



Release Notes for MotionWorks IEC

Release 2.0.0 Build 27
Yaskawa America, Inc.

1. New Features

Number	Summary	Release Notes
1603	Support for Windows 7	Support for Windows 7 is new in this release. The application runs correctly on a standard user account, however, installation requires an administrator account.
794	Added Mechatrolink VFD (inverter) support	VFD control via Mechatrolink support for beta sites added for application evaluation. Supported models include A1000 and V1000.
1466	German Localization support - German Language OS	MotionWorks IEC runs correctly and saves Hardware Configuration data correctly on Microsoft DE-DE locale.
1620	User retain variables - recipe feature in Pro version to read / write variable data to a file	LREAL values can now be imported and exported using the recipe feature in the watch window. NOTE! The precision of the data is affected by the number of digits set for display in the debug dialog box.
1628	Display tooltip over forced parameters	In the Hardware Configuration, a tooltip will appear over amplifier parameter values that are forced to a specific value when an online save is executed. These are typically the blue rows on the "All Parameters Tab."
5902	Controller must not wipe out retained variable values - why a forced cold start?	A cold start was forced under some conditions including adding new retained data and moving POUs between tasks. New projects will have the proper setting to preserve retain values correctly. To verify the setting on older projects, please check the project file <PLC type>.SET for this entry: [RML] RetainHandling=ENABLED. After enabling this feature, rebuild all and do a full download.
5973	Requirement 519: Projects saved as ZWE or ZWT should include HTM and HTML files.	This will allow HTM help files included in a project to be included in zip format when making a ZWE or ZWT. Check the IEC61131 help file for the subject "Calling help on FB/FU" for more information about adding HTML help for documenting POUs.
5999	Allow side by side installations of ver 1.x.x and 2.x.x	For side-by-side installation of MotionWorks IEC 1.x with 2.x, version 2.x must be installed after version 1.x. Installing 1.x after installing 2.x will replace the registration of 2.x libraries with the 1.x libraries; the libraries are backwards compatible but not forwards compatible. If version 2.x was rendered inoperable by installing version 1.x, then uninstall and reinstall version 2.x. There is no uninstall restriction for side-by-side installations.
6048	Add Y_Motion data types	This includes new DataTypes in the project templates for new features added in 2.0.0 firmware, such as Y_ProbeContinuous, Y_SetRTC, and Y_ReadMultipleParameters



Number	Summary	Release Notes
6150	Move EtherNet/IP & Modbus Server variables to fixed IEC address range	A toolbar function was added next to the Hardware Configuration icon which will convert IEC addresses allocated in older projects to the designated fixed IEC address space. This change will not have any impact on the associated Modbus or Ethernet/IP data. (The offset will remain the same.) The purpose is to increase compatibility across projects, and to make it easier for HMI tag import / export to take place.

2. Bug Fixes

Number	Summary	Release Notes
517	Changing the IEEE FORMAT box by itself will not change the display formatting of floating point values.	Checking the IEEE Format box now changes the formatting of variables to floating point display in debug mode. Previously it could be changed, but required opening and closing the debug window to force the change to take place.
1379	Existing VAR_GLOBAL IEC address was deleted when a local VAR was created with the same name	When a local variable is created with the same name as a global variable, the VAR_GLOBAL's IEC address portion is deleted. Previous to release 2.0.0, if you changed the setting to VAR_GLOBAL before entering a new variable the problem does not exist.
1656	Cannot set default values for LREAL in the watch window	It is now possible to use the recipe feature of the watch window to read and read LREAL values.
5860	Compile events are not received before compile begins, disable compile button while saving the Hardware Configuration	If compile was attempted while saving the Hardware Configuration was in progress, an exception (software crash) may have occurred. Save is not allowed during compile. Compiling is now prohibited while saving the Hardware Configuration.
5911	KW-TID : 11274 : Multiple bits referenced from a located DWORD used on contacts in a ladder rung causes program not to compile	If more than 3 implicitly addressed ladder contacts were connected together, the compiler error "Error during generating native code!" would occur. Example: EIP_Inputs.X0 & EIP_Inputs.X1 & EIP_Inputs.X2 ...
6266	Adding an Ethernet/IP Scanner device creates a Modbus TCP IO Driver	Creating an Ethernet/IP adapter caused incorrect information to be entered in the Driver name of the Driver Parameters located in the properties of the I/O configuration.



3. Known Issues

In addition to the known issues listed below, explanation regarding upgrading of User Libraries from 1.x to 2.x projects is required..

According to the help documentation, MotionWorks IEC never supported spaces in project filenames, however version 1.x did not complain about space characters. Yaskawa's Toolboxes all have space characters in the project name. When converting projects from 1.x to 2.x, there will be additional conversion message boxes presented due to the space characters. Our next release of toolboxes (July 2011) will have the project names converted to use underscores instead of spaces. **TIP: We recommend changing the names of any existing projects and toolboxes to include underscores instead of spaces to make converting projects easier. Do this before converting the project to 2.x.**

There are also new warnings if duplicate POU names are references across multiple user libraries. To date, we have standardized on naming conventions in the user libraries, such as Initialize, and Main, which are not functions and not applicable when the project is incorporated as a user library. The following warnings will be issued if using existing toolboxes:

The POU 'FB_Pallette' is defined several times in:

```
Math Toolbox v002\FB_Pallette  
Yaskawa Toolbox v008\FB_Pallette
```

The POU 'Main' is defined several times in:

```
AccuflexMP2300\Main  
Yaskawa Toolbox v008\Main
```

These are not cause for concern. At other times, we have moved functions from one library to another for better organization. That may also result in warnings, which are of no concern. In the example below, upgrading to Yaskawa toolbox v009 would eliminate the duplicate.

The POU 'MOVE_UINT' is defined several times in:

```
Math Toolbox v002\MOVE_UINT  
Yaskawa Toolbox v008\MOVE_UINT
```

The POU 'REM' is defined several times in:

```
Math Toolbox v002\REM  
Yaskawa Toolbox v008\REM
```

Number	Summary	Release Notes	Workaround
638	Hardware Configuration Crashes when MotionWorks IEC is not fully loaded	Issue: If blocked at a dialog box during MotionWorks IEC load, and you navigate to the Hardware Configuration executable to start up, the Hardware Configuration will display an error message.	Wait for MotionWorks IEC to finish loading and launch the Hardware Configuration from the tool bar.
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	Sometimes single step debug mode does not work with multiple instances of a function block in the project (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.
1390	CrypKey license manager breaks if Parker CTC InteractX 3.0 is installed.	Issue: If Parker CTC InteractX 3.0 is installed after MotionWorks IEC, MotionWorks IEC will not function.	Workaround options: 1. Install InteractX before installing MotionWorks IEC or 2. Run SetupEx.exe from the MotionWorks IEC install directory then reboot
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.	

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1608	Error "No suitable converter error for projects create with the version '2.0' of MotionWorks IEC Pro"	No suitable converter error can occur when unzipping old MotionWorks IEC express projects. The cause of this error is unknown.	<p>Workaround #1:</p> <ol style="list-style-type: none"> 1. Open the .zwe project (this will extract the .mwe project but fail to open it) 2. Delete the .mwe file. 3. Copy and paste any .mwe file to where deleted .mwe file was located 4. Rename the pasted .mwe file 5. Open project 6. Compile <p>Workaround #2: (If the .zwt file can not be extracted)</p> <ol style="list-style-type: none"> 1. Get the application "WinRAR" 2. Using WinRAR, open the .zwt file. In WinRAR you will see: @zip002 3. Extract @zip002 to a folder "myProject" 4. Create a new project in MotionWorksIEC Pro, untitled, and copy Untitled.mwt to the folder containing the "myProject" folder and rename it "myProject.mwt" 5. open "myProject.mwt" in MotionWorksIEC
1621	MP2600iec - No values available for functions	While debugging functions on the MP2600 it is not possible to see variable values inside functions.	
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
1728	What exactly does patch POU do and when can it be used?	Patch POU is not needed on the MP2600 controller due to the newer eCLR technology used. The eCLR operating system can update only the required POU data automatically. For MP2300iec controllers, see the MotionWorksIEC online help section "Developing a project using 'Patch POU'". For the ProConOS architecture, Patch POU allows updates to POUs under certain conditions.	
5412	PLC type (MP2600iec) does not support EN/ENO	Details: On the MP2310iec and MP2300Siec, function could optionally have EN input and ENO output. On the MP2600iec, this option is not available.	Use the Math Toolbox available from www.yaskawa.com for equivalent functionality.
5751	MP2600iec Logic Analyzer does not return data when synchronized with fast scan rates of 2 or 4 mSec	When the CPU is heavily loaded, the logic analyzer does not return data.	Reduce the cpu load by increasing the update period or the task time.
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.

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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	Automatically delete unnecessary page layouts files from projects to reduce file size	PageLayouts increase the zipped project or downloaded source size by about 1MB. These files are not necessary to be included.	<p>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.</p> <p>2) When Save/Zippping a project, UNCHECK "Zip Pagelayouts", that will stop the bitmaps from getting included in a new zip archive.</p> <p>3) When download source code to a controller, UNCHECK "Include Pagelayouts."</p>
5935	How to export current values from the watch window in MotionWorks IEC	The way to import and export current values is not obvious to the user. See "workaround" for the correct steps.	<p>To export the current values of variables:</p> <ol style="list-style-type: none"> 1) Add variables to the watch window 2) Right click and choose "Read recipe" (reads the current value into the default value) 3) Right click and choose Export (the default value) <p>To overwrite the current values reverse the procedure:</p> <ol style="list-style-type: none"> 1) Import into the watch window to read in new default values. 2) Write recipe to overwrite the current value with the default value.
5939	Changing the Task Interval may result in "... must be a multiple" message related to interval and watchdog multiple	This affects MP2600iec projects only.	The warnings are caused by a entering a value which is non-divisible-by-100 for the ScheduleInterval setting in eCLRResourceSettings.set in the project.
5980	Message "Error during generating native code!" occurs after MP2600 conversion	<p>Compile error : Error during generating native code! The code that seems to cause this problem is:</p> <pre>LR_Main_VMax_IPS := INT_TO_LREAL(IW0053) * LREAL#12.0 / LREAL#60.0;</pre>	<p>The eCLR code generator seems to get confused with the operator precedence in this line of this converted project. The project compiles if parentheses are used, putting the 2 LREALs first, or substituting the 2 LREALs with one LREAL as listed below: 1. LR_Main_VMax_IPS := INT_TO_LREAL(IW0053) * (LREAL#12.0 / LREAL#60.0); 2. LR_Main_VMax_IPS := LREAL#12.0 / LREAL#60.0 * INT_TO_LREAL(IW0053); 3. LR_Main_VMax_IPS := INT_TO_LREAL(IW0053) * LREAL#0.2;</p>

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5987	Conversion of projects with a space in a user library name results in "invalid node name" errors.	<p>If a MotionWorks IEC 1.x project includes libraries with spaces in the name, such as "Cam Toolbox v002", then an error occurs after opening in MotionWorks IEC 2: 'library 1' is an invalid node name. Spaces are not allowed in project names in MotionWorks IEC 1.x or 2.x.</p> <p>The project will compile and run, but the error will become a nuisance if the space characters are not removed.</p>	Rename the libraries before converting to remove all spaces.
6001	Access violation occurs	<p>Sometimes an access violation occurs when the following sequence is performed:</p> <ol style="list-style-type: none"> 1. Unzip a project that asks to extract firmware libraries. 2. Move "Extracting Firmware Libraries" dialog to near upper right corner of MotionWorks IEC. 3. Close "Extracting Firmware Libraries" then close MotionWorks IEC immediately afterward. 4. Zip/unzip in progress dialog displays. 5. Close message, then close MotionWorks IEC. If Zip/unzip in progress dialog displays again, keep closing the message then close MotionWorks IEC afterward. 6. Access Violation occurs. 	After opening or saving a project, wait a little time before closing the application.
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.
6086	Get the error message "SCG could not be started!" when compiling for an MP 2600iec	MP2600iec projects created in MotionWorks IEC 1.2.2 and earlier containing the ProConOS firmware library may not recompile correctly in 1.2.3 and later. There may be a "SCG could not be started!" error. This is caused because the ProConOS firmware libraries for MP2600iec in MotionWorks IEC versions 1.2.2 and later have the same version number (1.5) but are different.	<ol style="list-style-type: none"> 1. Remove the ProConOS library from project. 2. Remove all ProConOS objects (functions or function blocks that are found in the library) until the project recompiles successfully (change ProConOS types to other types; remove or comment out ProConOS objects) This is important because all traces of the old ProConOS library will only be eliminated by a successful compile without the library. 3. Add ProConOS library back in. 4. Add the ProConOS objects back into the project.

Number	Summary	Release Notes	Workaround
6094	Viewing LREAL variable values greater than 3.4e+150 in debug mode crashes MotionWorks IEC, ProConOS only, when IEEE format is not checked	If a variable value for an LREAL is greater than 3.4e+150, attempting to display the value with the IEEE format box unchecked causes MotionWorks IEC to crash. This occurs for MP2300 and MP2310, but not for MP2600.	Do not check the "IEEE format" box. The challenge is to open the dialog to change the setting you must be in debug mode, and if the LREAL variable is set to a large value, then MotionWorks IEC crashes Step 1. Make the global variables window small with no LREALs showing and close all other POU windows. Step 2. Enter debug mode. Step 3. Open the debug dialog by right clicking on a variable with a live value in the global variables table. Step 4. Verify that the "IEEE format" box is checked. Step 5. Close the debug dialog.
6136	I/O Driver Initialization fails with 11 Modbus inputs and 11 Outputs		The maximum number of data blocks is 20 for Modbus TCP and 20 for Ethernet/IP.
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.
6188	Hardware Configuration cannot connect to an MP2300 controller when run as standard user, Initial Connectivity problem from windows 7	Sometimes, especially on the first time run, the Hardware Configuration will fail to connect to the controller when using Windows 7 when run as a standard user.	Open Internet explorer and browse to the controllers web page: http://[controller ip] and then click on "Alarm Reference". After doing this the Hardware Configuration should be able to connect successfully.
6203	Old project with ProConOS firmware library included may not compile	Issue: 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		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

Number	Summary	Release Notes	Workaround
6312	Setting a breakpoint in a MP2600iec project causes a watchdog	The MP2600iec does not support breakpoints until release 2.1	
6397	Pn's 216 and 217 values displayed incorrectly in "All Parameters" tab of Hardware Configuration	The values of Pn 216 and Pn 217 are displayed incorrectly in the "All Parameters" tab in the Hardware Configuration. The Servopack units for this parameter are 0.1 ms. So, if the DPRAM update is 2 ms, it is recommended to set 20 for Pn 216 or Pn 217 (depending on what style interpolation filter is preferred). However, if 20 is entered in the servopack (using SigmaWin or the MP2600iec web server), the Hardware Configuration will display the value 200 ms.	Don't rely on the value shown in the Hardware Configuration. Use Y_WriteDriveParameter from within the IEC application.
6394	Controller Parameter 1310 (Velocity Feedforward) is missing from 'All Parameters' tab in Hardware Configuration for a 2600 project	The controller's Velocity Feedforward parameter 1310 is not shown under all parameters in the Hardware Configuration.	The parameter exists in the firmware and does operate as intended. Use MC_WriteParameter to set and MC_ReadParameter to verify the value.