical for all models

2540/2550

105
195
55