3. STARTING GOCATOR

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

Gocator sensors are configured by connecting with a web browser.
The user interface is supported with FireFox 3.5+, Chrome 4.0+, & Internet Explorer 8.0+. (Use FireFox or Chrome for optimal performance.) The Adobe Flash browser plugin version 10.0+ _must_ be installed.

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

`http://192.168.1.10/`

Step 3
Select language of choice

Gocator 2030 6485
Username: Administrator
Password:
Language: English
Login
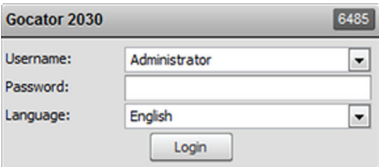
Step 4
The Administrator password is initially blank. Press the Login button to connect

B. RUNNING GOCATOR
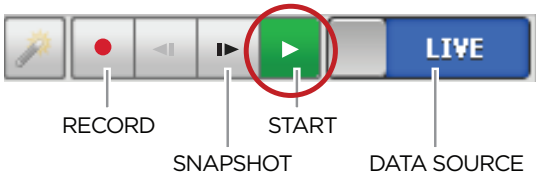
Step 1
Select the Connection Page

Configuration — Connection / Setup / Measurement

Step 2
Select what the Gocator will be connected to

Single Sensor:	Select Standalone
Using Master 400:	Select Master 400
Using Master 800:	Select Master 800
Using Master 1200:	Select Master 1200
Using Master 2400:	Select Master 2400

▼ Networking:
Connect To: Standalone
Type: Manual
IP: 192.168.1.10
Subnet Mask: 255.255.255.0
Gateway: 0.0.0.0
Save
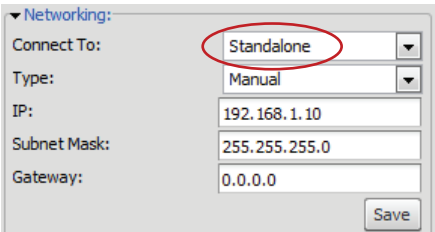
Step 3
Ensure data source is set to LIVE and the Laser Safety switch is enabled or the Laser Safety input is high. Press the PLAY button in the toolbar to start the sensor (a laser line should now be visible)

RECORD   START
SNAPSHOT   DATA SOURCE

Step 4
Move target into the laser plane and measure!

An example of the user interface in use

Once connected to the Gocator, click the Help icon to view the User Manual, update firmware, or download SDK

Configuration — Connection / Setup / Measurement / Output / Dashboard

Status
Metrics
CPU Load: 2%
Current Speed: 0Hz

[New]   LIVE

Profile - [Width #0]   Tools

Main

Measurements   Fixturing
Add Measurement: Width   Add

Width #0   47.481   ID: 0

Decision:
Min: 45 mm   Max: 48 mm
Absolute Value

▶ Feature 1 (F1): Corner   Reset
▶ Feature 2 (F2): Corner   Reset
Remove

F1   F2   47.481

Z(mm) / X(mm)

Europe	Phone:	+31 45 850 7000
	Fax:	+31 45 574 2500
North America	Phone:	+1 604 636 1011
	Fax:	+1 604 516 8368
Worldwide	Email:	support@lmi3D.com
	Web:	www.lmi3D.com

LMI TECHNOLOGIES
3D MEASUREMENT AND CONTROL, MADE EASY

Gocator® 2000
Quick Start Guide

Gocator

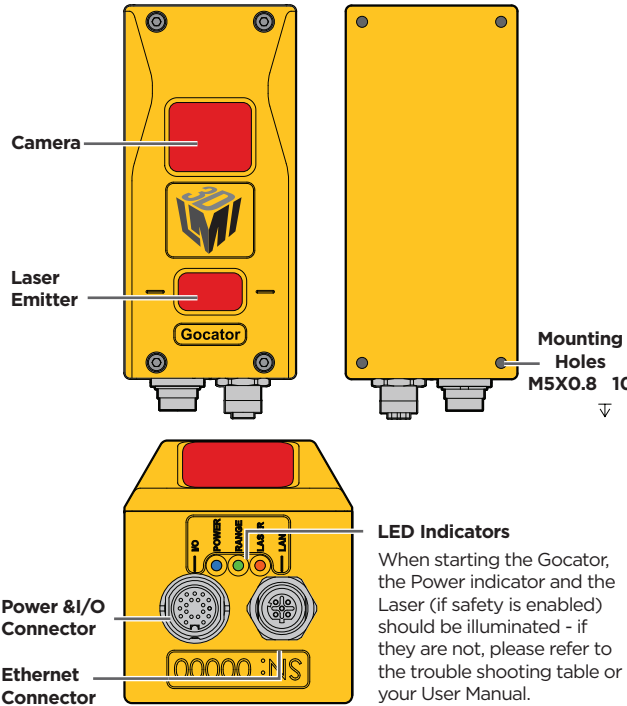For the user manual, CAD drawings, firmware release notes, SDK, and more, go to www.lmi3D.com/downloads

LMI TECHNOLOGIES
www.lmi3D.com

15161-1.2-Manual_Quickstart_Gocator-2000-Series

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 cable from the sensor's LAN connector is plugged into the Ethernet port on the client computer. • 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.

GOCATOR OVERVIEW

There are several sensor models in the Gocator 2000 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.

Camera

Laser Emitter

Gocator

Mounting Holes M5X0.8 10

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.

Power &I/O Connector

Ethernet Connector

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**.

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 2000 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.**

LASER SAFETY

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.

Laser

Sensor

Laser

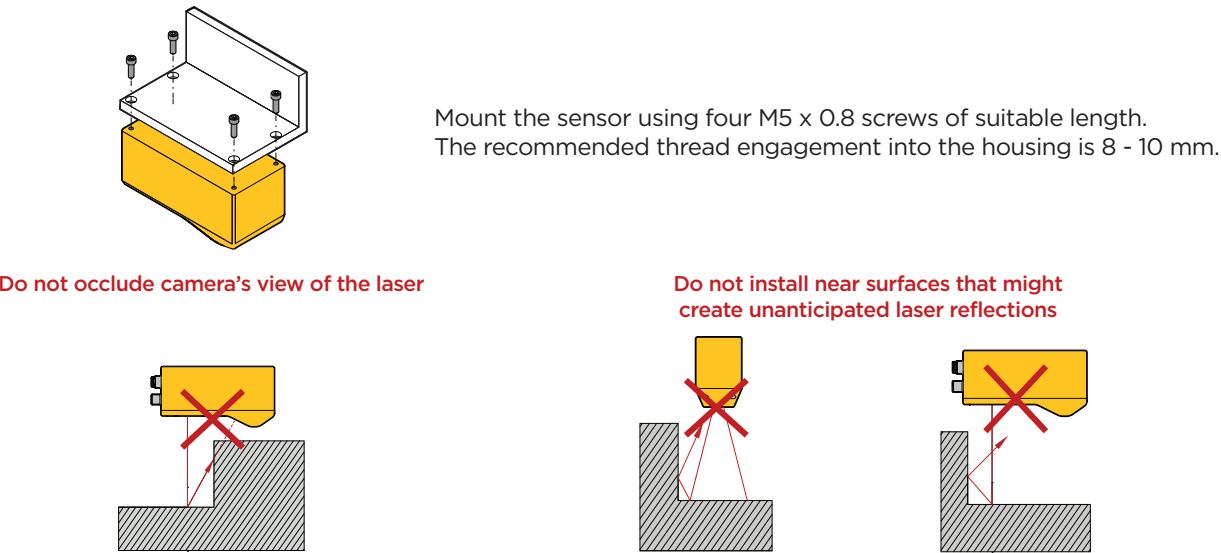## WARNING: DO NOT LOOK DIRECTLY INTO THE LASER BEAM
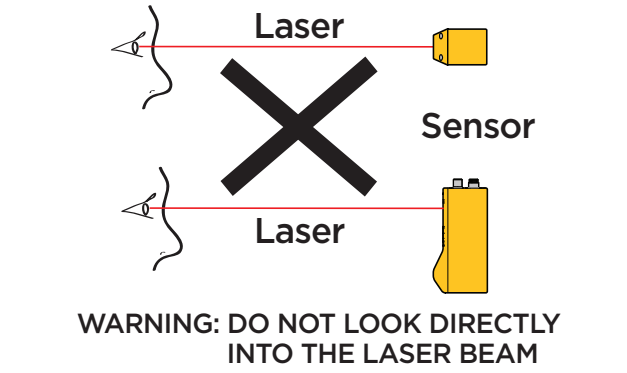
⚠ The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

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.
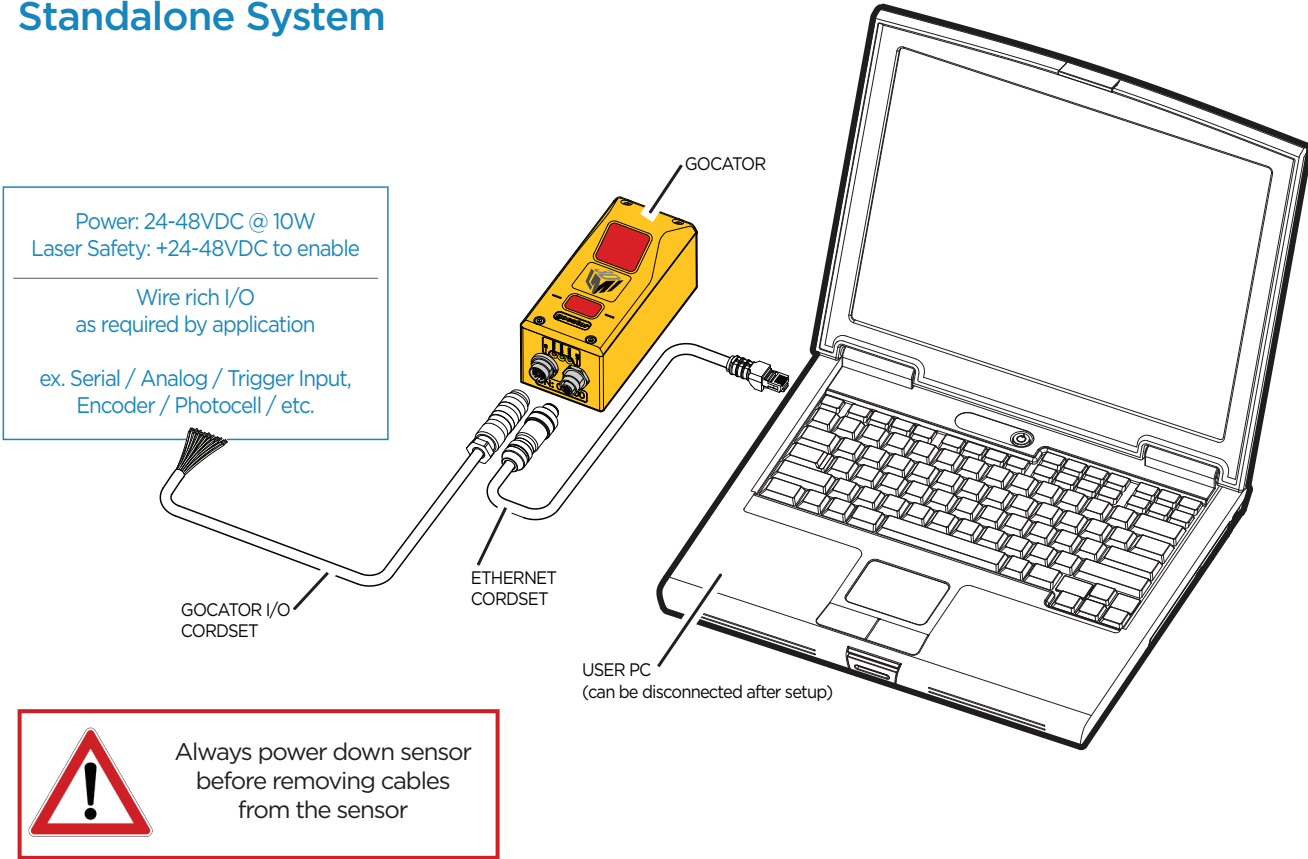
Class 2M: LASER RADIATION DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 2M LASER PRODUCT

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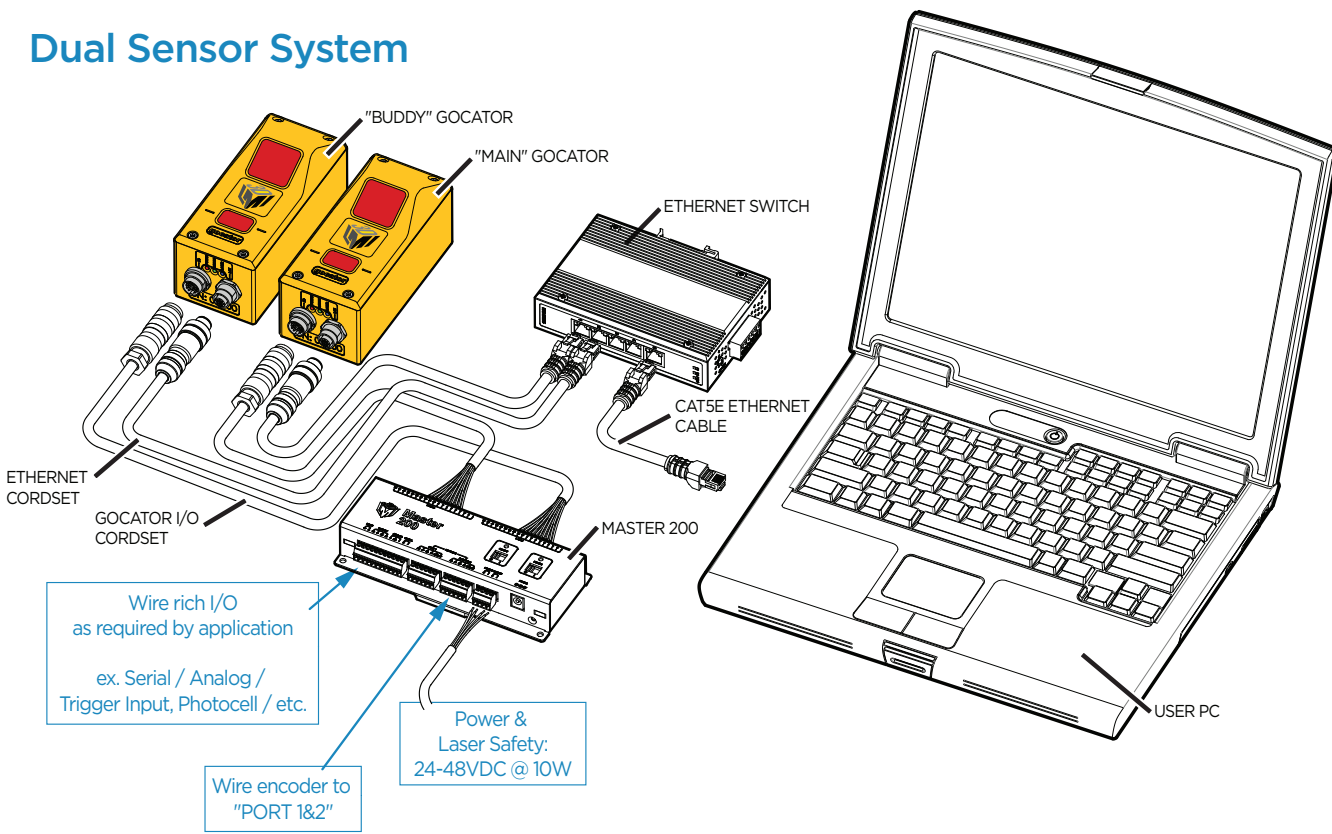
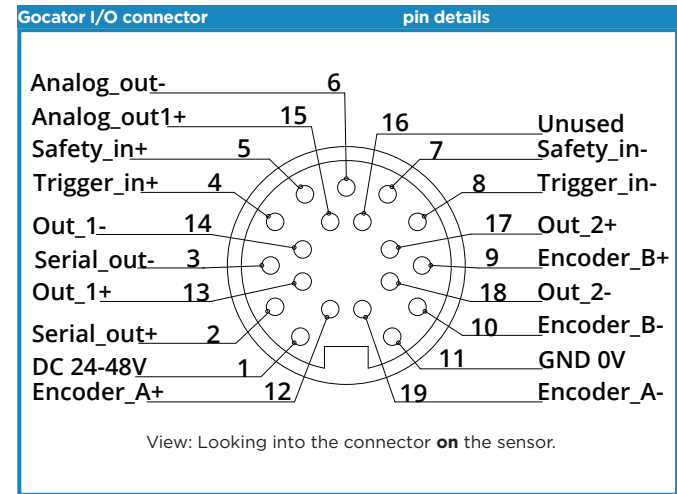Mount the sensor using four M5 x 0.8 screws of suitable length. The recommended thread engagement into the housing is 8 - 10 mm.

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

GOCATOR

Power: 24-48VDC @ 10W
Laser Safety: +24-48VDC to enable

Wire rich I/O as required by application

ex. Serial / Analog / Trigger Input, Encoder / Photocell / etc.

ETHERNET CORDSET

GOCATOR I/O CORDSET

USER PC (can be disconnected after setup)

⚠ Always power down sensor before removing cables from the sensor

Dual Sensor System

"BUDDY" GOCATOR

"MAIN" GOCATOR

ETHERNET SWITCH

CAT5E ETHERNET CABLE

ETHERNET CORDSET

GOCATOR I/O CORDSET

MASTER 200

Wire rich I/O as required by application

ex. Serial / Analog / Trigger Input, Photocell / etc.

Power & Laser Safety: 24-48VDC @ 10W

Wire encoder to "PORT 1&2"

USER PC

Connector Pin Details

Gocator I/O connector		pin details	
Analog_out-	6		
Analog_out1+	15	16	Unused
Safety_in+	5	7	Safety_in-
Trigger_in+	4	8	Trigger_in-
Out_1-	14	17	Out_2+
Serial_out-	3	9	Encoder_B+
Out_1+	13	18	Out_2-
Serial_out+	2	10	Encoder_B-
DC 24-48V	1	11	GND 0V
Encoder_A+	12	19	Encoder_A-

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

GOCATOR I/O CORDSET

Label Text	Conductor Color
DC_24-48V	(White Green & Black) and (Green Black)
Serial_out+	White
Serial_out-	Brown
Trigger_in+	Grey
Safety_in+	Blue/Black
Analog_out-	(Yellow) & (Maroon/White)
Safety_in-	White/Blue & Black
Trigger_in-	Pink
Encoder_B+	Black
Encoder_B-	Violet
GND_0V	(White/Orange & Black) & (Orange/Black)
Encoder_A+	White/Brown & Black
Out_1+	Red
Out_1-	Blue
Analog_out1+	Green
Unused	Maroon
Out_2+	Tan
Out_2-	Orange
Encoder_A-	Brown/Black