Release Notes for MotionWorks IEC

Release 3.0.3 Build 66

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1. New Features

Number	Summary	Release Notes
519	Logic analyzer: two cursors and delta	Logic Analyzer has the following improvements: 1) X-axis units can be in time units instead of samples 2) Two vertical cursor lines are allowed. When two lines are dragged onto the logic analyzer, the Measurement Window shows difference in between X axis values and y-axis values for all traces at both points. 3) Two horizontal lines are allowed on a single trace item. When two lines are dragged onto the logic analyzer, the Measurement Window displays y-axis values for selected trace and difference between them.
1330	Allow resizing of EtherNet/IP adapter assemblies when MPiec controller is the scanner	The size of an instance can now be modified without requiring the deletion and re adding of the device.
1532	New project templates include PLCopen Toolbox v300 and DataTypes v300 User Libraries	When using the Project Templates, each includes the PLCopen and DataTypes Toolboxes. The four DataTypes files that were previously included with the new project templates are removed to eliminate many compile errors what would result because of duplicate variable definitions. A new help file for the PLCopen Toolbox is available via right mouse click.
5901	Allow Structures to expand / collapse in Variable grid to see & edit each element	Use the View Menu > "Initialize Multi Element Variable" feature.
6134	Cross Referencing Improvements	New Cross Reference features: 1) Cross reference a single variable. (Previously all variables were cross referenced, then one could be filtered.) 2) When changing the name of a global variable, the name of all cross references to that variable automatically change. 3) Trace and Re-trace. A one-key jump from a contact to the associated coil. Click on contact, Spacebar jumps to original coil location. 'B' jumps back from coil to the chosen contact. Can Nest up to 10 of these jumps. 4) The listing in the cross reference window no longer changes when the next variable clicked opens a different POU. 5) The zoom is centered on the cursor location or currently selected object when the user zooms to see the cross-referenced item.
6856	Axis simulation mode	Hardware Configuration now supports setting physical axes as simulated axes. Simulated axes act as virtual axes, but all of the amplifier settings remain available for offline configuring.
7211	KW-TID : 20100, 23460 : Provide methods to convert between little endian and big endian	New functions are available for use on the MP3000iec series controllers: TO_LITTLE_ENDIAN TO_BIG_ENDIAN These are useful when sharing data with other devices that are not using the same data handing technique, which would result in garbled information.

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7507	Multiple logic analyzer tabs and configurations	The Logic Analyzer now supports up to 10 different Trigger configurations.
7526	Windows 8 support	
7592	Add Axes Group in Hardware Configuration	Axis group configuration has been added for 2D and 3D gantry mechanisms. Support for split axes (X & X Prime axis support also included.) Alternative custom group configuration selectable.
7608	A.CC alarm cannot be cleared using the "Reset Absolute Encoder" button from Hardware Configuration	There are several methods to clear the A.CC (multi turn disagreement) alarm: 1) Digital operator 2) MPiec webserver, Machine Operations Page 3) Y_ResetAbsoluteEncoder function block 4) Hardware Configuration Previously, the Hardware Configuration method would not clear the A.CC alarm.
7673	PLCopenPart4 user library	New user library "PLCopenPart4_v300" has been added for use with axis groups and coordinated motion. Controller firmware version 3.x is required. This library is installed in the default "Libraries" folder.
7700	Customizable axis names	Hardware Configuration now supports user-defined axis names, which are displayed in the webserver, and a user variable of type AXIS_REF is added to the Global Variables list.
7702	Create AXIS_REF global variable for axis nodes	AXIS_REF global variables are automatically generated by Hardware Configuration for all configured axes.

7828	New data structure COMM_TIMING_INFO	New structure was added to DataTypes toolbox, PLCTaskInfoTypes File:
		COMM_TIMING_INFO : STRUCT
		    CumulativeDuration_us : UDINT;
		    Reserved1 : UDINT;
		END_STRUCT;
		
		These variables must be placed at these specific memory locations:
		Modbus TCP Task Timing: %MD3.483184
		EthernetIP Task Timing: %MD3.483192
		
		Cumulative duration is a user-clearable value. It accumulates as the Modbus or EtherNet/IP task runs, until the user resets it to 0.

8009	Support MP3300iec in Hardware Configuration	MotionWorks IEC now supports MP3300iec. There are different variants of MP3300iec controller with different available memory. Connect to the MP3300iec Controller using the Project Control dialog to automatically update the project with the correct memory limits.
8149	Cam Editor in MotionWorks IEC Pro 3.x	MotionWorks IEC Pro now includes a new Cam Editor utility for creating and analyzing cam curves without having to download and run them on a controller.
8180	New Modbus and EtherNet/IP memory maps for MP3000iec series controllers.	MP3000iec series controllers now support more I/O memory when configured by MotionWorks IEC v3.x. 1) When the MPiec is configured as an EtherNet/IP Adapter, the number of assembly instances is increased by 10; each has 500 byte blocks for both inputs and outputs. 2) When the MPiec is configured as a EtherNet/IP Scanner, the number of Adapters that can be configured has increased from 20 to 100. 3) When the MPiec is configured as a Modbus Client (Slave), the resisters available has increased to 512 coils, 512 inputs, 10,000 holding registers, and 10,000 input registers. 4) When the MPiec is configured as a Modbus Client (Slave), Read / Write of the same Modbus holding register is now supported.
8593	Support VIPA SLIO with enhanced Hardware Configuration	Hardware Configuration has added support for configuring VIPA SLIO EtherNet/IP adapters. Modules can be configured using drag and drop technique, or online configuration can be uploaded. Global variables for each physical I/O point are automatically added to the Global variables list.

Number	Summary	Release Notes
8695	Import / Export variable (tag) files to select HMI vendor software	Modbus variables declared for use with the following HMI products can be imported / exported to share tags between MotionWorks IEC and the HMI software package: 1) Beijer 2) Maple Systems 3) Red Lion 4) VIPA
8717	I/O task update for each Ethernet/IP Adapter Instance and Modbus Server can be set independently	Task I/O assignment for controller as EtherNet/IP adapter and controller as Modbus slave are now set specifically for each assembly instance and for each Modbus I/O type instead of for all assembly instances or for all Modbus I/O types.
8826	Enable setting Pn002.0 = 2 and Pn81F.1 = 1/0 in Hardware Configuration - All Parameters tab	This change allows support for Torque FF on both Mechatrolink-II and Mechatrolink-III

2. Bug Fixes

The following issues were identified and fixed for this release.

Number	Summary	Release Notes
886	User libraries must be added in specific order or may result in compile errors	If a project referenced more than one user library, they must have been added a certain order if one used datatypes declared in another. It was not possible to change the library order without deleting and re-adding them. Now it is possible to simply drag and drop the user libraries to change their ordering.
6136	I/O Driver Initialization fails with 11 Modbus inputs and 11 Outputs	Hardware Configuration was not catching the maximum number of data blocks that could be configured per modbus server.
6394	Controller Parameter 1310 (Velocity feedforward) is missing from 'All Parameters' tab	Parameter 1310 is now available in the Hardware Configuration's "All Parameters" tab.
6410	Function blocks with a structure datatype as VAR_INPUT will not compile without a connected variable	The Y_CamIn & Y_CamOut blocks did not compile on an MP2600 project if the EngageData or DisengageData inputs were not connected. This did not occur in MotionWorks IEC v1.x.
6579	The SEL_LREAL function causes "Error during generating native code!"	Using the SEL_LREAL function on an MP2600iec or MP3200iec project in MotionWorks IEC 2.x caused the compile error "Error during generating native code!"
6912	MP2600iec: Hardcoded TRUE condition on EN/ENO block causes internal error	For MP2600iec and MP3200iec, connecting a hardcoded TRUE condition to the EN input of functions (e.g. EQ function, NE function, etc.) caused an internal error when compiling.
7081	MIN, MAX and LIMIT with 64 bit data types when using EN/ENO are not supported on MP3200iec	MIN, MAX and LIMIT with 64 bit data types when using EN/ENO were not supported on MP3200iec.
7145	"Invalid Internal Scaling in graphical worksheets" message when opening older project's POU	This problem started occurring in MotionWorks IEC v2.4. Opening a project created in a previous version of MotionWorks IEC may have triggered the message "Found Invalid Internal Scaling Information in graphical code worksheets. Repair: Yes/No?" This issue did not affect compilation, but resulted in overlapping function block text, which caused other issues / false collisions when resizing and repositioning code elements.

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7389	Download changes requires debug state to be toggled or POU display change before Function block inputs are updated correctly	Debugger may have failed to update correctly after download changes. Debug mode needed to be toggled for the debugger to update correctly again.
7560	Variable grid worksheets zoom in wrong directions with mouse scroll wheel	Zooming with scroll wheel in variable grids now match directions in other applications sun as Microsoft Excel.
7590	Hardware Configuration does not exit cleanly after failing to connect to controller that previously connected via proxy server	Connection error handling for the Hardware Configuration has been improved.
7610	Pn124 cannot be set to a negative number in Hardware Configuration	Pn124 can now be set to a negative value in the Hardware Configuration.
7717	Torque field in Hardware Configuration Test Move tab reporting the same value as the position error	Duplication of values corrected
7773	Adding more than one Modbus device at the same IP address creates a corrupted configuration	If more than one Modbus device was configured with the same IP address, the next time the Hardware Configuration was opened, a message would indicate that the configuration was corrupted. Users communicating to multiple serial devices through an Ethernet to serial gateway were experiencing this problem.
7825	Logic Analyzer reports "Invalid Trigger Condition" after adding a variable	After the error message "Invalid trigger condition!" - future recording were not possible until MotionWorks IEC was restarted, and sometimes the controller had to be rebooted also. It is now possible to correct the problem and attempt to record again. Possible causes of the message include the variable selected for the trigger has been removed from the project, or there are too many variables set to record at once.
7859	Error during native code generation when putting literals before variable in expression	When compiling code for an mp3200iec controller, if an equation in structured text contains a literal BEFORE a variable, such as: Var1:=LREAL#2.0 + (Var2 * Var3); The compiler provided the error "Error during generating native code"
7879	When "Debug" is pressed, the open code worksheet does not go into debug mode.	Previously, when Debug On/Off button was clicked, the opened worksheet would not show online values. Worksheet must have been closed and reopened or Debug On/Off toggled again before the opened worksheet showed online debug values.
8124	PositionScale not updated when changing FeedConstant, GearInput or GearOutput via "Set Multiple Parameters" tab	The Hardware Configuration allows setting axis parameters for multiple axes at once, but if the All Parameters tab was used to change the FeedConstant, Gear Input, or Gear Output, the resulting calculation referred to as the "PositionScale" was not calculated and updated for use by the MPiec controller. The conversion from encoder pulses to user units was left unchanged.

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8278	Pn00B default value is incorrect	Pn00B specifies the power input as either three phase or single phase. The incorrect default for Pn00B.2 set the servopack for single phase operation, even if it was wired and capable of accepting three phase. The problem with this setting is that the servopack automatically de-rates itself by 50%. The default value for Pn00B for the following ServoPack models has been corrected: SGDV-****11* SGDV-****15* SGDV-****E1* SGDV-****E5* SGDV-****21* SGDV-***E11* SGDV-***E21* SGDV-****25* SGDV-***H11A SGDV-***J11A SGDV-***HE1A SGDV-***JE1A SGDV-***H21A SGDV-***J21A

3. Known Issues

Number	Summary	Release Notes	Workaround
TC-714	Version 3 Express Projects opened in version 3 Pro does not show message box to confirm project conversion.	The conversion will take place automatically without warning.	Do not open an express project in Pro unless you have a ZWE backup.
825	Increase max Project filename size of from 24 to 64 characters	File name length is limited to 24 characters	Make filename less than 24 characters.
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.
1034	Cannot connect to the controller from the Hardware Configuration if DNS reverse and forward lookups contain mis-matching 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.
1041	Cannot create a MotionWorks IEC project using the Project Wizard – Hardware Configuration fails to launch because configfiles directory is missing.	Cannot launch Hardware Configuration for project created with the project wizard	Create a project with one of the predefined templates for a controller model.
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.
1516	Project source code stored on controller has wrong extension in express (ZipFile.zwt, should be .zwe)	Issue: 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 ZipFile.zwt, change file extension to .zwe, then open it with MotionWorks IEC Express.
1593	Function block outputs are not retained on warm start	The outputs of function blocks like CTU (counter up), CTD, TON etc do not get retained on a warm start even though they are checked to be retained.	
1693	Slow compilation when Symantec Antivirus is enabled	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
5753	MP2600iec logging does not upload data when "stop" is pressed.	MP2600 Logic Analyzer will not upload data after pressing the stop button. The log buffer must fill up first for the data to be transferred.	

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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 re entering it.
5916	Hardware Configuration logging fixes the sample time at 10ms, should use the Mechatrolink cycle period		If faster sampling is desired, Create a task in the IEC application that runs at the same rate as the Mechatrolink cycle, add MC_ReadParameter function blocks to that task, and use the Logic Analyzer to record data.
5922	Zipped project size is larger than necessary	Page Layouts increase the zipped project or downloaded source size by about 1MB. These files are not necessary to be included.	1) Go to C:\Documents and Settings\All Users\Documents\MotionWorks IEC Pro\Pagelayouts Delete all the .bmp files EXCEPT logo.bmp AND all three .plt files. 2) When Save/Zipping a project, UNCHECK "Zip Pagelayouts", that will stop the bitmaps from getting included in a new zip archive. 3) When download source code to a controller, UNCHECK "Include page layouts."
6029	The toolbar is slow to display and flashes with every mouse click in the editor	When running MotionWorks IEC 2 on Windows XP SP3, the toolbar can be slow to repaint and repaints on every mouse click, even in the ladder editor.	It has been found that on Windows XP machines using the NVIDIA Quadro video chips this problem is more likely to occur. A workaround in this case is to go to: Control Panel->Display->Settings Tab->Advanced->Troubleshoot tab->Hardware Acceleration. Change this setting from "Full" to "Disable cursor and bitmap accelerations". This is one step down from full. Press Apply and Ok.

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6163	Error Message: "Drive may be offline" for deleted drive	An Error message may be displayed indicating that parameters cannot be read when the Hardware Configuration connects to the controller. The drive may be listed in the controller's configuration files yet it cannot be found by the controller. It may be disconnected (the Mechatrolink cable could be unplugged or not seated properly), or it may be powered off.	Either connect or power up the missing drive, or remove the configuration files by choosing "Controller Configuration Utilities" from the Online menu and then selecting "Restore controller to factory defaults and reboot the controller". Note: this will remove the configuration from the controller, so ensure a backup copy exists.
6180	Error - cannot read drive parameters	This is believed to be related to CPU load when the axis count is high and the Mechatrolink rate is fast.	Turn off the RUN DIP switch, which will stop the IEC application code from executing, which will free up the CPU for other lower priority tasks such as handling requests from the Hardware Configuration software for reading drive parameters.

Increase the Mechatrolink update rate. |
6203	Old project with ProConOS firmware library included may not compile	ProConOS firmware library had a minor change. Older projects using this library may not compile.	Remove the ProConOS firmware library, compile the project and re-add the library. After this, the project should compile correctly.
6245	Status variable already exists message shows up even though it has been removed and the currently saved configuration does not have that variable	Status variable already exists message shows up even though it has been removed and the current saved configuration does not have that variable	Whenever information for a communication data block is deleted, save before reentering the information.
6278	All firmware libraries not extracted when set to include in ZWT project	When a project contains a user library, library A, which contains an additional user library, library B, where library B is not directly referenced in the project. A compiler message indicates a that user libraries must be recompiled. At this point, it may be the case, that library B is not in the project.	Manually import the missing user library
6312	Setting a breakpoint in a MP2600iec project causes a watchdog	Single step debug and breakpoints will cause a watchdog on the MP2600iec (eCLR)	For MP2600iec (eCLR), disable the watchdogs on the tasks when using breakpoints or set WDT to at least 4-10ms.

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6480	Cannot install MotionWorks IEC if multiple "All Users" folders exist	Sometimes a computer has an "All Users.Windows" folder or "All Users_Windows" folder in addition to the original "All Users" folder within "Documents and Settings" parent folder, which may cause the installer to abort and uninstall itself. when there are multiple "All Users" folders, the original folder is usually no longer active and is a backup used by Windows. Error message near installation's end says: Unable to complete MotionWorks IEC Pro installation. Please rerun setup from the beginning.	1. While error message is still opened, save a backup copy of the "Yaskawa\MotionWorks IEC Pro\[#_#_#_#_#]" application data folder from "All Users.Windows" or whichever is the active folder (e.g. C:\Document and Settings\All Users.Windows\Application Data\Yaskawa\MotionWorks IEC Pro\1_2_3_14_481) 2. Close the error message -> installer will uninstall 3. Copy the backed up folder to "All Users" 4. Install again -> installer passes check for MWIEC application data folder and finishes
6622	Project Wizard does not behave as expected.	In MotionWorks IEC 2 Express, the Project Wizard will not create a new project.	For new projects, use the project templates instead of the Project Wizard.
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.	
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.	To display the correct Japanese characters in Windows 7 do the following 3 things: 1. Install all the Asian language packs (Japanese, Chinese Traditional, Chinese Simplified) Do this using windows update. 2. Set the language for non-Unicode programs to Japanese (Settings->Control Panel->Region and Language->Administrative->Change my system locale... set to Japanese and restart) 3. Use Japanese formats: Settings->Control Panel->Region and Language->Formats, Select Japanese.
7049	Maximum size of a POU or global variables for MP3200iec is 4MB	The MP3200iec controller has 20 MB of non-retain data memory, however the maximum amount of data in one POU or the global variables table is 4MB.	
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 corrected by attempting to go online again. Using the invalid menu items does not produce any negative result.

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7444	Axis is switched offline after trying to enable it during an alarm	This issue applies to the Hardware Configuration. When on the Tuning or Test Move tabs, and the Enable Axis icon is pressed while there is a servopack alarm, the axis will be switched to "Offline" status in the Configuration Tree.	Switch the Hardware Configuration offline and then back to online. Clear the servopack alarm before attempting to enable the axis.
7657	Invalid watchdog value message displayed if task settings are changed without first connecting to controller	When a cyclic task setting is set below the previous Mechatrolink update interval, MotionWorks IEC does not know what the minimum cyclic task time can be set to until it has connected with the controller.	Connect to the controller, disconnect (offline), then change Cyclic task settings.
8758	MotionWorks IEC crashes when removing unused variables or performing Global Search and Replace	Repeatedly building Cross References every couple of minutes may cause MotionWorks IEC to crash every hour or two, particularly on large projects.	