3. STARTING THE SENSOR

NOTE: The Gocator sensor must be connected to a host computer in order to launch the user interface and set up the sensor.

Gocator sensors are configured by connecting with a web browser. For details on browser compatibility, see the user manual.

A. LAUNCHING THE INTERFACE

Step 1
Apply power to the sensor.

Step 2
Change network setting on the *host computer*.

In Windows 10
a. From the Start menu, launch the Settings app and click **Network & Internet**, and then click **Change adapter options** under Advanced network settings..
b. Right-click desired network connection, and then click **Properties**.
c. On the Networking tab, click **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
d. Select "Use the following IP address" option.
e. Enter IP Address "192.168.1.5" and Subnet Mask "255.255.255.0", then click **OK**.

In Mac OS 11
a. Click Apple menu > **System Preferences**, and then click **Network**.
b. In the list to the left, select **Ethernet**.
c. Click **Advanced**, click **Hardware**, click the **Configure** pop-up menu, and set it to "Manually".
d. Enter IP Address "192.168.1.5" and Subnet Mask "255.255.255.0", and then click **Apply**.

Gocators are shipped with the following default network configuration:

| Setting	Default
DCHP	Disabled
IP Address	192.168.1.10
Subnet Mask	255.255.255.0
Gateway	0.0.0.0

Step 3
Apply power to the sensor.

Step 4
Open a web browser and enter the sensor address.
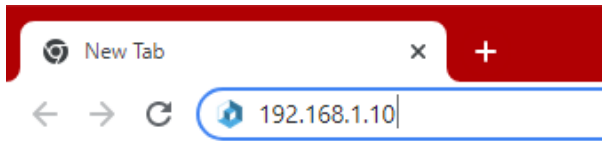
The sensor interface loads in the browser.

B. TESTING SENSOR

Step 1
In the global toolbar, click the **Start scanning** button.

Step 2
Place a target in the sensor's scan area.

Step 3
In the data viewer, ensure that you see one or more profiles (target-dependent).
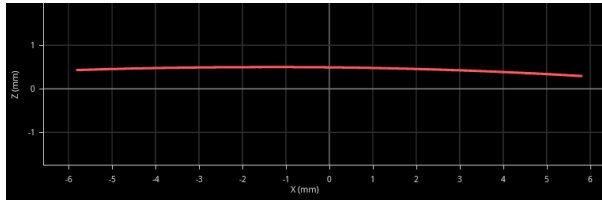
Although you can now start configuring the sensor and scanning targets for test purposes, LMI strongly recommends running Gocator 4000 sensors using a PC instance of the software (GoPxL). See Running the Sensor on PC, next.
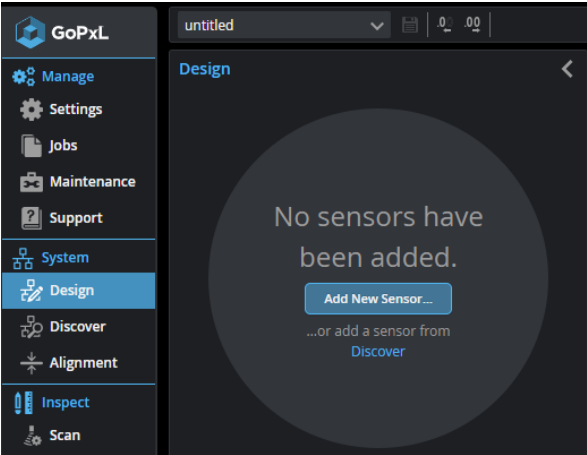
C. RUNNING THE SENSOR ON PC

Step 1
On the PC connected to the sensor, download and unzip the GoPxL User Tools package.

The version of the package must match the version of GoPxL on the sensor.

Step 2
From the GoPxl_UserTools folder, launch "GoPxL x64".

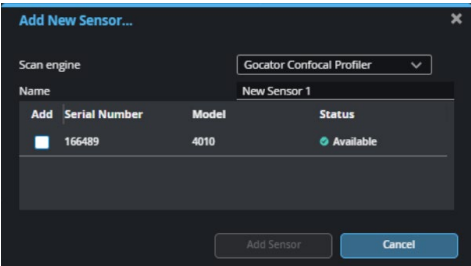A local, PC-based instance of GoPxL launches in a new tab of your default browser, using IP address 127.0.0.1.

Step 3
In the browser, go to the Design panel on the System page and click **Add New Sensor...**

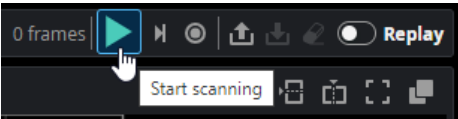### Step 4
In the Add New Sensor dialog, choose Gocator Confocal Profiler in **Scan engine**, check the Add checkbox next to the sensor in the table, and click **Add Sensor**.

The sensor is now running through the PC instance of GoPxL.

Step 5
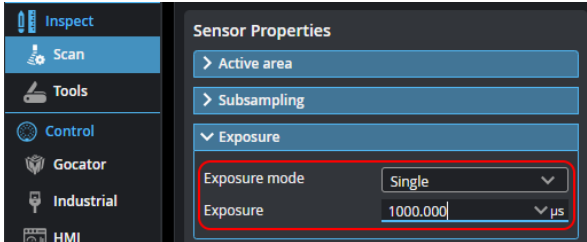In the global toolbar, click the **Start scanning** button.

Place a target in the sensor's scan area and ensure you see one or more profiles in the data viewer (target-dependent).
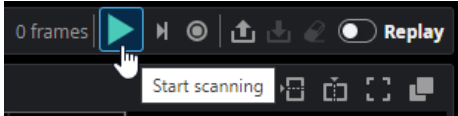
D. PERFORMING WARMUP

The recommended sensor warm-up time is 30 minutes with a 50% duty cycle. To do this, do the following:

Step 1
Under Inspect > Scan, expand **Trigger**, set **Source** to Time, and set **Frame rate** to 500 Hz.
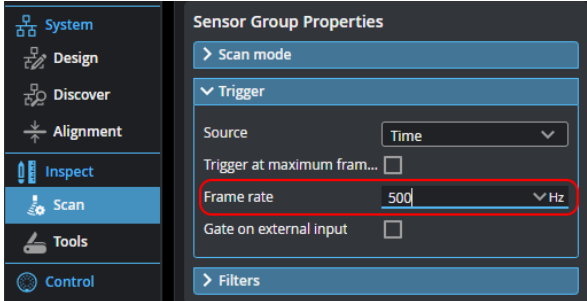
Step 2
Under Inspect > Scan, expand **Exposure mode** to Single and **Exposure** to 1000 µs.

Step 3
Start the sensor by clicking the **Start scanning** button.

TROUBLESHOOTING

PROBLEM	SUGGESTED RESOLUTION
Mechanical / Environmental	
The sensor is warm.	• It is normal for a sensor to be warm when powered on.
Connection	
When connecting with a web browser, the sensor is not found (page does not load).	• Verify the sensor power is on. This will be indicated by an illuminated POWER LED. • Verify the Power & Ethernet cordset is connected to the Power/LAN connector and the Ethernet RJ45 plug is connected to the PC or a switch. • Verify that the client computer's network settings are properly configured. See *Getting Started > Network and Sensor Setup* in the user manual or your computer's documentation on configuring a network adapter.
Profiling	
When the Play button is pressed, the sensor does not emit light.	• The exposure setting may be too low. For more information, see the user manual.

The sensor emits light, but no profile displays in the data viewer.	• Verify that the target is within the sensor's scan area (field of view and measurement range).
	  The RANGE indicator LED on the Gocator illuminates when the target being scanned is in range. For details on the field of view and measurement range, see the user manual.
	• Check that the exposure time is set to a reasonable level.
	  For more information, see the user manual.

Gocator® 4000

Quick Start Guide
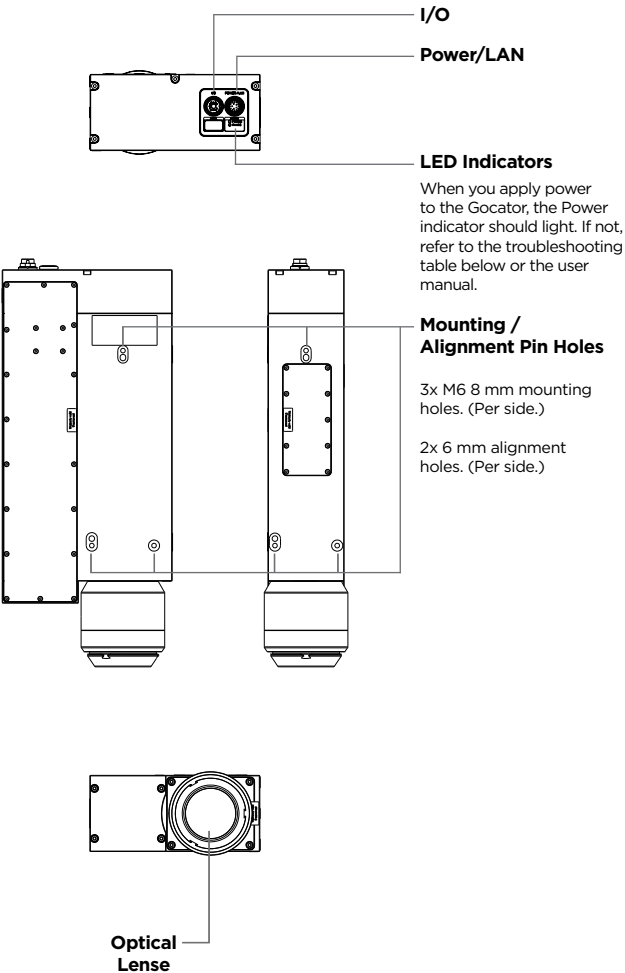

LMI TECHNOLOGIES
www.lmi3D.com
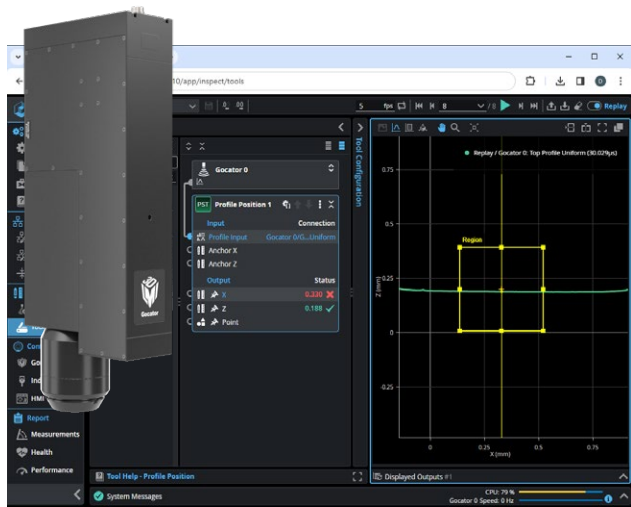
For the user manual, CAD drawings, firmware release notes, SDK, and more, go to **lmi3D.com**/product-downloads.

15279.01.01_Manual_Quickstart_Gocator_4000_Series

LMI TECHNOLOGIES
www.lmi3D.com

GOCATOR OVERVIEW

Each sensor model in the Gocator 4000 series is designed with a unique Clearance Distance (CD), Measurement Range (MR) and Field of View (FOV). For more information about your model, see the sensor specifications in the user manual. (Model shown is Gocator 4020.)

I/O

Power/LAN

LED Indicators
When you apply power to the Gocator, the Power indicator should light. If not, refer to the troubleshooting table below or the user manual.

Mounting / Alignment Pin Holes

3x M6 8 mm mounting holes. (Per side.)

2x 6 mm alignment holes. (Per side.)

Optical Lense

GROUNDING GOCATOR

Gocator housings should be grounded to the earth and the grounding shield of the Gocator I/O cordsets. Gocator 4000 sensors are designed to provide adequate grounding through the mounting surfaces and screws. Always check grounding with a multimeter to ensure electrical continuity between the mounting frame and the Gocator connectors.
The frame or electrical cabinet that the Gocator is mounted to **must** be connected to **earth ground**.

GROUNDING CORDSET (RECOMMENDED)

To minimize interference with other equipment, the High Power & Ethernet cordset can be grounded by terminating the cordset shield before the split. The most effective grounding method is to use a 360-degree clamp. For instructions, see the user manual.

ELECTRICAL SAFETY

Minimize voltage potential between system ground (ground reference for I/O signals) and sensor ground
Use shielded cables with shield grounded at both ends. Sensor housing should be connected to earth ground.

Use a suitable power supply
The +24-48V power supply used with Gocator 4000 sensors should be an isolated supply with inrush current protection.

Use care when handling powered devices
Wires connecting to the sensor should not be handled while the sensor is powered. Doing so may cause electrical shock to the user or damage to the equipment.

⚠️ Failure to adhere to the guidelines described in this section may result in electrical shock or equipment damage.

1. MOUNTING

NOTE: Mounting the sensor is recommended before applying power. Ensure that a proper earth ground is established.
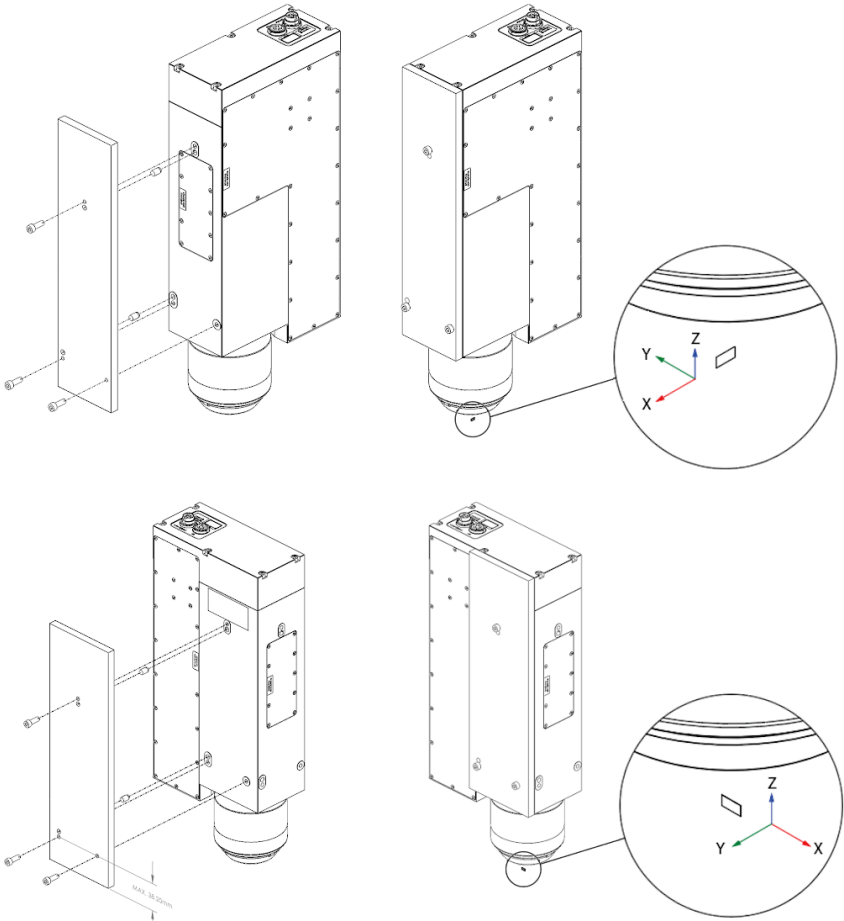
Gocator 4010 / 4020 (shown)

Mounting holes are available on two sides of the sensor.

Use three M6 screws to mount the sensor to the plate. Hole depth is 8 mm.

Optionally, use the two 6 mm alignment pin holes (depth 6 mm) to help align the plate and sensor holes.

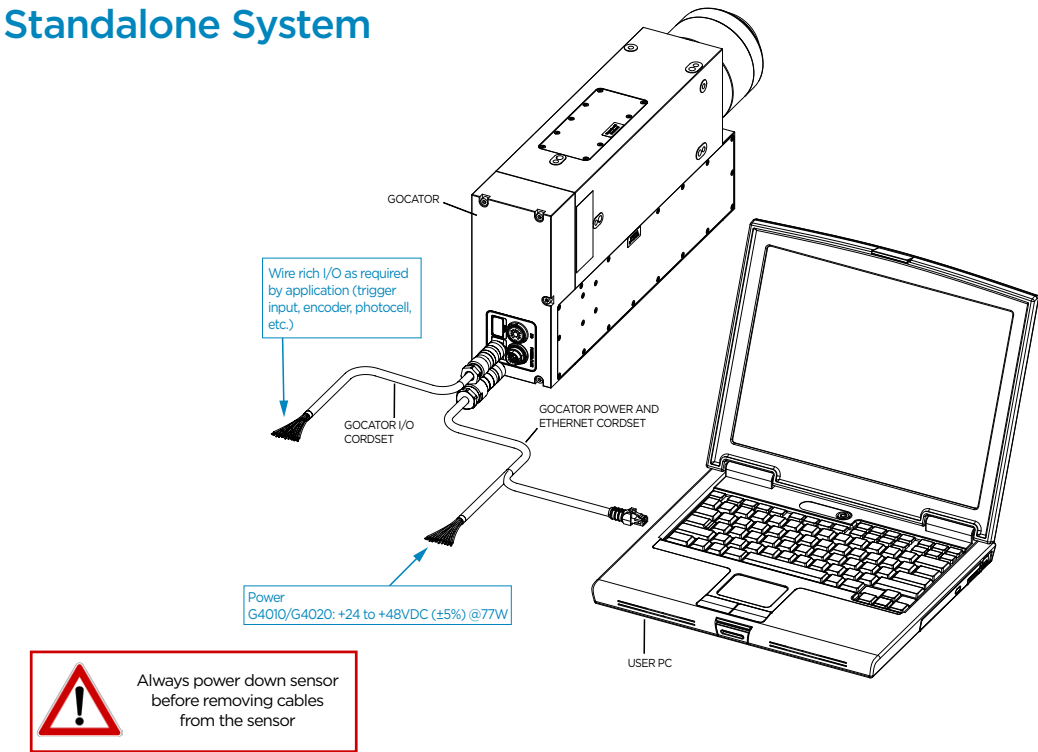Note the indicated orientations of the coordinate system.

(Mounting is identical for Gocator 4010.)

Ensure that targets will be within the sensor's scan area. For more information, see the sensor specifications.

2. CONNECTING GOCATOR TO A HOST COMPUTER

Standalone System

GOCATOR

Wire rich I/O as required by application (trigger input, encoder, photocell, etc.)

GOCATOR I/O CORDSET

GOCATOR POWER AND ETHERNET CORDSET

Power
G4010/G4020: +24 to +48VDC (±5%) @77W

USER PC

⚠️ Always power down sensor before removing cables from the sensor

Connector Pin Details

View: Looking into the connector **on** the sensor.

Power/LAN	Pin	Function	Conductor Color
	L	24-48V (MAIN)*	Grey/Red
	M	GND_24-48V (MAIN)**	Grey/Black
	L	24-48V (MAIN)*	Pink/Red
	M	GND_24-48V (MAIN)**	Pink/Black
	A	24-48V (AUX)*	Red
	N	GND_24-48V (AUX)**	Black
	A	24-48V (AUX)*	Orange/Red
	N	GND_24-48V (AUX)**	Orange/Black
	B	24-48V (AUX)*	Yellow/Red
	C	GND_24-48V (AUX)**	Yellow/Black
	O	-	White/Red
	D	-	White/Black
	E	Ethernet MX1+	Violet/Red
	F	Ethernet MX1-	Violet/Black
	G	Ethernet MX2+	Green/Red
	H	Ethernet MX2-	Green/Black
	R	Ethernet MX3-	Blue/Red
	P	Ethernet MX3+	Blue/Black
	I	Ethernet MX4+	Brown/Red
	K	Ethernet MX4-	Brown/Black

*All 24-48V wires (MAIN and AUX) are soldered together.

**All GND_24-48V (MAIN and AUX) wires are soldered together.

View: Looking into the connector **on** the sensor.

I/O	Pin	Function	Conductor Color
	D	Trigger_in+	Blue/Red
	H	Trigger_in-	Blue/Black
	N	Out_1+ (Digital Output 0)	Brown/Red
	O	Out_1- (Digital Output 0)	Brown/Black
	S	Out_2+ (Digital Output 1)	Green/Red
	T	Out_2- (Digital Output 1)	Green/Black
	M	Encoder_A+	Pink/Red
	U	Encoder_A-	Pink/Black
	I	Encoder_B+	Yellow/Red
	K	Encoder_B-	Yellow/Black
	A	Encoder_Z+	White/Red
	L	Encoder_Z-	White/Black
	B	Serial_out+	Purple/Red
	C	Serial_out-	Purple/Black
	E	Reserved	Red
	G	Reserved	Black
	P	Reserved	Gray/Red
	F	Reserved	Gray/Black & Orange/Black
	R	Reserved	Orange/Red (not connected)