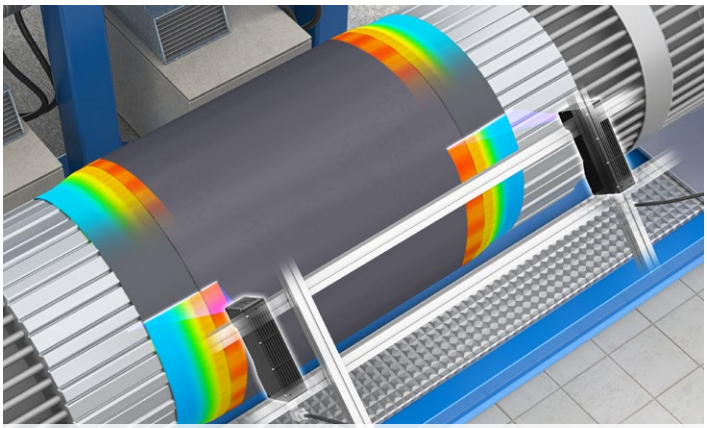
LMI TECHNOLOGIES

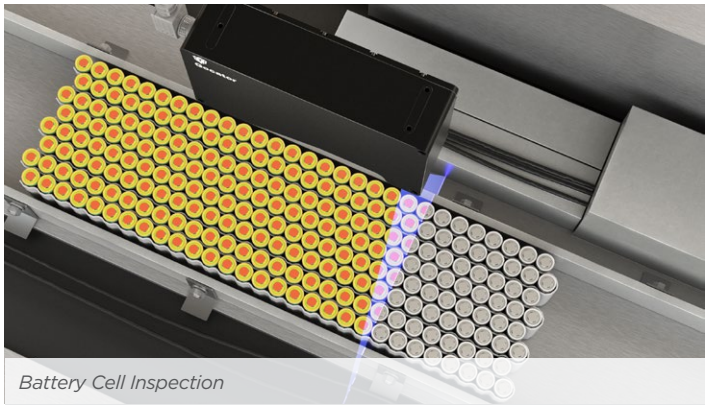
Gocator® 2540/2550

3D SMART LINE PROFILE SENSORS

BLUE
LASER



Rubber Strip Guidance



Battery Cell Inspection

Gocator 2540/50 laser line profilers deliver the 2500 series' signature blazing fast scan rates, with the added advantage of wide fields of view for greater scan coverage.
Deploy these compact smart sensors in your production line for high-speed 3D measurement and inspection of a variety of manufactured materials including shiny machined-metal EV battery and consumer electronic assemblies, various web materials, hot-rolled rail track steel, as well as low contrast materials such as black rubber tires.

- **Up to 10 000 Profiles per Second Including 3D Measurement**
- **Up to 518 mm Field of View**
- **Up to 0.064 mm X Resolution**
- **Up to 1.2 Microns Z Repeatability**
- **Setup & Control via Web Browser or SDK**
- **On-board Tools, no Programming Required**
- **Native Multi-Sensor Networking**
- **Extend with GDK and GoMax NX**

PROFINET® Modbus EtherNet/IP™ ASCII

HIGH SPEED INSPECTION WITH INCREASED SCAN COVERAGE

The combination of fast scan rate and wide FOV addresses a number of high-speed, larger-scale industrial inspection applications. These include scanning EV battery assemblies (i.e., module and pack); 3D road and rail profiling at 10 kHz; surface defect detection on web materials up to 60" wide traveling at line speeds up to 500 ft/min; dimensional measurement and surface defect detection on wide-conveyor food production lines; and rubber and tire manufacturing applications such as tire sidewall scanning, extrusion profiling, strip guidance, and tire marking.

EXCELLENT DATA QUALITY ON SHINY SURFACES

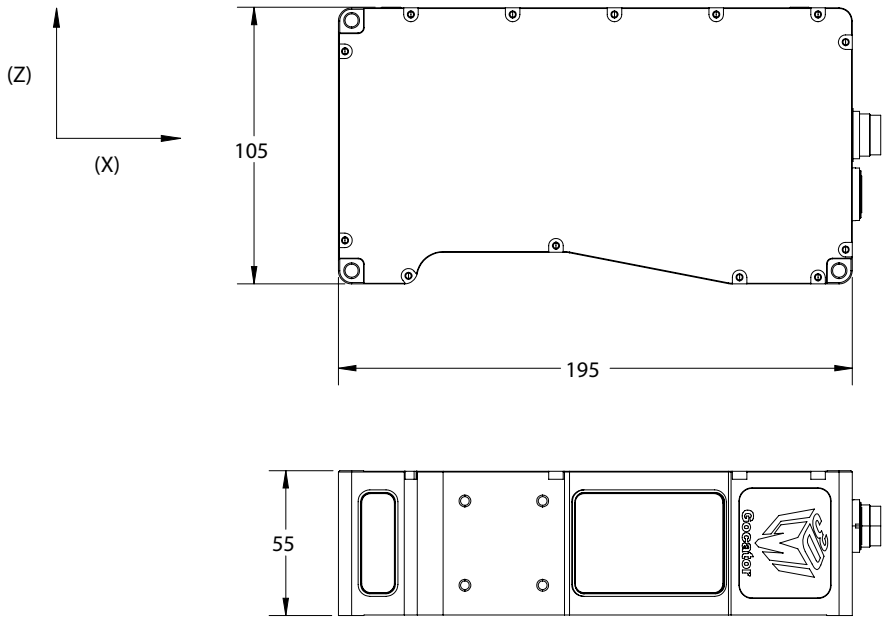
Due to its shorter wavelength, blue laser generates "cleaner" profiles (i.e., less laser speckle) on shiny surfaces and achieves greater measurement accuracy as a result. For example in rail profiling applications, this allows Gocator® 2550 to deliver high quality, 3D data of the railhead in full sunlight and even generate complete profiles when the track ballast is wet.

GOCATOR 2500 SERIES MODELS	2540	2550
Data Points / Profile	1920	1920
Scan Rate (kHz)	1.7	1.8
Resolution X (µm) (Profile Data Interval)	64.0 - 160.0	80.0 - 270.0
Linearity Z (+/- % of MR)	0.05	0.06
Repeatability Z (µm)	1.2	2.0
Clearance Distance (CD) (mm)	152	216
Measurement Range (MR) (mm)	295	595
Field of View (FOV) (mm)	120.0 - 292.0 (diffuse)	154.0 - 518.0 (diffuse)
Laser Class	2, 3R, 3B (blue 405 nm)	2, 3R, 3B (blue 405 nm)
Dimensions (mm)	55 x 105 x 195	55 x 105 x 195
Protective Cover [1]	●	●
Weight (kg)	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] **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.

2540/2550



LMI Technologies has sales offices and distributors worldwide. All contact information is listed at lmi3D.com/contact