LMI TECHNOLOGIES

Gocator® 2500 Series

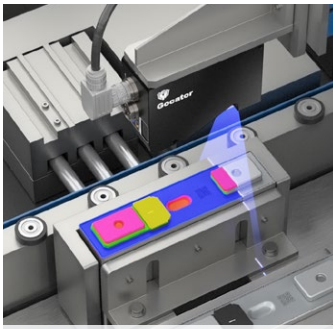
3D SMART LINE PROFILE SENSORS



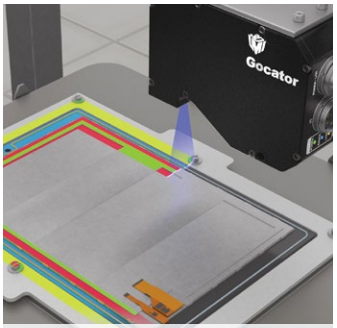
BLUE LASER



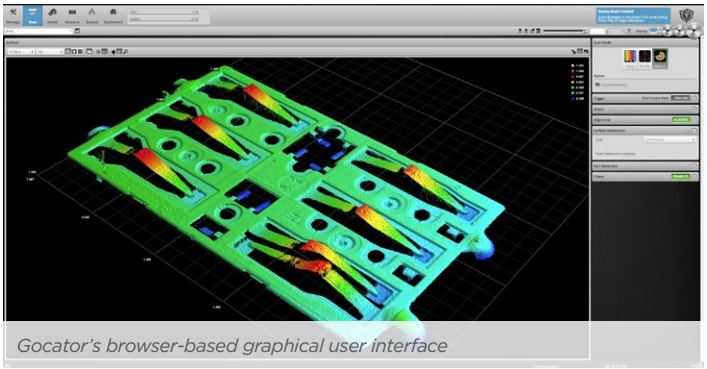
Phone component & frame inspection



Battery weld inspection



Glue bead inspection



Gocator's browser-based graphical user interface

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 10 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.

- **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**

PROFINET® Modbus EtherNet/IP ASCII

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) [1]	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) [2]	0.015	0.015	0.006	0.006	0.01	0.05	0.06
Repeatability Z (µm) [2]	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 (blue, 405 nm)	2 (blue, 405 nm)	2 (blue, 405 nm)	2, 3R, 3B (blue 405 nm)	2, 3R, 3B (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 [3]	-	-	-	-	-	●	●
Weight (kg)	0.65	0.65	0.65	0.65	0.65	1.48	1.48

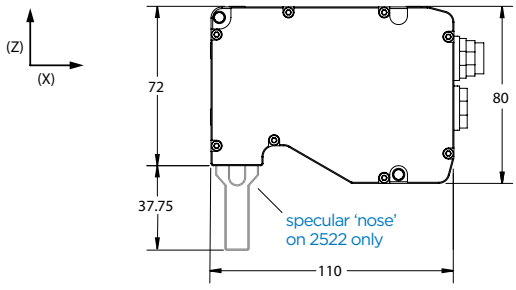
ALL 2500 SERIES MODELS	
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud)
Factory Communication	PROFINET, Modbus, EtherNet/IP, ASCII, Gocator
Input Voltage (Power)	+24 to +48 VDC (15 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 40°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.

[1] **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).

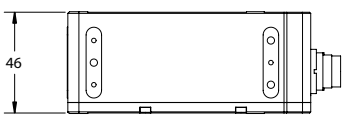
[2] These results are achieved with LMI standard target and optimized sensor configuration.

[3] **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.

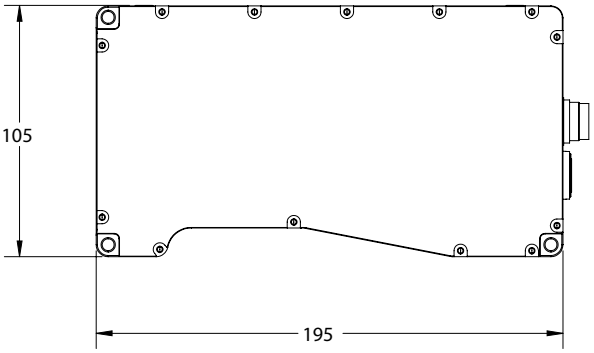
2510/2512/2520/2522/2530

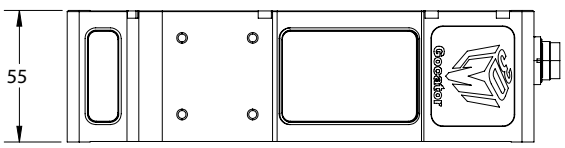


**Mounting positions are identical for all models*



2540/2550





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