



Gocator Firmware 4.2 - Release Notes

Firmware Version 4.2.4.11

Document Revision A

New Features

Part Matching

With the Part Matching feature, Gocator can accurately inspect parts regardless of their orientation as they pass on a transportation system (e.g. assembly line) through the sensor's field-of-view. Typically, users have to run an external PC and specialized image processing software or mechanically re-align parts that are presented out-of-position. Firmware 4.2 simplifies this process with a powerful Edge Matching capability that automatically performs part realignment before applying Gocator's built-in measurements tools.

Single Point Profile Mode

Profile Mode allows users to generate profiles of scanned parts using a Gocator single point sensor, rather than the typical displacement sensor that requires heavy network bandwidth and a PC or external controller to operate. Profile Mode builds 3D part profiles by intelligently combining high speed range data into a profile of the scanned part with flexible part detection logic that supports a variety of acquisition methods such as fixed length of movement, digital input control status and height thresholding.

Emulator

Gocator Emulator is a revolutionary new technology that allows users to simulate a standalone or dual-sensor Gocator system on a PC, without a physical Gocator on-hand. Browser-based and easy-to-use, Emulator makes it easy and intuitive to replay recorded files and fine-tune scan measurements right from the user's desktop.

Compatibility

Gocator 4.x firmware is NOT compatible with Gocator 3.x firmware. Users need to setup their configurations using the Gocator 4.x firmware. SDK users need to update their software to work with the Gocator 4.x SDK.

The Gocator 4.x Setup and SDK migration guides explain how to migrate from Gocator 3.x firmware to Gocator 4.x firmware. The migration guides can be downloaded from <http://www.lmi3d.com/resources/gocator/#how-to-guides>

Sensors upgraded to the Gocator 4.x firmware can downgrade back to Gocator 3.x firmware.

Users should back up their sensors before upgrading from Gocator 3.x firmware to Gocator 4.x firmware.

Gocator 4.x interface requires IE 9, Firefox or Chrome. Adobe Flash version 11 or above is also required.



Improvements

<i>User configurable X resampling interval</i>	More fine grained control in specifying X resampling interval, allowing exact interval matching across sensors
<i>2880 Auto Exposure</i>	Added the ability to automatically set the exposure value for a Gocator 2880
<i>2880 Camera Offset Compensation</i>	Improved merging of the dual camera depth measurements
<i>2880 Camera Index</i>	Added camera index to profile messages. This allows determining the camera for the dual camera 2880.
<i>Redirect from buddy sensors</i>	Loading the GUI on a buddy sensor now redirects to the main sensor
<i>3.6 upgrade support</i>	Added support to the SDK to allow upgrading 3.6 version sensor firmware

Fixes

<i>Scan not visible</i>	With reversed buddy 23xx sensors, switching between Scan and Measure pages could result in the scan not being visible.
<i>Encoder options not cleared in restore</i>	A factory restore was not clearing the encoder resolution and travel speed.
<i>Trigger drop counter not incrementing</i>	Under some conditions, the trigger drop counter was not incremented when there are trigger drops.
<i>Measurements outside active area</i>	Single point sensors, under some conditions, displayed range data outside of the active area.
<i>Z resolution is zero in CSV output</i>	With a small measurement range, the Z resolution in CSV output was recorded as zero.
<i>Unable to rename tools</i>	The tools panel prevented renaming the top most tools when more than five tools were used.
<i>Range thickness overflow</i>	Two buddied 13xx sensors could report a measurement overflow at low speeds.
<i>Replay buffered cleared</i>	For 13xx sensors in Range mode, changing the speed could clear the replay buffer.
<i>Incorrect processing latency</i>	When using profile generation in continuous mode, the processing latency could have been calculated incorrectly.
<i>Job name editing</i>	When editing a job name in the toolbar, decorators like [unsaved] could become included in the job name itself.
<i>Invalid anchor value causes reset</i>	A sensor may have reset itself when a volume tool was anchored to an invalid value.
<i>Crash with countersunk hole tool</i>	A Gocator 3xxx could crash under some conditions when using a countersunk hole tool.



Known Issues

SDK documentations search function

SDK documentation search function may not work on some Chrome installation due to privacy settings.

Incomplete language translations

The web interface is not translated in some previously supported languages (i.e. Spanish, Portuguese, Japanese and Korean).

Protocol Changes

Protocol Version 101.3

Protocol version is specified as [Major].[Minor]. Firmware releases with the same Protocol Major version are backward compatible and users do NOT need to recompile their applications unless features in the newer version are used.

Note that these are protocol and SDK changes between *Release 4.1 and Release 4.2*. Refer to the Gocator 4.x SDK migration guide for details on how to port your 3.x application to Gocator 4.x firmware.

Action	Type	Name	Description of change
Add	Protocol	ProfileGeneration	
Add	Config	ToolOptions	Read only field for available tools and measurements
Add	Config/Tools	ProfileBoundingBox	
Add	Config/Tools/SurfaceBoundingBox	Measurements/GlobalZAngle	
Add	Config/Setup	PartMatching	
Add	Config/Setup/PartDetection	MinLength	
Add	Config/Setup/PartDetection	MinArea	Added "used" attribute
Add	Config/Setup/PartDetection	GapWidth	Added "used" attribute
Add	Config/Setup/PartDetection	PaddingWidth	Added "used" attribute
Add	Config/Setup/PartDetection	PaddingLength	Added "used" attribute
Add	Config/Setup/PartDetection	Max Length	Added "used" attribute
Add	Config/Setup/PartDetection	FrameOfReference	Added "value" attribute
Add	Config/Setup/Devices/Device	SpacingIntervalType	Added 3 (custom) SpacingInterval is now a writeable field on G2
Add	Output	Edge Match Result	For part matching
Add	Output	Bounding Box Match Result	For part matching
Add	Output	Ellipse Match Result	For part matching
Add	Output	Surface message	Added Rotation field
Add	Output	Profile message	Added camera index. No size change
Add	Command	Create Model	
Add	Command	Send Model	
Add	Command	Detect Edges	
Add	Health	Laser safety status	



Action	Type	Name	Description of change
Add	SDK	GoProfileGeneration	Added support for Gocator 1xxx profile generation.
Add	SDK	GoEdgeMatchMsg GoEllipseMatchMsg GoBoundingBoxMatchMsg	Added part matching result message classes.
Add	SDK	GoProfileBox	Added support for the Profile Bounding Box tool.
Add	SDK	GoSurfaceBox_GlobalZAngleMeasurement	Added support for the surface Bounding Box Global Z Angle measurement.
Add	SDK	GoPartDetection_<Param>Used	Added “used” functions to denote whether the referenced field is currently in use.
Add	SDK	GoPartDetection_<Param>MinLength<Param>	Added a minimum length field for part detection.
Add	SDK	GoPartDetection_<Param>EdgeFilter<Param>	Added configuration functionality for edge filtering.
Add	SDK	GoPartMatching_<Function>	Added functions relating to part matching
Add	SDK	GoPartModel_<Function>	Added functions relating to part model edge configuration
Add	SDK	GoSensor_PartMatch<Function>	Added Part matching functions
Add	SDK	GoSetup_ProfileGeneration GoSetup_PartMatching	Added accessors for profile generation and part matching configuration classes.
Remove	SDK	GoSensor_PlaybackFrameCount	Removed due to redundancy with GoSensor_PlaybackPosition