LMI TECHNOLOGIES

Gocator® 2500 Series
3D SMART LINE PROFILE SENSORS

- Pre-calibrated to scan out-of-the-box
- X resolution down to 8μm
- Ultra high-speed 3D scanning, measurement, and inspection
- Setup & control via web browser or SDK
- Built-in tools, no programming
- Extend with GDK and GoMax

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 blazing fast inspection rates at high X resolutions. 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.

BLUE LASER

### 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.

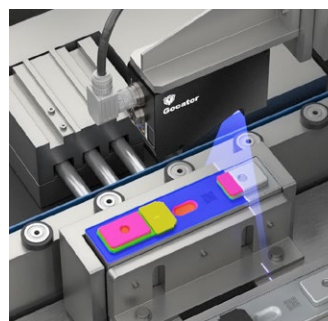### LARGE FIELD OF VIEW AND MEASUREMENT RANGE
Accomplish more with fewer sensors, while still capturing the finest surface and edge details with a large field of view. A large measurement range lets you handle a wider variety of parts.
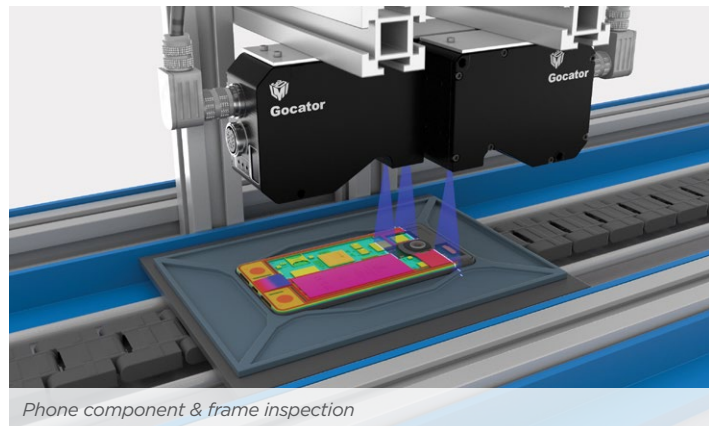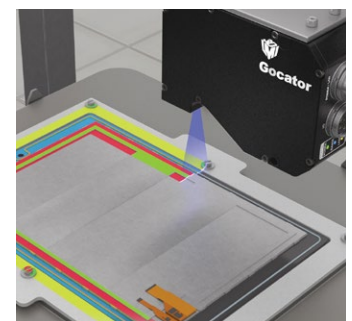
Phone component & frame inspection
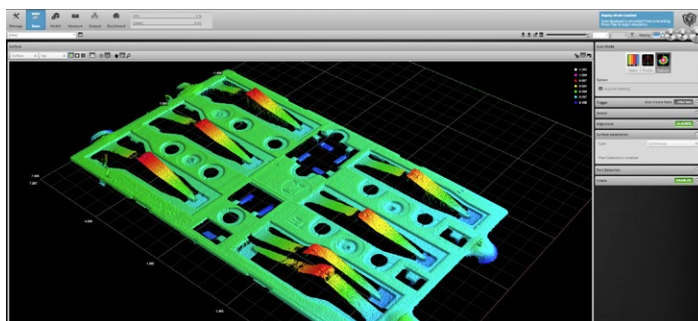
Gocator's browser-based graphical user interface
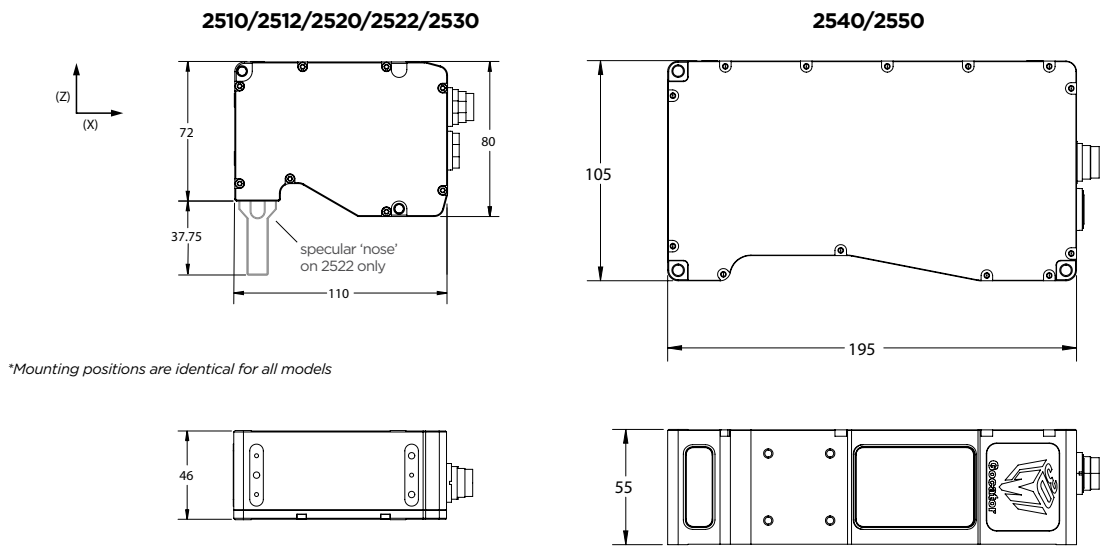
Battery weld inspection

Glue bead inspection

GOCATOR 2500 SERIES MODELS	2510	2512	2520	2522	2530	2540	2550
Data Points / Profile	1920	1920	1920	1920	1920	1920	1920
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 (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
Weight (kg)	0.65	0.65	0.65	0.65	0.65	1.48	1.48
SCAN RATES							
Full measurement range and field of view (kHz)	2.3	2.3	1.7	1.7	2	1.7	1.8
1/2 Z Sub-sampling (kHz)	4.4	4.5	3.2	3.2	3.9	3.2	3.4
1/10 MR (kHz)	10.7	11.5	10.6	10.6	10	11	7.3
1/10 MR and 1/2 FOV (kHz)	19.6	21.3	20.4	20.4	19.3	20.8	14

ALL 2500 SERIES MODELS	
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud)
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.

2510/2512/2520/2522/2530

2540/2550

*Mounting positions are identical for all models

DATASHEET_Gocator_2500_Series_US-2.0