LMI TECHNOLOGIES
3D MEASUREMENT AND CONTROL, MADE EASY™

Revision: B

Gocator 20XX and 23XX Release Notes
Version 3.3.2.49

New Features:

EtherNet/IP	Gocator is now officially certified for EtherNet/IP use in controlling and communicating with a PLC. This ensures that the Gocator can be easily integrated with a wide range of PLCs, including Allan-Bradley and Omron, using this industry standard protocol. No software programming is required!
Gap and Flush Measurement Tool	Measures the distance and flatness between two surfaces. The surface edges can be curved or sharp. The tool is well suited for inspecting panel assemblies in automotive manufacturing plants. Limits can be set to establish pass and fail conditions for inspection decisions.
Groove Measurement Tool	Measures the width and bottom of multiple V-shape and U-shape grooves. It can be used to find the vertex for welding applications or inspecting the dimensions of tunnels on a surface, such as the bottom of plastic containers or the treads of rubber tires. Limits can be set to establish pass and fail conditions for inspection decisions.
Rotated Box Measurement Tool	Expands Whole Part's bounding box tools to measure the width and height of a rotated object. This can be used to measure the orientation angle, width and height of boxes in packaging applications.
Persistent Variables in Script Measurement Tools	Expands the script measurement tool to carry intermediate results from the current frame to the next frame. Users can calculate statistics (e.g. averages) or accumulate results. For example, users can calculate the volume of an object by adding up the area from each cross section.
Occlusion Prevention with Two Sensors	Eliminate occlusions by merging data from a main and buddy sensors. Regions that are shadowed by step changes in the surface in both X and Y directions can now be seen, greatly enhancing the accuracy of 3D measurements.

Improvements:

Measurement Repeatability Statistics	The number of invalid results and standard deviations are now calculated for each measurement. These statistics provide users immediate feedback on measurement repeatability, greatly simplifying the process of fine-tuning a setup to achieve the most reliable results.
Frame Loss Health Indicators	New counters report the amount of data loss due to jitter in external signals when using fixturing or tracking window. Reduces integration effort by alerting users of potential setup problems earlier to reduce the time needed for troubleshooting setup issues.
Multiple Control Connections using SDK	The sensor now supports multiple simultaneous connections from the client computer running the Gocator SDK. This allows one application to be used for changing the sensors' configuration or the state of the sensor, while at the same time supporting multiple applications for receiving data and health information. Clients can optionally use exclusive connections (i.e. behavior of the previous releases) by using the *Go2System_Login* command.
Frame Rate in Multiple Exposure Mode	The maximum frame rate allowed in dynamic exposure mode is increased. The maximum frame rate is now dependent only on the maximum exposure value.
Scripts API Update	The API for the script measurement tool is updated for consistency with the SDK API. Please refer to the User Manual for details. The existing API is deprecated but is still usable.

Fixes:

Known Issues:

Incomplete language translations	The web interface is not fully translated in some supported languages (i.e. Japanese and Korean).
Sign of Flush Measurement Value is Incorrect	The Reference setting is ignored. The measurement result is always positive when the right surface is higher than the left surface and negative when the right surface is lower than the left surface.

Protocol Changes:

This firmware version can read configuration and template files saved with firmware version 2.2.1 or later. User applications must be built against the SDK library included with this firmware release.

Action	Type	Name	Description of change
Add	Configuration	Profile/Measurements/Gap Profile/Measurements/Flush	New elements for the Gap and Flush measurement tools
Add	Configuration	Profile /Measurements /GrooveMinX Profile /Measurements /GrooveMinZ Profile /Measurements /GrooveWidth	New elements for Groove measurement tools
Change	SDK	Go2System_Connect, Go2System_Login	Login parameters are moved out of Go2System_Connect, into a new function called Go2_SystemLogin. When a connection is logged in, it will close any other connections that are also logged in. Connections that aren't logged in remain connected. SDK client does not need to login unless exclusive ownership is needed. If exclusive ownership is desired, all SDK clients must use the login command.
Change	SDK	Go2System_SetFrameRate	Setting frame rate will automatically disable full frame rate enabled flag.
Change	Configuration	PartBoundingBoxX/RotationEnable PartBoundingBoxY/RotationEnable PartBoundingBoxWidth/RotationEnable PartBoundingBoxHeight/RotationEnable	Enables bounding box rotation
Add	Health	Camera Frame Count (ID 2025)	Counts the number of camera frames
Add	Health	Camera Search Count (ID 2026)	Counts the number of times laser is lost tracked when tracking window is enabled
Add	Health	X Fixturing Invalid Count (ID 20010)	Count the number of times X fixturing failed
Add	Health	Z Fixturing Invalid Count (ID 20011)	Count the number of times Z fixturing failed
Add	Health	Measurement Invalid Count (ID 30007)	Counts the number of times a measurement is invalid
Add	Health	Measurement Average (ID 30005)	Average value of the measurement since the system was last started
Add	Health	Measurement Standard Deviation (ID 30006)	Standard deviation of the measurement since the system was last started