

### **3D LASER LINE PROFILERS**

### **Advancing Quality and Productivity** With 3D SensorTechnology

Polyga as the official distibutor of LMI Technologies accross Western Canada brings together the all-in-one 3D smart sensors trusted worldwide for automated inline inspection.

Gocator combines 3D scanning, measurement and control in a single device, with no external PCs or controllers required. This efficient design paired with high-performance functionality makes Gocator easy to integrate into existing inspection systems-minimizing system cost and maximizing product quality and throughout.





#### **Gocator 1300 Series**

High-speed (32 kHz) Point Profilers for Dimensional Measurements

- Unique built-in part detection and profile
- Ideal for closed loop control or measuring high speed processes

# **Specifications**

	1320	1340	1350	1365	1370	1380	1390	
Clearance Distance (CD) (mm)	40	165.5	200	562	237.5	127	500	
deasurement Range (MR) mm)	20	95	200	375	412.5	1651	2000	
inearity Z (+/- % of MR)	0.05	0.05	0.05	0.012	0.07	0.18	0.1	
inearity Z (+/- mm)	0.01	0.05	0.01	0.4	0.3	3.0	2.0	
Spot Size (mm)	0.11	0.37	0.50	1.80	0.90	2.60	2.60	
Recommended Package Dimensions (mm)	Side Mount (3R) 30x120x149	Side Mount 30x120x149	Side Mount 30x120x149	Side Mount 30x120x220	Side Mount (3B) 30x120x149	Side Mount (3B) 30x120x149	Side Mount 30x120x277	
Other Package Dimensions (mm)	Top Mount (3B) 49x75x162		Top Mount 49x75x162		Top Mount (2M) 49x75x162			
Weight (kg)	0.75 / 0.8	0.75	0.75 / 0.8	1.0	0.75 / 0.8	0.75	1.25	
Scan Rate	32,000							
nterface	Gigabit Ethernet							
nputs	Differential Encoder, Laser Safety Enable, Trigger							
Outputs		2x	Digital output, RS-485 S	erial (115 kBaud), 1x Ana	ilog Output (4 - 20 mA)			
nput Voltage (Power)			+24 to +48	VDC (13 Watts); Ripple +	-/- 10%			
lousing			Gaskete	d aluminum enclosure, I	P67			
Operating Temperature	0 to 50°C							
Storage Temperature				-30 to 70°C				
ibration Resistance		10 to	55 Hz, 1.5 mm double amp	olitude in X, Y, and Z direct	ions, 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, and PLCs.							



#### **Gocator 2100 Series**

Low Cost, Entry-Level Line Profilers for Basic Inline 3D Inspection

- Handles all of your basic quality inspection needsVGA imager, 640 points per profile resolution
- Field of view up to 1260 mm
- Measurement range up to 800 mm

## **Specifications**

	2120	2130	2140	2150	2170	2175	2180
Data Points / Profile	640	640	640	640	640	640	1280
Linearity Z (+/- % of MR)	0.01	0.01	0.01	0.01	0.04	0.03	0.04
Resolution X (mm) (Profile Data Interval)	0.028 - 0.042	0.088 - 0.150	0.19 - 0.34	0.3 - 0.6	0.55 - 1.10	0.51 - 1.58	0.75 - 2.20
Repeatability Z (µm)	0.4	0.8	1.2	2	8	12	12
Clearance Distance (CD) (mm)	40	9	190	300	400	650	350
Measurement Range (MR) (mm)	25	80	210	400	500	1350	800
Field of View (FOV) (mm)	18 - 26	47 - 85	96 - 194	158 - 365	308 - 687	324 - 1010	390 - 1260
Dimensions (mm)	Side Mount 35x120x149.5	Top Mount 49x75x142	Top Mount 49x75x197	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272
Weight (kg)	0.8	0.74	0.94	1.3	1.3	1.3	1.3

Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Linearity Z, Resolution Z, and Repeatability Z may vary for other laser classes.

ALL 2100 SERIES MODELS	
Scan Rate	Approximately 170 Hz to 5000 Hz
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°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, and PLCs.



#### **Gocator 2300 Series**

Workhorse Line Profilers for Robust Inline 3D Inspection

- Handles a wide range of applications
- Megapixel imager, 1280 points per profile resolution
- Field of view up to 1260 mm
- Measurement range up to 800 mm

# **Specifications**

	2320	2330	2340	2350	2370	2375	2380
Data Points / Profile	1280	1280	1280	1280	1280	1280	1280
Linearity Z (+/- % of MR)	0.01	0.01	0.01	0.01	0.04	0.03	0.04
Resolution X (mm) (Profile Data Interval)	0.044-0.075	0.044 - 0.075	0.095 - 0.170	0.150 - 0.300	0.275 - 0.550	0.255 - 0.790	0.375 - 1.100
Repeatability Z (μm)	0.4	0.8	1.2	2	8	12	12
Clearance Distance (CD) (mm)	40	9	190	300	400	650	350
Measurement Range (MR) (mm)	25	80	210	400	500	1350	800
Field of View (FOV) (mm)	18 - 26	47 - 85	96 - 194	158 - 365	308 - 687	324 - 1010	390 - 1260
Dimensions (mm)	Side Mount 35x120x149.5	Top Mount 49x75x142	Top Mount 49x75x197	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272	Top Mount 49x75x272
Weight (kg)	0.8	0.74	0.94	1.3	1.3	1.3	1.3

Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Linearity Z, Resolution Z, and Repeatability Z may vary for other laser classes.

ALL 2300 SERIES MODELS	
Scan Rate	Approximately 170 Hz to 5000 Hz
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°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, and PLCs.



#### **Gocator 2400 Series**

Ultra High-Resolution Line Profilers for Advanced Inline 3D Inspection

- Handles difficult targets such as micro-features on small parts in high-speed applications
- 2-Megapixel imager, up to 1940 points per profile resolution
- Field of view up to 2000 mm
- Measurement range up to 1525 mm

# **Specifications**

	2410	2420	2430	2440	2450	2490
Data Points / Profile	1710	1940	1500	1500	1800	1920
inearity Z (+/- % of MR)	0.015	0.006	0.01	0.01	0.04	0.04
Resolution X (mm) (Profile Data Interval)	5.8 - 6.2	14.0 - 16.5	37 - 57	90 - 130	100 - 255	250 - 1100
Repeatability Z (μm)	0.2	0.4	0.8	1.2	2	12
Clearance Distance (CD) (mm)	19	60	75	183	270	350
Measurement Range (MR) (mm)	6	25	80	210	550	1525
Field of View (FOV) (mm)	10 - 10	27 - 32	47 - 85	96 - 194	145 - 425	390 - 2000
Dimensions (mm)	44x90x145	44x90x145	44x90x155	44x90x190	44x90x240	49x85x272
Weight (kg)	0.88	0.88	1.0	1.2	1.2	1.5

Optical models, laser classes, and packages can be customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Linearity Z, Resolution Z, and Repeatability Z may vary for other laser classes.

ALL 2400 SERIES MODELS	
Scan Rate	200 Hz, up to 5 kHz. (Note: 2400 series provides up to 2x scan rate for equivalent window size as 2300 series)
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts): Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°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, and PLCs.



#### **Gocator 2500 Series**

Ultra High-Speed Line Profilers for Small Parts 3D Inspection

- Ideal for fast-moving inline inspection systems
- 2-Megapixel imager. Up to 1920 points per profile
- $\bullet$  Scan, measurement, and control at up to 10 kHz
- Field-of-view up to 100 mm
- Measurement range up to 80 mm

# **Specifications**

<b>2510</b>	2512	2520	2522	2530	
1920					
	1920	1920	1920	1920	
2.4	2.4	1.6	1.6	2.0	
0.015	0.015	0.006	0.006	0.01	
8.0	8.0	13.0 - 17.0	13.0 - 17.0	28.0 - 54.0	
0.2	0.2	0.4	0.4	0.5	
17.0	17.0	47.5	17.75	40.0	
6	80	210	400	500	
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)	
46x80x110	46x80x110	46x80x110	46x110x110	46x80x110	
0.65	0.65	0.65	0.65	0.65	
kages can be customized.	Contact LMI for more details. Specificat	tions stated are based on standard	d laser classes. Linearity Z, Resolution	Z, and Repeatability Z may val	
		Gigabit Ethernet			
Differential Encoder, Laser Safety Enable, Trigger					
2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)					
	+24 t	to +48 VDC (13 Watts); Ripple +/	·- 10%		
	G	asketed aluminum enclosure, IP	r67		
0 to 50°C					
-30 to 70°C					
10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z directions, 2 hours per direction					
15 g, half sine wave, 11 ms, positive and negative for X, Y, and Z directions					
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 use applications, third-party image processing applications, and PLCs.					
	8.0  0.2  17.0  6  13.0 - 14.5 (diffuse)  46x80x110  0.65  kages can be customized.	8.0 8.0  0.2 0.2  17.0 17.0  6 80  13.0 - 14.5 (diffuse) 13.0 - 14.5 (diffuse & specular)  46x80x110 46x80x110  0.65 0.65  kages can be customized. Contact LMI for more details. Specifical  Differe  2x Digital output. RS  +241  G:  10 to 55 Hz, 1.5 mm dou  15 g, half sine wave	8.0 8.0 13.0 - 17.0  0.2 0.2 0.4  17.0 17.0 47.5  6 80 210  13.0 - 14.5 (diffuse) 13.0 - 14.5 (diffuse & specular) 25.0 - 32.5 (diffuse)  46x80x110 46x80x110 46x80x110  0.65 0.65 0.65  kages can be customized. Contact LMI for more details. Specifications stated are based on standard Differential Encoder, Laser Safety Enable,  2x Digital output, RS-485 Serial (115 kBaud), 1x Anald +24 to +48 VDC (13 Watts); Ripple +/  Gasketed aluminum enclosure, IF  0 to 50°C  -30 to 70°C  10 to 55 Hz, 1.5 mm double amplitude in X, Y, and Z direction of the specification of the specific	8.0 8.0 13.0 - 17.0 13.0 - 17.0  0.2 0.2 0.2 0.4 0.4  17.0 17.0 47.5 17.75  6 80 210 400  13.0 - 14.5 (diffuse) 13.0 - 14.5 (diffuse & specular) 25.0 - 32.5 (diffuse) 25.0 (specular)  46x80x110 46x80x110 46x80x110 46x80x110 46x110x110  0.65 0.65 0.65 0.65 0.65  0.65 0.65  Compared to the customized. Contact LMI for more details. Specifications stated are based on standard laser classes. Linearity Z. Resolution  Gigabit Ethernet  Differential Encoder, Laser Safety Enable, Trigger  2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)  +24 to +48 VDC (13 Watts); Ripple +/- 10%  Gasketed aluminum enclosure, IP67  0 to 50°C  -30 to 70°C  10 to 55 Hz, 1.5 mm double amplitude in X. Y. and Z directions, 2 hours per direction  15 g. half sine wave, 11 ms, positive and negative for X. Y. and Z directions	



#### Gocator 2800

Dual Triangulation Line Profilers for 3D Inspection of Large Objects

- Two cameras maximize scan coverage and minimize occlusions for applications such as primary log scanning
- Megapixel imager, 1280 points per profile resolution
- Field of view up to 1260 mm
- Measurement range up to 800 mm

## **Specifications**

Data Points / Profile	1280
Linearity Z (+/- % of MR)	0.04
Resolution X (mm) (Profile Data Interval)	0.375 - 1.100
Clearance Distance (CD) (mm	350
Measurement Range (MR) (mm)	800
Field of View (FOV) (mm)	390 - 1260
Dimensions (mm)	49x75x498
Weight (kg)	2.56
Scan Rate	380 Hz - 2500 Hz
Interface	Gigabit Ethernet
Inputs	Differential Encoder, Laser Safety Enable, Trigger
Outputs	2x Digital output, RS-485 Serial (115 kBaud), 1x Analog Output (4 - 20 mA)
Input Voltage (Power)	+24 to +48 VDC (13 Watts); Ripple +/- 10%
Housing	Gasketed aluminum enclosure, IP67
Operating Temperature	0 to 50°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, and PLCs.