COGNEX

In-Sight Explorer

In-Sight® Explorer 6.1.0 Release Notes

Overview

This document describes the In-Sight Explorer software, including the following topics:

- System Requirements
- New Features
- Changes & Fixes
- Known Issues

> **Note**: For the latest release notes and documentation, visit: support.cognex.com/documentation/in-sight.

System Requirements

This section describes system requirements for In-Sight Explorer software.

PC Hardware Minimum and Recommended Requirements

> **Notes**:
> - The following minimum hardware requirements are for PCs that are connected to a single low-resolution In-Sight vision system running at a slow production speed.
> - The following recommended hardware requirements are for PCs that are simultaneously connected to up to four In-Sight vision systems.

Minimum	Recommended
Intel® Celeron® 1000M processor running at 1.8GHz (or equivalent)	Intel Core™ i7 processor running at 2.7GHz (or equivalent)
2GB of available RAM	4GB of available RAM
4GB of available disk space	8GB of available disk space
Video card that can display 1024 x 768 resolution at 24-bit color depth (the DPI Display setting must be set to 96 DPI)	Video card that can display 1920 x 1080 resolution at 32-bit color depth (the DPI Display setting must be set to 96 DPI)
Network interface card (at least 100Mbps) for connecting to an In-Sight vision system	Gigabit network interface card for connecting to multiple In-Sight vision systems

Operating System Requirements

In-Sight software has been tested on the following operating systems:

- Microsoft® Windows® 10 Professional (64-bit)
- Microsoft Windows Server 2016

Although you can install and run In-Sight Explorer on other Windows operating systems, PCs that do not meet the preceding requirements are not officially supported.

Supported Languages

- Chinese (Simplified)
- English
- French
- German
- Japanese
- Korean
- Spanish (European)

Firmware Version Support

In-Sight 6.1.0 software contains three firmware versions:

- In-Sight 6.1.0
- In-Sight 5.9.2
- In-Sight 4.10.5 PR1

In-Sight vision systems that have older firmware versions might work properly. However, some features are unsupported with older firmware versions and are not fully tested. For optimal performance, update vision systems that run older firmware to the most recent, supported firmware versions. For a list of models and supported firmware versions, see the Firmware Versions topic in the *In-Sight® Explorer Help* file.

In-Sight Firmware 6.1.0

- In-Sight 2000 series vision sensors
- In-Sight 7000 Gen2 series vision systems
- In-Sight 8000 series vision systems
- In-Sight 9000 series vision systems
- In-Sight Advantage Engine

In-Sight Firmware 5.9.2

- In-Sight 5705 and 5705C vision systems

In-Sight Firmware 4.10.5 PR1

- In-Sight Micro 1000 series vision systems
- In-Sight 5000 series vision systems (except In-Sight 5705 and 5705C vision systems)
- In-Sight 7000 series vision systems (except In-Sight 7000 Gen2 series vision systems)

Microsoft .NET Framework 4.5.2

In-Sight software requires Microsoft .NET Framework 4.5.2. If the In-Sight software installer fails to detect Microsoft .NET Framework 4.5.2, it attempts to download and install it.

New Features

New Features
The EasyBuilder 1D and 2D Identification tools and ReadIDMax spreadsheet function's Advanced Decode Mode have been optimized to use Hotbars®, a best-in-class technology that locates, extracts, and decodes 1D barcodes quickly and accurately. The functionality has also been extended to ensure fast and reliable decoding of even the most challenging 2D DPM codes.

The following updates were made to the ReadIDMax spreadsheet function:

- Added support for reading multiple Maxicode symbols.

- Added a DotCode option to the Symbology Group drop-down, enabling decoding of DotCode symbols.

- Added an Aztec Code option to the Symbology Group drop-down, enabling decoding of Aztec Code symbols.

- Added an MSI checkbox to the 1D Symbologies, to enable MSI (also known as Modified Plessey) reading.

- Added a Code 25 checkbox to the 1D Symbologies, to enable Code 25 (also known as Code 2 of 5) reading.

- The following enhancements were made to Advanced Decode Mode:

  - IDMax has been enhanced to use advanced image processing and image analysis techniques to ensure the highest yield on difficult 1D codes (for example, symbols with low contrast, severe damage, low pixels per module, etc.) or challenging 2D DPM codes produced by laser, dot peen, ECE and Ink Jet technologies.

  - A new IDQuick option has been added, that provides high-speed decoding of symbols that are well formed and appear in high contrast.

  - The Allow Non-conformant Modules option is no longer supported. When upgrading to In-Sight 6.1.0 firmware and an existing job file is loaded to the vision system, it is automatically updated to use the IDMax decoding option.

  - The High Speed High Contrast and IDQuick (Yield Preferred) options are no longer supported. When upgrading to In-Sight 6.1.0 firmware and an existing job file is loaded to the vision system, it is automatically updated to use the IDQuick decoding option.

- Added a Severe Perspective option to the Decode Settings Perspective drop-down, to decode Data Matrix symbols with severe perspective distortion at read time.

- Added a Symbol Damage drop-down to the Decode Settings, to enable 2DMax® and PowerGrid® and allow reading of low-quality Data Matrix and QR symbols, including symbols with damage to their quiet zones, finder patterns and clocking patterns.

- Added a Rectangular Extension checkbox to the Decode Settings, to specify whether the Data Matrix symbol is decoded using Data Matrix Rectangular Extension (DMRE), for symbols used in applications with high data density and limited vertical space available for marking the code.

- Added a Minimum Decodes Before Output drop-down to the Decode Settings, to specify the number of matching decodes for a successful read of the 1D symbol.

The following updates were made to the 1D tab of the Read 1D Code and Read 1D Codes (1 - 20) Identification tools in EasyBuilder:

- Added an MSI checkbox to the 1D Symbologies, to enable MSI (also known as Modified Plessey) reading.

- Added a Code 25 checkbox to the 1D Symbologies, to enable Code 25 (also known as Code 2 of 5) reading.

New Features
The following updates were made to the Settings tab of the Read 2D Code and Read 2D Codes (1 - 20) Identification tools in EasyBuilder: • Support for reading multiple Maxicode symbols has been added to the Read 2D Codes (1 - 20) Identification tool. • Added a DotCode option to the Symbology Group drop-down, enabling decoding of DotCode symbols. • Added an Aztec Code option to the Symbology Group drop-down, enabling decoding of Aztec Code symbols. • Added a Symbol Damage drop-down, to enable 2DMax and PowerGrid and allow reading of low-quality Data Matrix and QR symbols, including symbols with damage to their quiet zones, finder patterns and clocking patterns. • Added a Rectangular Extension checkbox to decode the Data Matrix symbol using Data Matrix Rectangular Extension (DMRE), for symbols used in applications with high data density and limited vertical space available for marking the code.
Enhanced PDF417 decoder robustness on defects and damage.
This release includes QR Code reading enhancements.
In-Sight firmware version 6.1.0 and later is current with GS1 General Specifications, Version 19.1.

The following new features were implemented to support the Sensor filmstrip:
 	
• The FTP `get` command now supports retrieving Sensor filmstrip images stored to the vision system. When issuing the FTP `get [file name]` command, the filmstrip image file name must be in the following format: `get image_rqN.bmp` where N is the 0-19 index of a specific filmstrip image. For example, get `image_rq3.bmp` retrieves the fourth filmstrip image.
 	
• The following new Native Mode commands were added:
 	
   • `Get /resultQueue/frozen` to return the frozen/unfrozen state of the Sensor filmstrip.
 	
   • `Put /resultQueue/frozen true` to freeze the Sensor filmstrip.
 	
   • `Put /resultQueue/frozen false` to unfreeze the Sensor filmstrip.
 	
   • `Post /resultQueue/clear` to clear the Sensor filmstrip.
 	
   • `Post /resultQueue/toString` that returns a string with a 1 (pass) or 0 (fail) for each Sensor filmstrip image. The length of the string is the equal to the number of queued results.

A new GetPostInspectionTime Vision Data Access spreadsheet function has been added to return the post-inspection time, in milliseconds, for the previous inspection. This function returns #ERR for the first inspection and if the vision system is Offline.

Changes & Fixes

Notes:

• For changes and fixes in previous releases, see past In-Sight Explorer release notes. Release notes for previous 5.x.x releases are available in the *In-Sight Explorer® Help* file.

• The release notes include issue numbers (where applicable) to better track known issues reported by Cognex Technical Support.

Issue#	Change/Fix	Applicable Firmware Version
IS-4366	The GetAllTime Vision Data Access spreadsheet function has been updated to include the pre-inspection time before the job executes, to more accurately report the time for the image to be acquired and the job to execute. **Note**: The real-world job execution time will not be increased. This change only affects the execution time returned by the GetAllTime function.	6.1.0
IS-4313	When communicating over TCP/IP or UDP, the QueryDevice spreadsheet function now correctly updates to display the data read back from the TCP/IP or UDP device. Previously, the QueryDevice function only updated if it contained an invalid input parameter and returned #ERR.	6.1.0
IS-4283	The status bar in the Spreadsheet View and the Results tab in the EasyBuilder View Palette have been updated to display the job execution time and total execution time. The total execution time is the job execution plus any additional pre-inspection and post-inspection time.	6.1.0
IS-4283	When the Acquire button is pressed in the Spreadsheet View Profile Job dialog, the Total time correctly displays the job execution time.	6.1.0
IS-4195	When using the BeadFind and BeadInspect spreadsheet functions, the bead path no longer always must intersect the bead to correctly find the bead. During inspection, the bead may move, and both edges of the bead may be positioned on one side of the bead path. Previously, the bead would not have been detected and a "No Bead Found" error was reported.	6.1.0
IS-4119	When connected to the vision system over FTP and issuing the FTP mget command, files are properly downloaded from the vision system and saved to the default directory of the FTP client on the remote host. Previously, if the vision system was running In-Sight firmware version 5.8.0 - 5.9.2 and the FTP mget command was issued, an FTP 550 error was returned, indicating the file was not found.	6.1.0
IS-4044	When the VerifyIDCode spreadsheet function is configured to use ISO 15415:2004 or AIM-DPM - Process Control Metrics, the GetFixedPatternDamage Vision Data Access function now returns a consistent grade for the decoded symbol.	6.1.0
IS-2965	The maximum region size for the following 1D and 2D symbologies has been increased to 2592 x 2048 (Wide x High) for the following symbologies. Previously, the maximum region size for these symbologies was 2048 x 2048. - Code 128 - Code 39 - Interleaved 2 of 5 - UPC/EAN - Code 93 - Codabar - PDF417 - POSTNET - PLANET - Japan Post - Australian Post - UPU - Intelligent Mail Barcode - Data Matrix - QR Code - MaxiCode	6.1.0
N/A	The 5705 and 5705C vision systems are not supported with In-Sight firmware version 6.1.0.	6.1.0

Issue#	Change/Fix	Applicable Firmware Version
N/A	Microsoft Windows 7 Professional, Service Pack 1 (64-bit) is no longer supported with In-Sight software.	N/A
N/A	Microsoft .NET Framework 3.5 SP1 is no longer supported with In-Sight software.	N/A
N/A	The OPC Classic Server software is no longer supported. If OPC support is required, it is recommended that you migrate from the OPC Classic Server to the In-Sight OPC UA Server. For more information, see the In-Sight Explorer Help.	6.1.0

Known Issues

Note: The release notes include issue numbers (where applicable) to better track known issues reported by Cognex Technical Support.

Issue#	Issue	Affected Firmware Version
IS-4432	If the ReadIDMax function is configured to read Data Matrix symbols, the Enable Training option is checked and Train Perspective is selected from the Perspective drop-down, subsequent attempts to read the symbol will fail.	6.1.0
IS-2854	After a power-cycle, if the vision system/sensor receives a new trigger, no new results are added to the Sensor Filmstrip queue. However, the image and spreadsheet continue to update correctly. Conditions: • An In-Sight vision system/sensor is configured to use the Sensor Filmstrip. • In the Sensor Filmstrip Settings dialog, the Queue drop-down is configured as **Separate Pass and Fail Results**. • In the Sensor Filmstrip Settings dialog, the **Queue Size** is increased or decreased. • The vision system/sensor is power-cycled. • After the power-cycle, the vision system receives a new trigger. Workaround: 1. Within In-Sight Explorer, click **Sensor menu > Sensor Filmstrip Settings** to launch the Sensor Filmstrip Settings dialog. 2. From the Queue drop-down, select an option other than Separate Pass and Fail Results and click **OK**. 3. Relaunch the Sensor Filmstrip Settings dialog. 4. From the Queue drop-down, select **Separate Pass and Fail Results** and click **OK**. When the vision system/sensor is triggered, results are correctly added to the queue.	6.1.0
FFP-1646	In-Sight 2000 series vision sensors running In-Sight firmware version 5.9.1 and later are not certified for PROFINET Conformance. To run In-Sight 2000 series vision sensors with PROFINET Conformance, you can downgrade the In-Sight 2000 series vision sensors' firmware version to In-Sight 5.9.0 or 5.8.x.	5.9.1 & 6.1.0

Issue#	Issue	Affected Firmware Version
IS-2195	If In-Sight Explorer is installed to a PC with a Microsoft Windows 10 operating system and the **Beta: Use Unicode UTF-8 for worldwide language support** is checked in the Region dialog, the vision system or emulator may not be able to connect to the In-Sight Explorer Spreadsheet View. Workaround: Uncheck the **Beta: Use Unicode UTF-8 for worldwide language support** checkbox. 1. In the search box on the Windows taskbar, type **Control Pane** and select the **Control Panel** App. 2. From the Windows Control Panel search box, type **Region** and select the **Region** text. 3. In the Region dialog that opens, click the **Administration** tab and click the **Change system locale...** button. 4. In the Region Settings dialog that opens, uncheck **Beta: Use Unicode UTF-8 for worldwide language support** and click **OK** to close the Region Settings dialog. 5. Click **OK** to close the Region dialog. 6. Reboot the PC.	N/A
FFP-1053	When the vision system is configured to load a job at startup (Sensor menu > Startup) and the EV SetSystemConfig OPCUA.TimeSync Extended Native Mode command is issued, OPC UA Job Tags are missing in the OPC UA client when browsing the address space (Objects > Server > VisionSystem > Results > JobTags node). Workaround: Use the LoadJob method to reload the job file to the vision system/sensor. For more information, see the *In-Sight® Explorer Help* file.	6.1.0
FFP-875	Sending the communication settings, such as the IP address, from Mitsubishi iQ Sensor Solution (GX Works) to the In-Sight vision system/sensor is not supported.	6.1.0
IS-334	When you try to connect your vision system/sensor to the Web HMI for the first time, you may receive a permission error and connection is denied. Workaround: Reinstall or update the firmware on the vision system/sensor and then retry the Web HMI connection.	6.1.0
48478	If an In-Sight vision system that runs firmware 5.6.0 or later has a job with many instances of the ReadIDMax function, the job might require more memory than is available on the vision system. Any instances of the ReadIDMax function that exceed the available memory returns #ERR. For example, if an In-Sight 8405 vision system job contains more than 100 instances of the ReadIDMax function, you might encounter this problem.	6.1.0
45581	For In-Sight 7000 Gen2 series and 9000 series vision systems configured for CIP-Sync/PTP, 1588 synchronization accuracy through a transparent clock-switch might increase to more than 10µs offset from master.	6.1.0
35828	If an industrial Ethernet communication protocol triggers the vision system, the JobPass signal is sent only if the job contains a WriteResultsBuffer function. This issue does not occur with EasyBuilder applications once the Communication application step has been configured.	6.1.0
32479	If you update the In-Sight vision system firmware while it is connected to a POWERLINK network, it results in a code 13710, with the vision system needing to be power cycled and the files restored (the firmware will be successfully updated, however). Workaround: Before you update the vision system firmware, complete the following steps: 1. Remove the vision system from the POWERLINK network and connect the vision system to a network port on the same subnet as the computer that runs In-Sight Explorer. 2. Power cycle the vision system. 3. Update the firmware while the vision system in Ethernet mode. 4. Place the vision system back onto the POWERLINK network. 5. Power cycle the vision system.	4.10.5 PR1