3. STARTING GOCATOR

NOTE: Gocator 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.
The user interface supports FireFox 3.5+, Chrome 4.0+, and Internet Explorer 8.0+. (Use Firefox or Chrome for optimal performance.) The Adobe Flash browser plugin version 10.0+ must be installed. Version 4.0 of the interface is shown here.

A. LAUNCHING THE INTERFACE

Step 1

Change network setting on host computer

In Windows 7

- Open the Control Panel>Network and Sharing Center>Change Adapter Settings.
- Right-click desired network connection, then click Properties.
- On the Networking tab, click Internet Protocol Version 4 (TCP/IPv4), then click Properties.
- Select "Use the following IP address" option.
- Enter IP Address "192.168.1.5" and Subnet Mask "255.255.255.0", then click OK.

In Mac OS X 10.6

- Open the Network Pane in System Preferences and select Ethernet.
- Set Configure to "Manually".
- Enter IP Address "192.168.1.5" and Subnet Mask "255.255.255.0", then click Apply.

Gocator is shipped with the following default network configuration

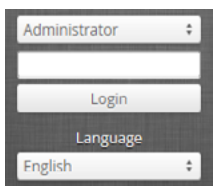
Setting	Default
DCHP	Disabled
IP Address	192.168.1.10
Subnet Mask	255.255.255.0
Gateway	0.0.0.0

Step 2

Open a web browser and enter the sensor address

Step 3

Select language of choice



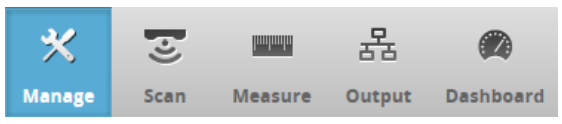
Step 4

The Administrator password is initially blank. Press the Login button to connect

B. RUNNING GOCATOR

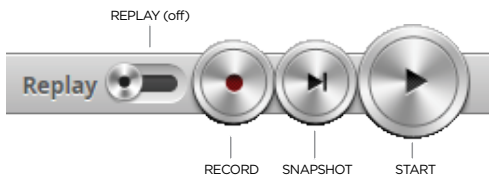
Step 1

Select the Manage page.



Step 2

Ensure that Replay mode is off (slider set to left) and that the Laser Safety switch is enabled or the Laser Safety input is high. Press the Start button in the toolbar to start the sensor (a laser line should now be visible).



Step 3

Move target into the laser plane and measure!

NOTE

Gocator sensors can also interface directly with HexSight.
Refer to the HexSight Quick Start Guide for more information.

An example of the user interface in use

Once connected to the Gocator, click the Help icon to view the user manual or download the SDK

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 end's RJ45 of the cordset is connected to the Ethernet switch • Verify that the client computer's network settings are properly configured. Refer to the Connecting to a New Sensor section in the Gocator user manual or to your computer's documentation on configuring a network adapter. • Download 14405-x.x.x.x_software_go2_tools.zip from the downloads area of LMI's website at www.lmi3D.com. *Unzip and run the Sensor Discovery Tool [bin>win32>kDiscovery.exe] to verify that the sensor has the correct network settings.*
When attempting to log in, the password is not accepted.	• Download 14405-x.x.x.x_software_go2_tools.zip from from the downloads area of LMI's website at www.lmi3D.com. *Unzip and run the Sensor Discovery Tool [bin>win32>kDiscovery.exe] to discover the sensor on the network and restore default settings.* NOTE: Using the Sensor Discovery tool will reset your configuration settings to default - these settings can be recovered from the backup files if previously saved.
Laser Profiling	
When the Play button is pressed, the sensor does not emit laser light.	• Ensure that the decal covering the laser emitter window, normally affixed to new sensors, has been removed. • Verify that the LASER LED on the Gocator is illuminated, if not, the laser safety input signal is off. Refer to *Laser Safety Input Section in the Gocator user manual to determine the correct solution for your application.* • The exposure setting may be too low. Refer to the Exposure section in the Gocator User Manual for more information on configuring exposure time.
The sensor emits laser light, but the Range Indicator does not illuminate and/or points are not displayed in the Profile Viewer.	• Verify that the measurement target is within the sensor's field of view and measurement range. *The RANGE LED on the Gocator will illuminate when the target is in range.* • Check that the exposure time is set to a reasonable level. Refer to the Exposure section in the Gocator User Manual for more information on configuring exposure time.
The sensor CPU level is near 100%.	• Review the active measurements and eliminate any that are unnecessary measurements. • Consider reducing the trigger speed. • Consider reducing the laser profiling resolution.

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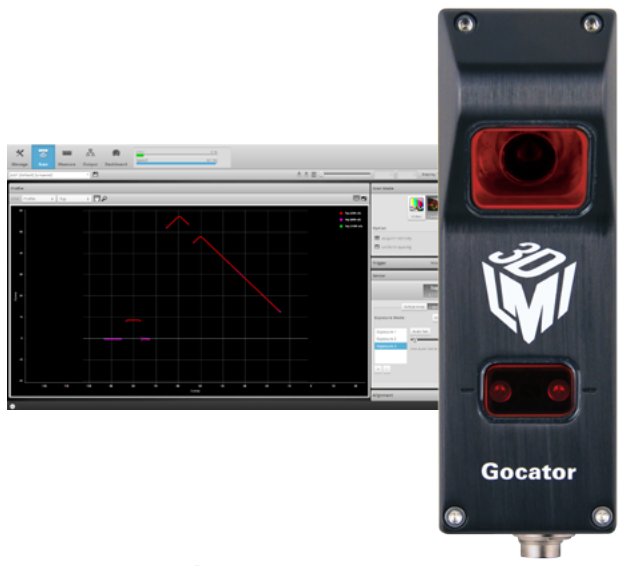
Gocator® 2300A

Quick Start Guide



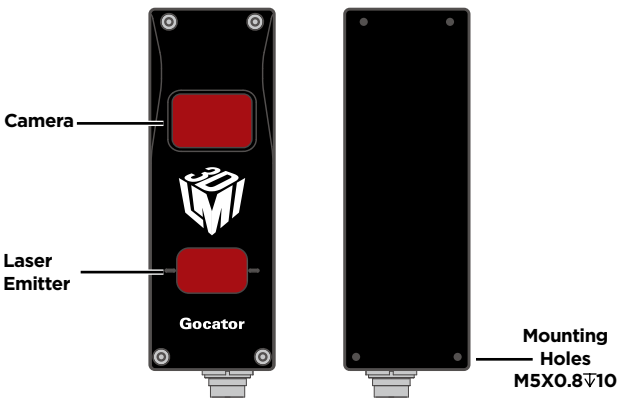
LMI TECHNOLOGIES
www.lmi3D.com

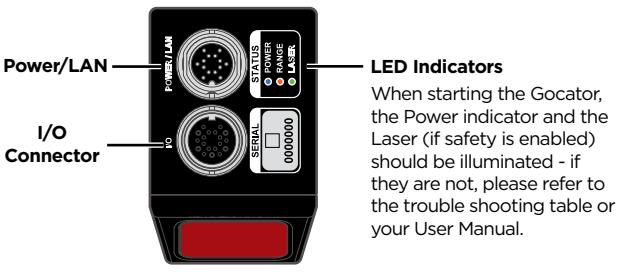
For the user manual, CAD drawings, firmware release notes, SDK, and more, go to **www.lmi3D.com**/downloads

15173-2.0_Manual_Quickstart_Gocator-2300A-Series

Gocator Overview

There are several sensor models in the Gocator 2300 series, each designed with a unique Clearance Distance (CD), Measurement Range (MR) and Field of View (FOV). Refer to your User Manual for more information about your model.





LED Indicators

When starting the Gocator, the Power indicator and the Laser (if safety is enabled) should be illuminated - if they are not, please refer to the trouble shooting table or your User Manual.

Grounding Gocator

Gocator housings should be grounded to the earth and the grounding shield of the Gocator I/O cordsets. Gocator sensors have been designed to provide adequate grounding through the use of M5 x 0.8 screws. Always check grounding with a multi-meter 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 Power & Ethernet or the Power & Ethernet to Master cordset (depending on cordset used in system) can be grounded by terminating the cordset shield before the split. The most effective grounding method is to use a 360-degree clamp. See User Manual for instructions.

Electrical Safety

Minimize voltage potential between system ground and sensor ground

Care should be taken to minimize the 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

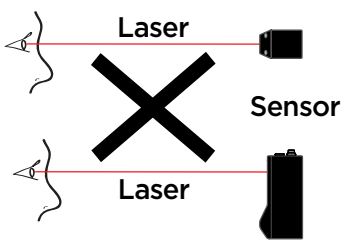
The +24-48V power supply used with Gocator 2300 sensors should be an isolated supply with inrush current protection.

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.

The full laser safety details including precautions, responsibilities and requirements are stated in the Gocator User Manual. Use of controls or adjustments or performing procedures other than those specified in the User Manual may result in hazardous radiation exposure.



WARNING: DO NOT LOOK DIRECTLY INTO THE LASER BEAM

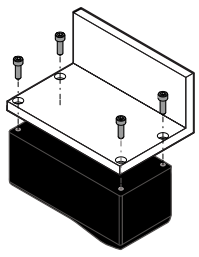
The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

This product is designated for use solely as a component and as such it does not fully comply with the standards relating to laser products specified in U.S. FDA CFR Title 21 part 1040 and IEC 60825-1.

Class 2M: LASER RADIATION DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 2M LASER PRODUCT	
Class 3R: LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3R LASER PRODUCT	
Class 3B: LASER RADIATION AVOID EXPOSURE TO BEAM CLASS 3B LASER PRODUCT	 

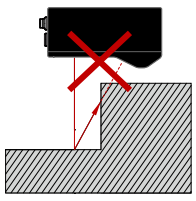
1. Mounting

NOTE: Mounting the Gocator is recommended prior to applying power. Ensure that a proper earth ground and heat sink have been properly established prior to applying power.



Mount the sensor using four M5 x 0.8 screws of suitable length.
The recommended thread engagement into the housing is 8 - 10 mm.

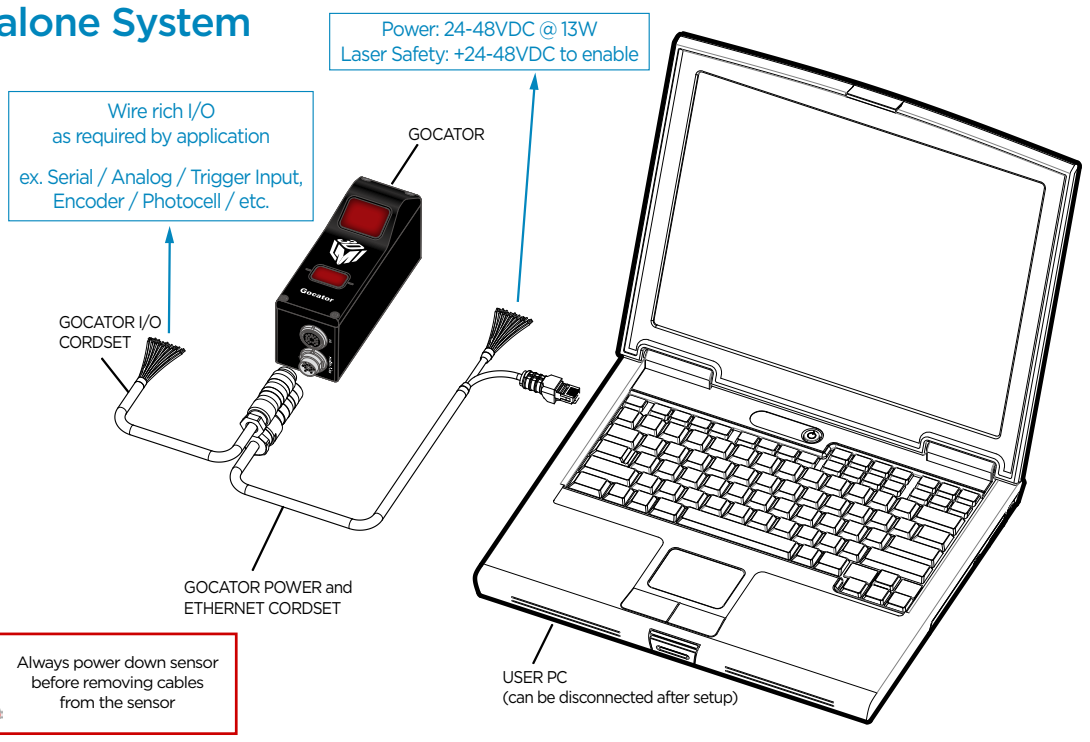
Do not occlude camera's view of the laser



Do not install near surfaces that might create unanticipated laser reflections

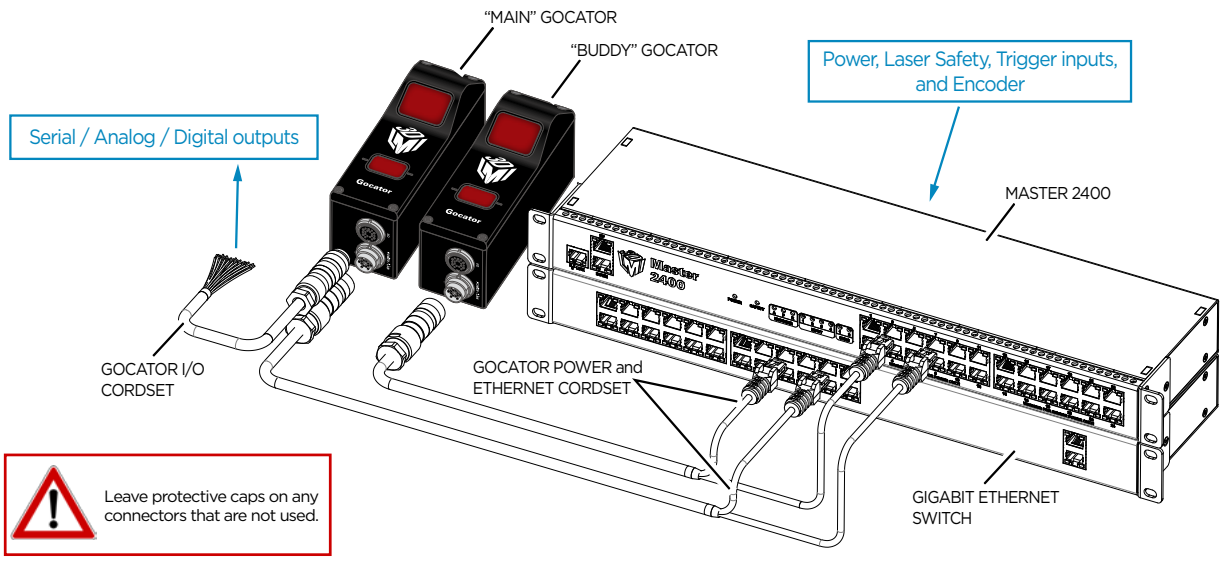
2. Connecting Gocator to a Host Computer

Standalone System



Always power down sensor before removing cables from the sensor

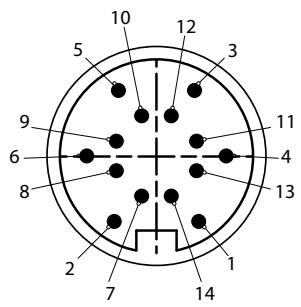
Dual / Multi-Sensor System



Leave protective caps on any connectors that are not used.

Connector Pin Details

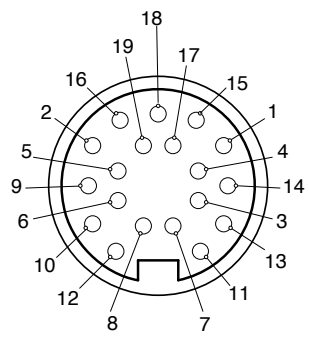
Gocator Power/LAN (to standalone and to Master)



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

Pin	Function	Conductor Color
1	GND_24-48V	White/Orange & Black
1	GND_24-48V	Orange/Black
2	DC_24-48V	White/Green & Black
2	DC_24-48V	Green/Black
3	Safety-	White/Blue & Black
4	Safety+	Blue/Black
5	Sync+	White/Brown & Black
6	Sync-	Brown/Black
7	Ethernet MX1+	White/Orange
8	Ethernet MX1-	Orange
9	Ethernet MX2+	White/Green
10	Ethernet MX2-	Green
11	Ethernet MX3-	White/Blue
12	Ethernet MX3+	Blue
13	Ethernet MX4+	White/Brown
14	Ethernet MX4-	Brown

Gocator I/O



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

Pin	Function	Conductor Color
1	Trigger_in+	Grey
2	Trigger_in-	Pink
3	Out_1+ (Digital Output 0)	Red
4	Out_1- (Digital Output 0)	Blue
5	Out_2+ (Digital Output 1)	Tan
6	Out_2- (Digital Output 1)	Orange
7	Encoder_A+	White/Brown & Black
8	Encoder_A-	Brown / Black
9	Encoder_B+	Black
10	Encoder_B-	Violet
11	Encoder_Z+	White/Green & Black
12	Encoder_Z-	Green / Black
13	Serial_out+	White
14	Serial_out-	Brown
15	Reserved	Blue / Black
16	Reserved	White / Blue & Black
17	Analog_out+	Green
18	Analog_out-	Yellow & Maroon/White
19	Reserved	Maroon