GoPxL 1.4 – Release Notes

Firmware Version 1.4.43.23
Document Revision E

Important Note:
The GoPxL 1.4 Pro Utilities file on the LMI website was updated Feb 25, 2026 to fix a crash issue caused by Windows updates KB5074105 and KB5077181.

If you previously downloaded the Pro Utilities package, please replace it with the updated one.

The problematic Windows updates began applying this month and caused a conflict with some of the new image tools in the original file. Specifically, loading a job with, or adding any of the following tools causes the GoPxL instance to crash, resulting in a "Connection Lost" message:

- Image OCR
- Image Barcode
- Image Matrix Code
- Image OCR
- Image Pattern
- Image QR Code

The old and new files can be differentiated by file size:

Original January release:	4,025,273 KB
Patched February 25th version:	4,025,261 KB

Compatibility

- Devices supported:
  - Gocator Line Profilers: 2100 C/D version, 2300 C/D version, 2400, 2500, 2600, 6300
  - Gocator Snapshot Sensors: 3200, 3500 (including B version)
  - Gocator Line Confocal Profilers: 4000, 5500
  - Gocator 2D Smart Cameras: 1050, 1120
  - GoMax NX, ORIN, ORIN+
  - X64-based PC (Intel/AMD) with Windows 10 and Windows 11
- The following series and models are not supported:
  - Gocator Point Sensors: 1300
  - Gocator Line Profiler: 2342, 2880
  - Gocator Multi-point Profiler: 200
  - GoMax (pre-NX version)
- Minimum browser requirements:

	Google Chrome	Microsoft Edge	Mozilla Firefox
GoPxL Web UI	91+	91+	79+
GoHMI	80+	80+	74+

New features

2D smart camera support	GoPxL 1.4 adds a complete 2D inspection stack, delivering high-speed imaging and vision tools. With Gocator 2D Smart Cameras, users can capture, inspect, and output results directly on-device. Deploy edge, blob, measurement, barcode/OCR, and AI tools (anomaly, classification). Built-in lighting control. Control lighting directly through the camera's GoPxL interface via built-in light connectors and exposure-synced strobing.
Data storage	Results can now be archived locally on PC, GoMax or Gocator 2D, or remotely via FTP to meet traceability and compliance needs.
Replay Editor	The new Replay Editor can be used for reviewing recorded data, importing and exporting files (.gprec and image formats), and deleting individual frames.
String datatype support	Strings are now supported as a data type that can be output from tools and over communications protocols. This enables applications such as including part ID strings in filenames for data storage.
User data input	Data can be input from PLCs over EtherNet/IP, PROFINET and via the SDK. The user data can then be read from the new User Data Input tool. With the storage feature and string data type support, this can be useful for reading in part ID information and including it in the archived file names. To allow a larger data input size, an alternate EDS file is provided with a larger command assembly. The original smaller command assembly remains supported.
Conditional Logic Tool	The new Conditional Logic tool allows conditional execution of downstream tools, reducing frame processing time.
Emulator (beta)	An emulator is now available as a beta feature through the GoPxL Manager. Support files for single 3D sensor models can be opened in emulation, allowing maximum frame rate simulation for active area changes. Several limitations apply: ● Support files from GoPxL 1.3 and earlier versions cannot be loaded. ● Support files from GoMax, Gocator 2D, and multi-sensor systems are not yet supported.
Date & Time (beta)	The new Date & Time service allows synchronizing the device time to a NTP server. This is specifically useful with the Data Storage feature to capture correct date and time in stored file names. Time zones are not supported. All times are recorded in UTC+0

Improvements

Navigation bar updates	The expanded navbar now uses click-to-open accordion menus to replace exclusive reliance on hover fly-outs. Additionally, new visual indicators are added for parent-child hierarchies and active page states.
Classic sensor discovery in GoPxL discovery	Sensors running Gocator Classic firmware are now listed in the GoPxL discovery utility.
Region rotation in data viewer	Regions that support Z Angle rotation can now be rotated in the data viewer using a handle on the region.
Measurements "Pass" by default	The default decision for measurements is Pass rather than Fail. The Minimum and Maximum threshold on each measurement can be disabled and are disabled by default. When loading a job file from GoPxL 1.3 or earlier, this change results in log messages for each tool: "Outputs for tool <tool name> were upgraded from version 1 to 2".
HMI Designer	Many improvements have been made to the HMI designer including themeable widgets, a new Theme Manager for global styling and Audit Trail capability.
Graphics from Script and Python tools	For the purpose of flexible visualization and annotation, new `draw` calls are available in the Script and Python GDK tool API, allowing drawing graphics to the data viewer.
Index Sync	The Index Sync control now allows manual entry of an index to allow easier navigation to a specific array item.
G63xx maximum frame rate	The maximum frame rate of Gocator 63xx sensors is improved for cases where the active area is not vertically centered on the imager.
Optional intensity output from tools	Intensity data output is now optional for relevant tools, reducing bandwidth consumption for SDK integrations that do not require this information.
SDK	In the SDK it is now possible to identify the source of a dataset when multiple independent sensors are sending data to the same application.
EtherNet/IP default byte order	The default byte order for EtherNet/IP has been changed from Big-endian to Little-endian to conform with the EtherNet/IP standard.

Bug Fixes

Many issues have been resolved in the 1.4 release. The following are the top issues that were resolved:

Data Viewer	The data viewer did not always show all data belonging to the same frame at the same time.
Digital Output Part Detection	The digital output signal for Part Detection did not go low immediately at the end of a detected part if tool processing time was long.

Communications errors on job load	Errors for some communications services were shown on job load even if the service was disabled.
Surface Blob	With a large number of blobs or large blobs, the outline of the blob was not always drawn. The new Show Precise Boundary option is now available, allowing users to visualize a higher density of points along the blob perimeter for greater detail.
Profile Transform with Profile Part Detection	Combining the output from Profile Transform into Profile Part Detection resulted in some skewed profiles in the final surface
Surface Filter	The output values for Morph Gradient, Sobel Magnitude, and Laplacian processing modes were incorrect

Known Issues

General

Gocator 2D Calibration	After calibrating with a reduced active area, the active area may shift to the top-left corner after power cycling.
Windows Pro Utilities installation	A spinning wait cursor is shown for over 15 seconds before a window appears due to the large size of the file.
GoPxL Manager crash on startup	A crash occurs when launching GoPxL Manager 1.4.43.23 on a PC if the PC name matches the user name. To check if a PC is affected, run the following command in Windows Powershell: `if ($env:COMPUTERNAME -eq $env:USERNAME) { "AFFECTED" } else { "OK" }` A GoPxL 1.4 build with a fix is available from technical support staff, and this issue will be resolved in GoPxL 1.5. Workaround: Rename the PC so that it does not match the user name.
Gocator 3210 upgrade	The free storage on a Gocator 3210 sensor may limit its ability to be upgraded to a different firmware version. Workaround: If upgrade fails, perform a factory restore and ensure that any tool-created files are removed (for example from Surface Pattern Matching or Surface Track) by adding the tool and then deleting any files from the tool's Operation drop-down. If you have previously run the Gocator Classic firmware on the sensor, make sure files created with these tools are also removed (you will need to downgrade first)
Browser UI Disconnection	The web interface may show a disconnect error after many hours of running a sensor in profile mode. A refresh in the browser resolves the issue.

Interleaved Multiple Exposure	On G2/G4/G5 sensors, enabling Interleaved exposure mode may result in dropped triggers, leading to missed data.
Unmerged multiple exposures	With Uniform spacing disabled, multiple exposures, enabling "Unmerged multiple exposure", and switching from Profile to Surface mode, data processing errors occur.
GoMax upgrade with Anomaly Detector	It is not possible to directly upgrade a GoMax device from Gocator Classic 6.3 SR2 and earlier with the GoMax Anomaly Detector upgrade package (.dat file).This is due to an upgrade package size restriction. Workaround: First upgrade to GoPxL 1.1 before upgrading with the GoMax Anomaly Detector build.
Job loading/switching	Loading or switching jobs may be slower than expected with small job files with less than 10 tools.
PROFINET disable	Once the service is enabled, it will remain running in the background until a power cycle is performed. Workaround*:* Toggle off the service, save the job, restart the sensor, and load the job again.

Tools

Image Classifier	Due to memory constraints, Image Classifier is not supported on GoMax NX.
Image Anomaly Detector	Training may fail with an internal error when Automatic Mixed Precision is enabled.
Image Anomaly Detector	Training with the WideResNet50 backbone and 512x512 images may cause a Windows blue screen error. Workaround: Reduce the batch size.
Image Anomaly Detector	A crash may occur when using the training wizard while 2D images are being saved to the replay buffer.
Tool performance	The execution time of some tools may be slower than expected. Workaround: Ensuring that the Web UI is closed can improve performance of some tools.
Default region size	When using surface tools on the output of Profile Part Detection, the default tool regions may be inappropriately sized and placed relative to the surface dimensions.
Surface Anomaly Detector	Surface Anomaly Detector training log cannot be extracted with the default Windows 11 extract archive tool. Use Winrar or 7-Zip v24.09 or newer as a workaround.

Image Anomaly Detector *Image Classifier*	Job failure when combining the Classifier and Anomaly Detector tools within a single job file. This limitation applies to any combination of these tools Workaround: Segregate these tools into separate job files.
Surface Stitch	Stitching multiple large surfaces may cause GoPxL to become unresponsive due to excessive memory.
Script tool	The draw_lines() function does not render lines with the specified width. All lines appear with the default thickness.
Script tool	Drawing APIs may require an additional Surface input or an explicitly specified output index (e.g., output = 0) to ensure points and labels render correctly
Data storage	Due to memory constraints, G3520 with data storage enabled on device may become unresponsive. Workaround: Accelerate sensor on PC with GoPxL.

Utilities

Track editor with multiple GoPxL instances	When using multiple GoPxL instances on PC, it is not obvious which instance is which in the Track editor application's Source drop-down.

GoHMI

Default HMI App	A factory restore is required to update the default HMI app.
Updating HMI App on PC	The browser cache must be cleared in order for a newly updated or created HMI app to show. In Chrome, open Developer Tools (Shift+Ctrl+J or F12), Right-Click on the browser Reload Button, and select "Empty Cache and Hard Reload". This is not required for GoHMI on sensor or GoMax NX.

SDK and REST API Protocols

REST API version 3.x.x
GDP Protocol x.x.x

REST API

REST API Endpoints and Parameters changes	`/system/userData`
	User Data Input: Read/update user data buffer
	
	`/tools/{toolId}/outputs/{outputId}`
	Updated to include `decisionMinExt` and `decisionMaxExt` objects as extended types to allow users to toggle pass/fail criteria via a new `enabled` flag.
	
	`/controls/{protocol}/registerAssemblies`

Updated the endpoint to support Category 9 ("String") block types across industrial protocols (Modbus, EtherNet/IP, PROFINET, E-ASCII). This update defines the specific instance limits and default register counts for string data and enables the transmission of alphanumeric values alongside standard measurement and control blocks.

`/controls/{protocol}/metrics`
Removed the `controlDrops` metric from the endpoint. This metric remains available under `/controls/{serviceId}/metrics` for centralized monitoring.

SDK

Classic sensor discovery

The SDK now supports discovering sensors with Classic Gocator firmware in addition to GoPxL instances.

C++ API:

```C/C++
GoDiscoveryClient client;
// Discover both GoPxL and classic sensors
client.BlockingDiscover(timeoutMs, true);  //
classicDiscover=true

// Access discovered instances
const std::vector<GoInstance>& gopxlInstances =
client.InstanceList();
const std::vector<GoInstance>& classicInstances =
client.ClassicInstanceList();

// Find specific classic sensor by serial number
const GoInstance* sensor =
client.ClassicInstance(serialNumber);
```

.NET API:

```CSharp
GoDiscoveryClient client = new
GoDiscoveryClient();
client.BlockingDiscover(timeoutMs,
classicDiscover: true);
```

```
List<GoInstance> instances =
client.InstanceList(); // Contains both GoPxL and
classic
```

Multi-sensor data source identification	New “Sender” API to identify which sensor/connection a dataset originated from when receiving data from multiple independent sensors simultaneously.
	
	C++ API:
	C/C++
	`// GoDataSet now tracks its sender`
	`const GoGdpClient* sender = dataSet.Sender();`
	
	`// GoGdpClient provides connection info`
	`kIpAddress ip = client.IpAddress();`
	`k16u port = client.Port();`
	
	.NET API:
	CSharp
	`// GoDataSet.Sender property`
	`GoGdpClient sender = dataSet.Sender;`
	
	`// GoGdpClient provides connection info`
	`IPAddress ip = client.IpAddress;`
	`ushort port = client.Port;`

Functionality compared to Gocator 6.x firmware

This section lists features that are available in Gocator firmware versions 6.x but not available in GoPxL.

More user interface translations	GoPxL is only available with English, Chinese and Japanese user interface currently. More translations are planned for future releases.
Analog, and Serial output	Analog, and Serial output are not supported.

GoMax Independent acceleration	GoMax can only accelerate a single sensor or a single set of grouped G2 or G4/G5 sensors (formerly known as “buddy” system). Accelerating multiple sensors independently is not supported.
Recording filtering	There is currently no ability to conditionally record data with recording filter settings. Conditional export to file is supported with the Data Export tool.
Technician login	Gocator 6.x Technician login with restricted UI is replaced by GoHMI functionality allowing creating a reduced access interface.
G2 Tracking, Translucent spot detection	The tracking functionality and translucent spot detection are not available.
Surface Section and Polygon region	Surface Section does not allow editing the section line by dragging end points and no polygon region is supported. These will be added in a future release.
G2342, G2880, G200	These models are not currently supported in GoPxL