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Release Notes for MotionWorks IEC
Release 3.4.0.233a
December 12, 2017

Microsoft OS Support
As of the v3.4.0 MotionWorks IEC release, Windows XP will no longer be supported. Supported Windows Operating systems include Vista, 7 and 10.

New Features		
Number	**Summary**	**Release Notes**
10229 10239 10244 10245 10485 10558 10609	Hardware Configuration supports new ServoPack, MPiec controller, and VIPA modules	• Sigma-7 400 VAC • Sigma-7S FT19 Less-Deviation Control • Sigma-7S FT62 High Speed Output • Sigma-7S FT81 Harmonic Drive Integrated Gear Motor • VIPA 040-1CA00 RS485 communication module • VIPA 050-1BB40 frequency measurement module • MP3300 with RJ-45
1459	Hardware Configuration project comparison shows more detail	The Hardware Configuration's project comparison details have been extended to all device types. Differences between devices are also more in depth.
6976	Logical axis numbers are editable in the Hardware Configuration	
7691	Implement MC_GroupSetPosition function block for Mechatrolink groups and MLX	This function sets the ACS position offsets.
8690	Support project versioning	MotionWorks IEC Pro edition now supports project versioning and event logging. See help file topics for specifics about usage.
9529	Allow configuration of a rotational axis (Rx, Ry, or Rz) for Hbot/Tbot mechanism types	H-Bot and T-Bot configurations now support an additional rotational axis.
9622	Initialize Multi-Element Variables from the Code Worksheet	It is now possible to initialize Multi-Element Variables from the Code Worksheet, with the following limitations: 1. The 'Init. value' column does not populate when variable is selected in POU worksheet. 2. The 'Init. value' column is not editable when variable is selected in POU worksheet. 3. The 'Description' column is editable when variable is selected from Global Variables but is not editable when variable is selected from POU worksheet.
9668	Support Windows 10	MotionWorks IEC is now officially Windows 10 compatible.
9986	Add feature to see source location of function or function blocks	The source library name of a function block is now displayed in the tooltip text when the mouse pointer hovers over it.
10467	Improve performance for Global Find	Performance of the Global Find function in MotionWorks IEC has been improved significantly.

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New Features

Number	Summary	Release Notes
10470	Automatically exit debug mode when saving Hardware Configuration	Saving Hardware Configuration while MotionWorks IEC is in debug mode will now automatically exit debug mode to continue with save. Previous behavior was an error message that MotionWorks IEC was in debug mode followed by aborting the save.
10493	Add Hardware Configuration support for five and six degrees of freedom gantries	New n-dimensional gantry mechanism configurations have been added, and existing gantry mechanism configurations have been updated. The "4D Gantry" mechanism has been replaced with an "nD Gantry" mechanism that has selections for 2D, 3D, 4D, 5D, and 6D configurations. Existing "4D Gantry" configurations will automatically be detected as "Gantry" with a 4D machine coordinate system. Legacy mechanism types "2D Gantry" and "3D Gantry" are still available. There is no behavior change for each of these mechanism types.
10603	Convert HBot/TBot configuration to proper kinematics for ACS/MCS	Gantry and H-Bot/T-Bot groups have been reconfigured to add support for Machine Coordinate System (MCS.) Hardware Configuration is backwards compatible with older firmware versions that only supported the ACS configuration.
10729	Add ability to write Vipa configuration parameters via Hardware Configuration	Configuration parameters for VIPA SLIO slice modules are displayed in Hardware Configuration and are writable when applicable.
10788	Remove software license key requirement for configuring an MLX200	The requirement for a Robot functionality license has been removed from MotionWorks IEC, however a special controller part number is required (RBT controller).
10809	Configurable levels of cascaded master/slave relationships	Cascaded depth for master and slave relationships is now configurable from 2 to 4 levels. Each additional level will impact performance, regardless of whether the master/slave feature is used.
10892	Bidirectional Modbus Holding Register area for MP2600iec/Sigma-7Siec controllers	Modbus slave configuration for MP2600iec and Sigma-7Siec now supports %M shared memory for bidirectional holding registers. This memory mapping also has increased in size. Register size has been increased from 1024 registers to 10000 registers. Coils and inputs have been increased from 128 to 512.

Bug Fixes

Number	Identified Issue	Details
1395	Unrestricted minimum task rate allows task rate lower than the Mechatrolink rate	MotionWorks IEC will now throw a compile error if a cyclic task interval time is less than the configured Mechatrolink communication cycle time. Previously there was no restriction to the cyclic task interval setting, but the fast rate at which a PLC task can execute is the Mechatrolink update interval.
9025	MWiec toolbars rearranged when re-docking PC	MotionWorks IEC toolbars will no longer re-arrange when extended desktop is used and a computer is undocked and docked.
9469	Internal Error occurs when 1) EQ block's EN has an array with an INT variable used as array index pointer and 2) the block's ENO connected to another block	Some cases of 'Internal Error' compiler error have been fixed in the 3.4.0 device profiles. 1) An array with an INT variable being the array index pointer is assigned to EN of EQ block 2) ENO of the EQ block is connected to EN of another block.

Bug Fixes

Number	Identified Issue	Details
9899	New Express project from template may reference incorrect user library path	MotionWorks IEC Express now references the correct user library paths in new projects. Previously the Express edition may have referenced user library paths for the Pro edition.
9995	Logic Analyzer can get placed in a position where the title bar cannot be reached and therefore the window cannot be moved	Undocked windows located in extended desktop space will no longer be inaccessible when extended desktop is inactive. These windows will automatically relocate to the desktop to be selectable without having to reset the MotionWorks IEC workspaces to recover the off screen windows.
10055	User library function blocks with enumerated types cause MotionWorks IEC to crash in debug mode if the value is set to -1.	MotionWorks IEC will no longer crash in debug mode when a function block has an enumerated type as VAR_INPUT and the input variable is set to -1.
10235	Getting "Can't read from PLC" message on download changes	MP2600iec, MP3200iec, MP3300iec, and Sigma-7Siec can now be configured with longer communications timeout by adding the timeout parameter -TO after the IP address in the MotionWorks IEC Resource settings window. The timeout value is milliseconds. e.g. "-TO20000" specifies a 20 second timeout.
10318	Logic Analyzer record button hidden	The logic analyzer record button no longer remains in the disabled state if logic analyzer window was previously closed with selected tab not being the first tab.
10410	"Set Parameters on Multiple Axes" can fail with mixed 7S and 7W drives	Bug has been fixed for "Set Parameters on Multiple Axes" failures due to option text discrepancies from mixed servopack models.
10450	SGD7 IO Signal Mapping does not work	Mechatrolink-III Sigma-7 I/O signal mapping has been fixed. Default input signal mapping is at drive parameters Pn860 and Pn861 instead of Pn81E. Default output signal mapping is at Pn868 and Pn869 instead of Pn82E.
10476	Hardware Configuration - Secondary group axes are not cleared when switching between different gantry mechanisms	Bug has been fixed to clear secondary axes when mechanism grid is reset after selecting different gantry mechanisms.
10484	Test move with rotary load type may rotate twice when only one rotation is specified	Hardware Configuration's Test Move functionality has been fixed for axes configured as rotary load type. Previously a test move may have moved one or two machine cycles when a distance of one machine cycle was specified.
10617	SGDV Mechatrolink-III servo I/O drive parameters are incorrect in Hardware Configuration	Mechatrolink-III Sigma-V (SGDV) servo drive parameters have been updated to include Pn860 to Pn869 related to SVCMD_IO servo inputs and outputs. Pn860 and Pn861 should be used for configuring Mechatrolink-III servo inputs instead of Pn81E. Previously these parameters were only editable with SigmaWin+ software.
10739	MotionWorks IEC Express cannot add VIPA SLIO	A bug has been fixed for adding VIPA SLIO devices in MotionWorks IEC Express. There was no such issue in the Pro edition.
10780	FFLD not available as a POU type	FFLD programming language support was inadvertently left out of MotionWorks IEC 3.3.0 Pro, this functionality has been restored in 3.4.0.
10835	LD programs with missing right power rail do not throw compile error	A ladder network that is not connected to the right rail is an error according to IEC 61131. In MotionWorks IEC 3.3 the compiler did not consider this to be an error and project compile was allowed. In MotionWorks IEC 3.4 an error will occur.
11085	Autodiscovered Mechatrolink-III node never matches offline Mechatrolink-III node	Previously an offline Mechatrolink-III node would never match an autodiscovered Mechatrolink-III node even though they should match.
11102	Controller Configuration Utilities' Reset to Factory Defaults does not remove all traces of archive	The Reset Controller to Factory Defaults functionality from Hardware Configuration's Controller Configuration Utilities has been fixed to correctly remove all of the archive data. Previously only the archived files were removed while archive descriptions remained.

Bug Fixes

Number	Identified Issue	Details
11189	HMI imported variables are not addressed properly	Bug has been fixed for importing HMI variables with Holding Registers Outputs enabled.

Known Issues

Number	Known Issue	Details	Workaround
10981	MotionWorks IEC crashes when zipping project with 'Zip Pagelayouts' selected on Windows 7	When trying to zip a project with page layouts selected in the zip options, MotionWorks IEC will crash. This crash occurs in Windows 7 but not in Windows 10.	Deselect 'Zip Pagelayouts' within the 'Zip Options' section of the 'Save/Zip project as' dialog.
9868	Occasionally all keystrokes in a POU will stop working after using Hardware Configuration	On some computers, interacting with the Hardware Configuration window will cause all keystrokes in MotionWorks IEC to be intercepted, causing the keyboard to become nonfunctional within the program. Not all computers are affected. The problem can occur in computers with .NET 4.0 and 4.5.	Updating to the most recent .NET 4.5.1 framework resolves this issue.
7052	After Communication Time out, Controller Utilities is Unavailable	When online, if communication to the controller is lost the Online Menu has items enabled and disabled as if the controller is still online.	This can be corrected by attempting to go online again. Using the invalid menu items does not produce any negative result.
6795	Unidentified Unicode text strings when using "Language for non-Unicode programs" setting	This occurs when the MotionWorks IEC language is set to Japanese or Simplified Chinese on an English language OS. There are some situations where the displayed text is unidentifiable; a series of question marks are displayed instead.	1. Using Windows Update, install all the Asian language packs. 2. Set the language for non-Unicode programs to Japanese: Settings→ Control Panel→ Region and Language→ Administrative→ Change my system locale Use Japanese formats: Settings→ Control Panel→ Region and Language→ Formats
6628	Continuous trace mode shows a value of -1.#QNAN0 if debugging mode is stopped and restarted	Continuous trace mode cannot guarantee that samples will not be dropped. When samples are dropped due to CPU overload or other reasons, a value of "-1.#QNAN0" will appear when the data is exported.	For a more accurate trace use non-continuous mode.
6622	Project Wizard does not behave as expected.	In some circumstances, the Project Wizard will not create a new project.	For new projects, use the project templates instead of the Project Wizard.
5833	I/O group address range does not match text in global variables I/O group name	Editing the name of EtherNet/IP or Modbus device, or adding and deleting devices with the same settings can cause a disconnect between I/O Groups and Variable Groups that can cause the variable addresses to be unrelated to I/O group address range.	Save the Hardware Configuration between deleting a device and reentering it.
5753	Logic Analyzer does not upload data when toolbar button "Stop recording values" is pressed.	Logic Analyzer will not upload data after pressing the stop recording value button. The log buffer must fill up first for the data to be transferred.	Use continuous trace data logging.

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1693	Slow compilation when Symantec Antivirus is enables	Compiler runs slowly when Symantec Antivirus is enabled.	Exclude MotionWorks IEC file types from virus scan. File types: cic, dbd, dip, dit, diw, st1, sto
1516	Project source code stored on controller has wrong extension in express (ZipFile.zwt, should be .zwe)	Project source code is saved with wrong extension for MotionWorks IEC Express usage (ZipFile.zwt, should be .zwe) when downloading the source code to the controller.	After uploading from the project archive from the web interface, extract Zip File.zwt, change file extension to .zwe before opening it with MotionWorks IEC Express.
1165	Single Step debug does not always work	On MP2300Siec and MP2310 only, single step debug mode does not work if multiple instances of a function block exist. The editor will display the wrong instance with incorrect debug values.	If other instances are unused, delete those instances of function blocks before debugging. Otherwise, debugging can proceed if you click on the correct tab for the proper instance after each time the code stops at a breakpoint.
1034	Cannot connect to the controller from the Hardware Configuration if DNS reverse and forward lookups contain mismatching entries	If the DNS reverse lookup for the controller IP address returns a host name that has a forward lookup to a different IP address, then connection with the Hardware Configuration will fail.	Use a different IP address for the controller or fix the DNS entries on the DNS server.
875	Hardware Configuration does not run when launched by a user who did not install it and who does not have Administrator privileges	Administrative privileges are required to install on Windows Vista or higher	Login with Administrative privileges before installing.
825	Project file name length is limited to 24 characters	File name length is limited to 24 characters which can cause issues when saving.	Use a filename with 24 characters or less.