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

http://192.168.1.10/

Step 3
Select language of choice

Administrator
Login
Language
English
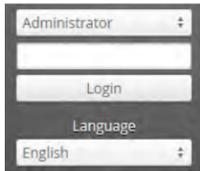
Step 4
The Administrator password is initially blank. Press the Login button to connect

B. RUNNING GOCATOR

Step 1
Select the Manage page.

Manage Scan Measure Output Dashboard

### 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).

REPLAY (off)

Replay

RECORD   SNAPSHOT   START
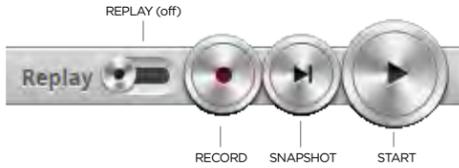
Step 3
Move target into the laser plane and measure!

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
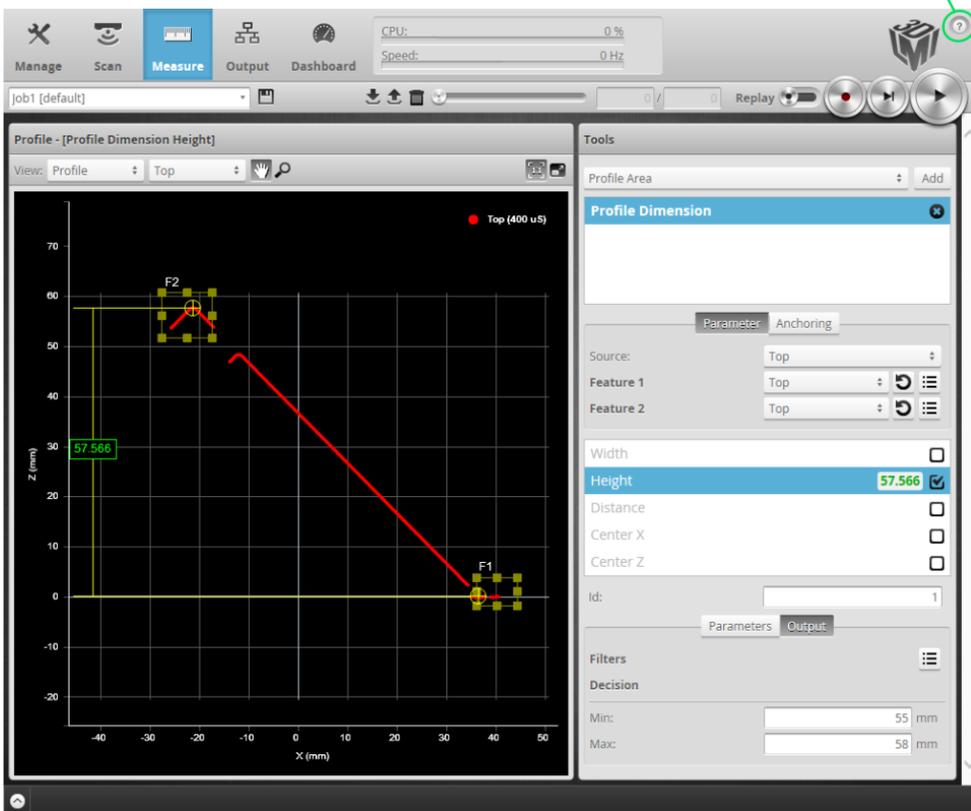
TROUBLESHOOTING

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 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® 2880
Quick Start Guide
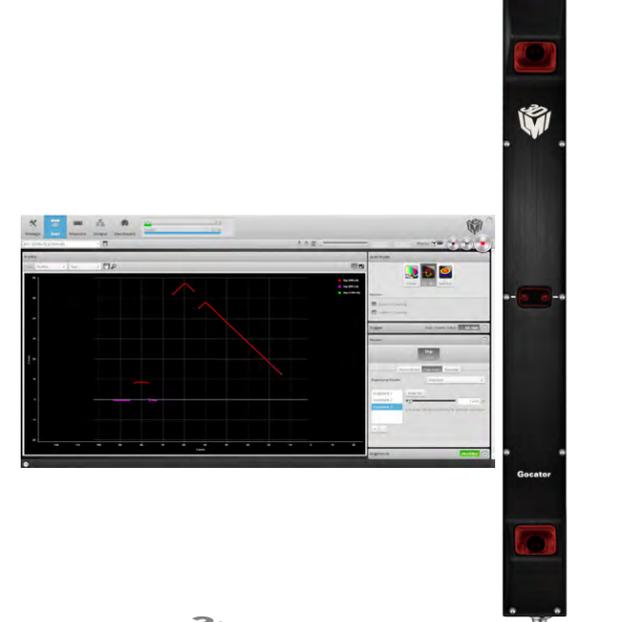
LMI TECHNOLOGIES
www.lmi3D.com

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

15212-01.03_Manual_Quickstart_Gocator-2880-Series

LMI TECHNOLOGIES
www.lmi3D.com

GOCATOR OVERVIEW

Refer to the Gocator user manual for more information about the sensor, including Clearance Distance (CD), Measurement Range (MR) and Field of View (FOV).

Camera

Laser Emitter

Camera

Mounting Holes M5X0.8▽10

LED Indicators
When starting Gocator, Power indicator and Laser indicator (if safety is enabled) should be on. If not, refer to Troubleshooting table or user manual.

Power/LAN

I/O Connector
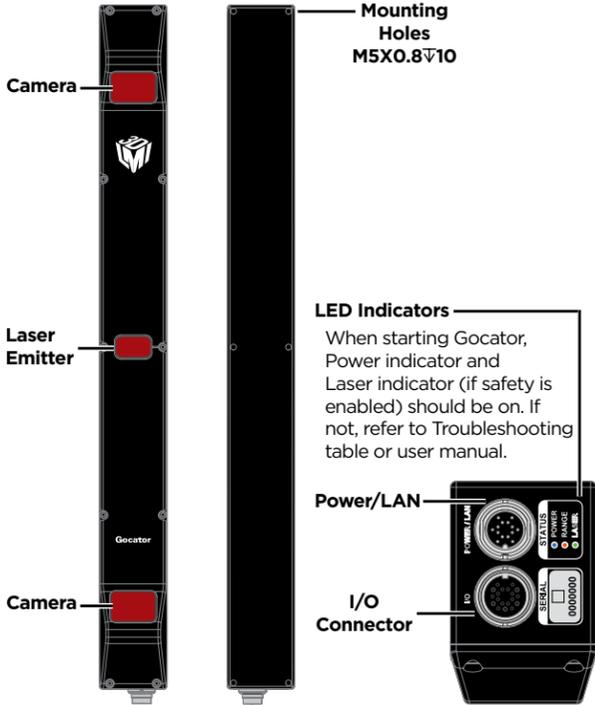
GROUNDING GOCATOR

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**.

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 2880 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.

Laser
Sensor
Laser

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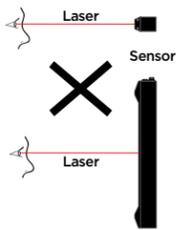
⚠ The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

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	LASER RADIATION AVOID EXPOSURE TO THE BEAM CLASS 3B LASER PRODUCT / PEAK POWER: 130 mW / EMITTED WAVELENGTH: 660 nm / IEC 60825-1:2007
Class 3R: LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3R LASER PRODUCT	LASER RADIATION AVOID EXPOSURE TO THE BEAM CLASS 3B LASER PRODUCT / PEAK POWER: 450 mW / EMITTED WAVELENGTH: 808 nm / IEC 60825-1:2007
Class 3B: LASER RADIATION AVOID EXPOSURE TO BEAM CLASS 3B LASER PRODUCT	LASER RADIATION AVOID EXPOSURE TO THE BEAM CLASS 3B LASER PRODUCT / PEAK POWER: 130 mW / EMITTED WAVELENGTH: 660 nm / IEC 60825-1:2007
	INVISIBLE LASER RADIATION AVOID EXPOSURE TO THE BEAM CLASS 3B LASER PRODUCT / PEAK POWER: 450 mW / EMITTED WAVELENGTH: 808 nm / IEC 60825-1:2007

1. MOUNTING

NOTE: Mounting the Gocator is recommended before applying power. Also, ensure that a proper earth ground is established and that a heat sink has been fitted before applying power.
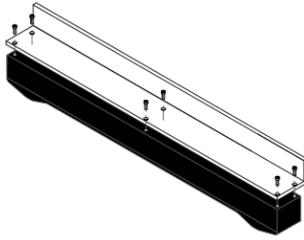
Mount the sensor using six M5 x 0.8 screws of suitable length.

The recommended thread engagement into the housing is 8 - 10 mm.

Do not install near surfaces that might create unanticipated laser reflections.
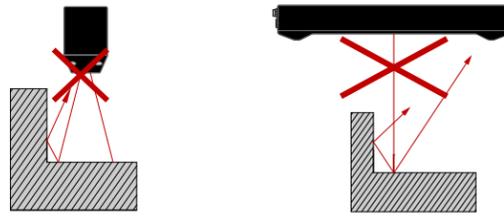
2. CONNECTING GOCATOR TO A HOST COMPUTER

Standalone System

Power: 24-48VDC @ 13W
Laser Safety: +24-48VDC to enable

Wire rich I/O as required by application

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

GOCATOR*

GOCATOR I/O CORDSET

GOCATOR POWER and ETHERNET CORDSET
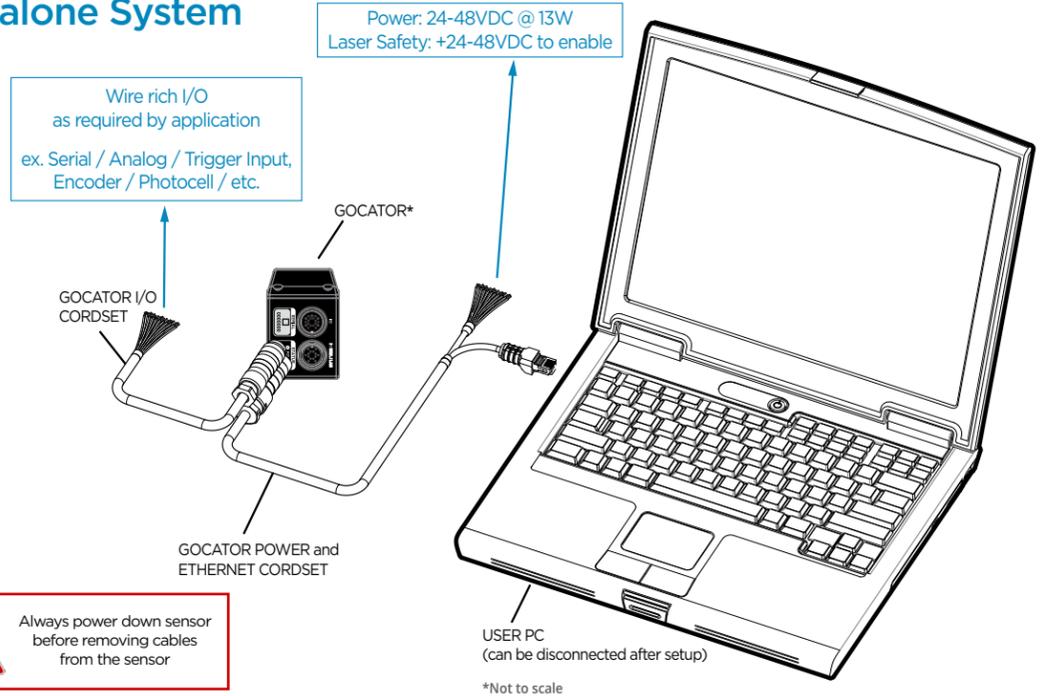
⚠ Always power down sensor before removing cables from the sensor

USER PC (can be disconnected after setup)

*Not to scale

Dual / Multi-Sensor System

MAIN GOCATOR*

BUDDY GOCATOR*

POWER, LASER SAFETY, TRIGGER INPUTS, ENCODER

MASTER 400/800/1200/2400

GOCATOR I/O CORDSET

GOCATOR POWER AND ETHERNET CORDSET
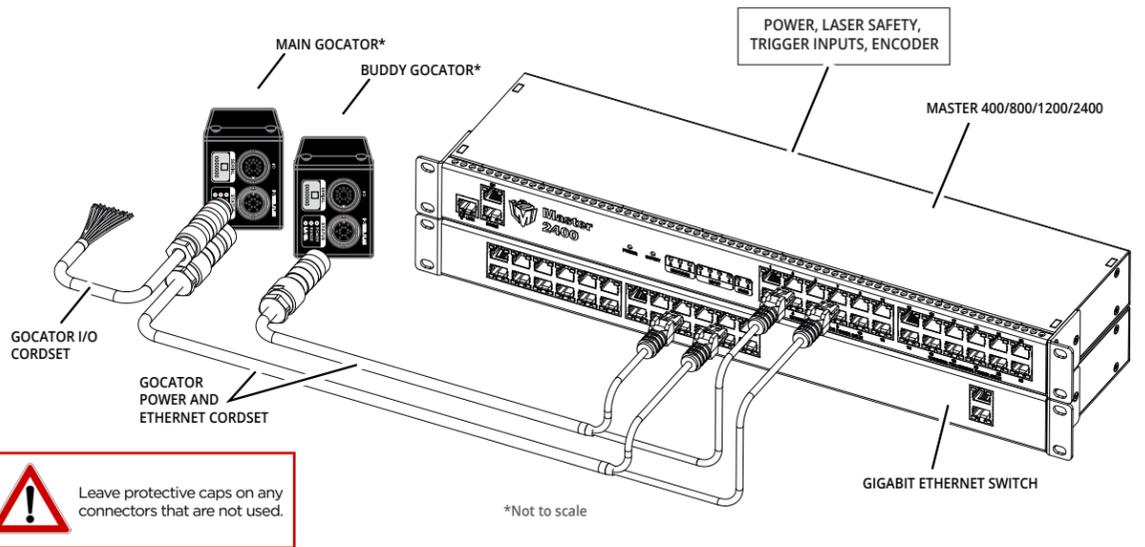
⚠ Leave protective caps on any connectors that are not used.

GIGABIT ETHERNET SWITCH

*Not to scale

Connector Pin Details

Gocator Power/LAN (to standalone and to Master)	Pin	Function	Conductor Color
	L	GND_24-48V	White/Orange & Black
	L	GND_24-48V	Orange/Black
	A	DC_24-48V	White/Green & Black
	A	DC_24-48V	Green/Black
	G	Safety-	White/Blue & Black
	J	Safety+	Blue/Black
	E	Sync+	White/Brown & Black
	C	Sync-	Brown/Black
	M	Ethernet MX1+	White/Orange
	N	Ethernet MX1-	Orange
	O	Ethernet MX2+	White/Green
	P	Ethernet MX2-	Green
	S	Ethernet MX3-	White/Blue
	R	Ethernet MX3+	Blue
	T	Ethernet MX4+	White/Brown
	U	Ethernet MX4-	Brown
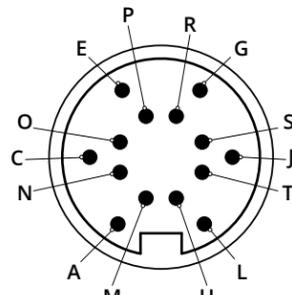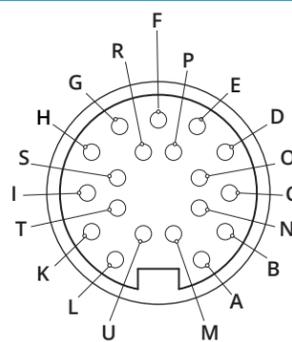
View: Looking into the connector **on** the sensor.

Gocator I/O	Pin	Function	Conductor Color
	D	Trigger_in+	Grey
	H	Trigger_in-	Pink
	N	Out_1+ (Digital Output 0)	Red
	O	Out_1- (Digital Output 0)	Blue
	S	Out_2+ (Digital Output 1)	Tan
	T	Out_2- (Digital Output 1)	Orange
	M	Encoder_A+	White/Brown & Black
	U	Encoder_A-	Brown / Black
	I	Encoder_B+	Black
	K	Encoder_B-	Violet
	A	Encoder_Z+	White/Green & Black
	L	Encoder_Z-	Green / Black
	B	Serial_out+	White
	C	Serial_out-	Brown
	E	Reserved	Blue / Black
	G	Reserved	White / Blue & Black
	P	Analog_out+	Green
	F	Analog_out-	Yellow & Maroon/White
	R	Reserved	Maroon

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