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## Gocator 1100, 1300, 2000 and 2300 Firmware Release Notes Version 3.4.1.155

### New Features:

<i>Gocator Displacement Sensor</i>	<p>Gocator firmware now supports Gocator 1100 and 1300 series, a new family of high speed displacement sensors. Users can now tailor the scanning technology (laser point or laser line profiling) to their applications.</p>
<i>Bridge Value Measurement Tool</i>	<p>Measures the true tire-road contact point of a vehicle when the Gocator is used for road surface profiling. This measurement tool simplifies the external processing requirements of road surface scanning system by performing a significant part of the roughness calculation within the Gocator.</p> <p><i>This feature is only available on the Gocator 2340-3B-N-12 model</i></p>
<i>Selcom Serial Protocol</i>	<p>Gocator now supports the popular Selcom Serial Protocol on selected models. The protocol is backward compatible with Selcom SLS and RoLine sensors. Existing users can integrate Gocator sensors into their systems without changing their communication backbone.</p> <p><i>This feature is only available on the Gocator displacement sensors and the Gocator 2340-3B-N-12 model</i></p>
<i>Measurement Output Hold and Smoothing Filters</i>	<p>Hold and Smoothing filter can be applied to any measurement output independently. When a measurement value is held, the last valid value is repeated when the measurement tool generates an invalid result. When a measurement is smoothed, the result is the moving average calculated over a user defined averaging window. User can use this feature to reject measurement outliers easily.</p>
<i>Pulse Digital Output on Exposure</i>	<p>Users can configure the digital output to strobe in synchronization with Gocator exposure. It can be used to align external device data collection with the Gocator scan timing. Users can increase the accuracy of their measurement systems by using external data (e.g. data from accelerometer) that is perfectly matched to Gocator acquisition.</p>





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## Improvements:

<i>Inspect data height value in height map view (in Whole Part Mode)</i>	Inspect the exact height value at any location by hovering the mouse cursor over the height map display. Simplifies troubleshooting whole part output by inspecting the data directly in the web browser.
<i>Improved CPU utilization when using dynamic exposure mode</i>	CPU Utilization is reduced when using dynamic exposure mode, leaving more CPU power for using Measurement Tools.
<i>Increased maximum frame rate when using multiple exposure mode</i>	Under some scenarios frame rates are increased when using multiple exposure mode. With higher frame rate, users can increase production speed by running the part faster or increase measurement accuracy by increasing the Y resolution.
<i>Open groove and corner results in the Groove measurement Tool</i>	The Groove measurement tool can now detect grooves with no visible bottom surface and also returns groove corner positions.
<i>Improve detection of tilted target with the Groove measurement tool.</i>	The Groove measurement tool can now detect minimum size grooves on a tilted surface.
<i>Pre-defined exposure for acquiring intensity output when using Multiple Exposure Mode</i>	Multiple exposure mode users can now select a specific exposure for acquiring intensity output. This increases the quality of the intensity output when the target has different reflective properties in the X-axis.
<i>Increased analog output speed on the Gocator 2300 series</i>	Analog output speed of the Gocator 2300 is now increased from 1kHz to 10kHz. Analog output users can now run the sensor at higher speed without losing data.
<i>Stamp information in Script measurement tool</i>	Added functions for retrieving stamp information (e.g. time, encoder position, digital input states) within the script measurement tool.
<i>64-bit GenTL driver</i>	64-bit GenTL driver is now included in the Gocator tools package.





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## Fixes:

<i>Setting Tracking Window thresholds failed when using SDK</i>	The SDK function <code>Go2Sensor_SetTrackingSearchThreshold</code> and <code>Go2Sensor_TrackingSearchThreshold</code> now functions correctly.
<i>Corrected search threshold when X resolution is reduced</i>	The search window is now properly adjusted when X resolution is reduced.
<i>Memory leaks when accessing the profile measurements' configurations using the SDK</i>	Memory leaks are resolved when reading the settings of the added profile measurement tools using the SDK.
<i>Results of auto-set exposure not returned in the SDK</i>	Auto-set exposure results are now sent on the Ethernet data channel.
<i>Crashes when input gating is enabled in Raw mode</i>	Gocator no longer crashes when input gating is enabled in Raw mode.
<i>Missing script measurements in CSV</i>	Script measurement results are now included in CSV files when exporting from replay data.
<i>Sensor using incorrect MAC address on the Ethernet network</i>	Sensors' MAC address is now within the designated numbers assigned to LMI.
<i>kDiscovery crashes when the network setting contains a mixture of four and five digit serial numbers</i>	The crash is now fixed.
<i>Template not loaded when switching configuration using Modbus or EtherNet/IP</i>	The template (.prof) is now loaded when the Modbus or EtherNet/IP protocol is used to switch sensor configuration.
<i>Corner or edge feature detection return invalid results when data is valid</i>	In some cases the corner or edge feature detection may return an invalid result when the data is valid. This is now fixed.
<i>Errors in the SDK examples</i>	The SDK examples incorrectly passed user and password parameters when using the <code>Go2System_Connect</code> function. This is now fixed.

## Known Issues:

<i>Incomplete language translations</i>	The web interface is not fully translated in some supported languages (i.e. Japanese and Korean).
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*Auto-set occasionally fail on sensors highly reflective target*

Auto-set may return incorrect exposure values on sensors with high laser power or when scanning highly reflective targets.

*Loses data when using Selcom Serial with frame rate lower than 3kHz*

Frame rate lower than 3kHz may cause data loss when outputting on Selcom serial.





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## 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	Config	Profile/Measurements /GrooveMinX/Location Profile/Measurements /GrooveMinZ/Location	Location on the groove for which position is returned
Add	Config	Setup/StartupModeOptions	Lists acceptable options for StartupMode
Add	Config	Profile/Measurements/BridgeValue	New elements for the bridge value measurement tool (for Gocator 2340-3B-N-12 only)
New Value	Config	Outputs/Digital/Event	Add value for pulse on exposure
Add	Config	Outputs/Serial/Protocol	New elements for Selcom Serial protocol
Add	Config	/Config /Range	New elements for range mode and measurements
Add	Data	Range Result	New data types for ranges, range intensity and range measurements
Add	Config	*/Measurements /<MeasurementType> /HoldEnabled */Measurements /<MeasurementType> /SmoothingEnabled */Measurements /<MeasurementType> /SmoothingWindow */Measurements /<MeasurementType> /SmoothingWindowMin */Measurements /<MeasurementType> /SmoothingWindowMax	New elements for measurement output filtering (hold and smoothing)
Add	Config	/Setup /BatchCount /Setup /BatchCountMin /Setup /BatchCountMax	New elements for specifying the number of frames batched together.
Add	Config	/Sensor /Profiling /IntensityStepIndex	Define the exposure step to use for acquiring intensity in multiple exposure mode.

