LMI TECHNOLOGIES

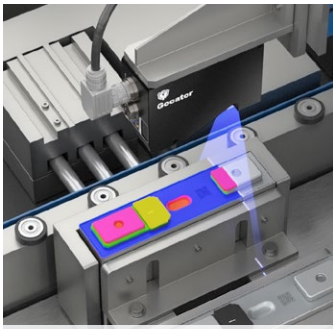
# Gocator® 2500 Series

## 3D SMART LINE PROFILE SENSORS

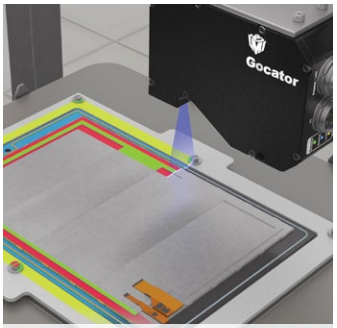
**BLUE** LASER

*Phone component & frame inspection*

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.



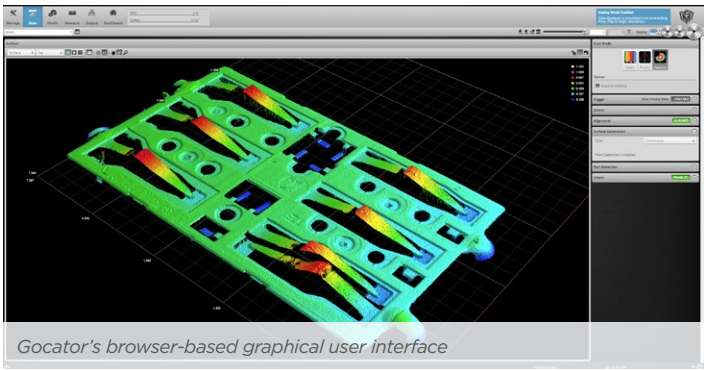
*Battery weld inspection*




*Glue bead inspection*

- **Pre-calibrated to scan out-of-the-box**
- **X resolution down to 8µm**
- **10,000 profiles per second including 3D measurement**
- **Setup & control via web browser or SDK**
- **Built-in tools, no programming**
- **Extend with GDK and GoMax**

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

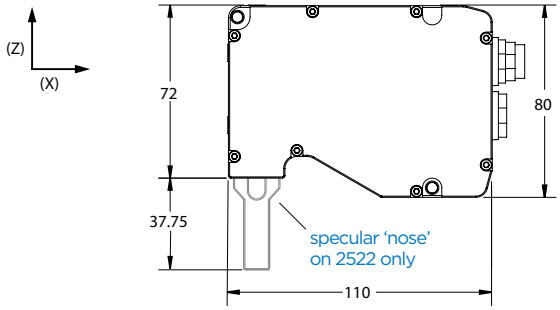
Accomplish more with fewer sensors, while still capturing the finest surface and edge details with a large field of view. A large measurement range lets you handle a wider variety of parts.

| GOCATOR 2500 SERIES MODELS | 2510 | 2512 | 2520 | 2522 | 2530 | 2540 | 2550 |
|---|---|---|---|---|---|---|---|
| Data Points / Profile | 1920 | 1920 | 1920 | 1920 | 1920 | 1920 | 1920 |
| Scan Rate (kHz) | 2.4 | 2.4 | 1.6 | 1.6 | 2.0 | 1.7 | 1.8 |
| 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 |
| Protective Cover [1] | - | - | - | - | - | ● | ● |
| Weight (kg) | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 1.48 | 1.48 |

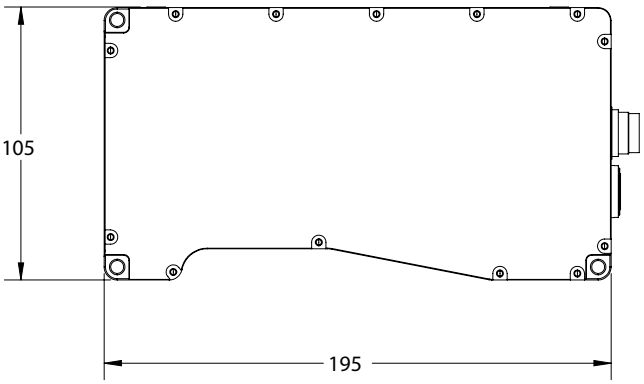
| ALL 2500 SERIES MODELS | |
|---|---|
| Interface | Gigabit Ethernet |
| Inputs | Differential Encoder, Laser Safety Enable, Trigger |
| Outputs | 2x Digital output, RS-485 Serial (115 kBaud) |
| Factory Communication | PROFINET, Modbus, EtherNet/IP, ASCII, Gocator |
| Input Voltage (Power) | +24 to +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] **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.

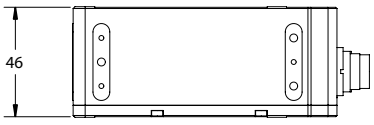
## 2510/2512/2520/2522/2530

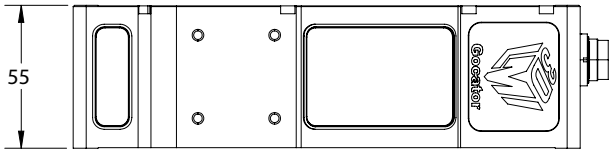



## 2540/2550




**Mounting positions are identical for all models*

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