



Release Notes for MPiec controller firmware

Release 2.4.0 builds 136 & 137

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1. New Features

Number	Summary	Release Notes
7024	Support large capacity Sigma 5 drives	Servopack models : MP2300 / M2 : SGDV-xxxH11A, SGDV-xxxJ11A MP2600 / option : SGDV-xxxHE1A, SGDV-xxxJE1A MP3200 / M3 : SGDV-xxxH21A, SGDV-xxxJ21A
7298	Web Server Applet Support for Java 7	Prior to version 2.4, the 'Machines Operations' web page showed an incompatibility message with Java 7 runtime installed.

2. Bug Fixes

The following issues were identified and fixed for this release.

Number	Summary	Details and workarounds prior to this version
6312	Setting a breakpoint in a MP2600iec project causes a watchdog	Single step debug and breakpoints will cause a watchdog on the MP2600iec (eCLR)
6363	EtherNet/IP and Modbus TCP servers do not clean up broken TCP connections	Ethernet/IP adapter will close the owning session when an o2t timeout occurs, forcing the scanner to reconnect. Modbus/TCP slave will close the connection if the master has not sent a packet in 2 hours.
6573	eCLR / MP2600iec non-continuous Logic Analyzer transfers too much data	When transferring non-continuous trace logs, much more data was sent over the wire than necessary. Example: Task at 4ms Log of PLC_SYS_TICK_CNT Log 2000 samples Transfer time is 20 seconds, however exported file is only 40kb. Wireshark log shows that almost 1kbyte / 1 ms is transferred.
6743	MP2600ies gets corrupted data when using UINT as index with array and struct	In prior versions, corrupted data would result when the array index exceeded the 32767 boundary.
7034	Exceeding the bounds of an array in a Warm Start SYSTEM task locks up the controller.	On the eCLR architecture only (MP2600iec and MP3200iec), if POU in the Warm Start SYSTEM task steps out of bounds on an array, communication is lost with MotionWorks IEC. When stepping outside the bounds of an array in a cyclic POU a the error is caught. By comparison, on MP2300Siec, the following error occurs: "Error during access of indirect variable address! Runtime error at WN 30! Runtime error in POU 'Initialize! PLC stopped! Internal error! Invalid change of mode!" and, by clicking on "Error during access of indirect variable address!" the line of code that has caused this error is identified.

Number	Summary	Details and workarounds prior to this version
7088	Y_CamIn: Linked engage mode caused incorrect calculation of master shifted positions 1501 and 1502	For linked cams, the transition between the cam occurred in two Mechatrolink scans. In the first scan, the end point of the first cam table was output to the drives. In the second scan, the start point of the second cam was sent to the drives, but linked mode always implies that the second cam starts relative to the end of the first cam, so this point was identical to the point sent out in the previous scan. Solution: The transition between linked cams occurs in the same Mechatrolink cycle. The controller determines the distance the master traveled past end of the first cam, and uses this value to look up the relative slave position for the second cam. This relative slave position is then added to end point of the first cam to determine the slave's next commanded position.
7092	MP2600iec cannot enable a linear motor with hall sensor disabled in Pn080.	The MP2600iec was timing out waiting for a response from the drive confirming that the servo enabled. This process takes longer with hall sensor disabled because the drive must detect the phases by current sensing. The timeout was increased.
7265	Small initial position error when MP2600iec boots up	After a power cycle, the MP2600iec controller displayed a very small, non-zero position error. As a result, there was a difference in actual and commanded position values as read from the MP2600iec controller. The root cause of the small position error was that the MP2600iec transitioned into position mode before enabling the drive. Now, the MP2600iec transitions into position mode after the drive is enabled.
7404	Not able to read IL_RESPONSE or IL_STATUS bytes on the Phoenix MECHATROLINK-II bus coupler	The first four bytes from the Phoenix MKBK are now mapped as follows; Bytes 1-2: reserved Byte 3: IL_RESPONSE Byte 4: IL_STATUS"

3. Known Issues

Number	Summary	Release Notes	Workaround
4395	Large positions will not be displayed to full precision in the Web Server Java applet or the Hardware Configuration.	Positions greater than 2147483648.0 are written in scientific notation and will lose some precision when displayed in the applet or the Hardware Configuration. The position stored in the controller is not affected.	If possible, change the origin using MC_SetPosition or MC_StepRefPulse or change the position scale so that the full position can be seen.
4641	Booting up in supervisor mode shows extra menu options	When controller is started in supervisor mode, the web menu shows all of the supervisor options immediately. Some options will require login before they can be used.	Login with the Admin password in supervisor mode.
5227	XML Config files are cached via web server	Deleting a project archive and uploading a new project appears to show user/config/startup/io.xml not updated to the new version. Actually it is updated, however the web browser has cached the old version.	Disable caching of XML config files in Internet Explorer.
5241	ProConOS communication task can use all available CPU with large OPC transfers	With large OPC transfers, the ProConOS communication task can starve lower priority tasks, making communication with MotionWorks IEC difficult. We have also noticed a 32KB limitation on OPC transfers.	Use smaller buffers and slower update rates.

Number	Summary	Release Notes	Workaround
5373	Controller hangs at startup with two Sigma II drives at the same physical node address	The ERR and MTX light will come on. This problem does not occur with Sigma V drives.	Ensure each Sigma II drive has a unique physical node address.
5521	CPU utilization is not accurate for MP2600iec when the IEC task and motion engine cycle are the same.	The CPU utilization always reports 0.1% when an IEC task runs at the same rate as the motion engine. To get more accurate utilization data, the scheduler must run more often than the user task and the user task must continue to execute over multiple scheduler cycles.	The individual task statistics MinDuration_us, CurDuration_us, MaxDuration_us stored in PLC_TASK_1 (etc.) are reported in microseconds, which is more useful for determining watchdog timers for tasks running at the same rate as the motion kernel.
5697	Slave cannot synchronize to a master with S curve applied	Cam and Gear applications will not follow another servo axis that has the S curve filter enabled.	Do not use an S-Curve filter on any master axis unless the slave has an identical S-Curve filter.
5724	PLC will enter the RUN state after a test move finishes in the Hardware Configuration	When attempting to start a program using the Project Control dialog while running a test move through the Hardware Configuration, the controller correctly prevents the PLC from entering the RUN state. In this case the resource dialog still shows the PLC in the RUN state as the request to enter RUN mode is pending. When the move finishes the PLC will enter the "RUN" state.	Do not RUN the PLC when the Hardware Configuration is performing a test move.
5915	Trying to enable the same axis with two MC_Power blocks at the same time results in internal motion kernel error.	Trying to enable the same axis with two MC_Power blocks at the same time results in internal motion kernel error.	Do not enable multiple MC_Power blocks on the same axis at the same time.
5965	If the SGD V is configured to use the Brake output on SO1, then none of SO1, SO2 or SO3 can be controlled over Mechatrolink.	SGDV firmware was changed	No workaround exists.
6343	EIP Multicast only works correctly on Port A (CN11A) of the MP2600iec.	Multicast Ethernet I/P data will only be broadcast over Port A (CN-11A). Consequently, Port B (CN-11B) should not be used for Ethernet I/P communication.	Use Port A (CN-11A) for Ethernet I/P communication.
6473	Repeated archiving operations eventually breaks archiving	Typically, the controller is rebooted immediately after sending the project archive, but if an archive project is sent to the controller more than 20 times in a row, then the controller starts failing semi-silently. There is no alarm or warning, but the Debugging Output starts to print the following error: [2011-07-07 15:39:39.210] error invoking web post request. FilteredZip Could not open specified archive	Reboot the controller.
6481	Different deceleration is used for MC_TorqueControl than for MC_Move... when a software limit has been exceeded.		If the axis does not decelerate quickly enough after exceeding a soft limit with MC_TorqueControl, then modify parameters Pn80D, Pn80E, Pn80F and Pn827.

Number	Summary	Release Notes	Workaround
6712	MP3200iec CPU architecture is not reporting maximal floats as NAN or INF	On the MP3200iec, the hardware floating point unit does not support IEEE 754. This means adding two floating points numbers that would normally cause an INF or NAN, will instead result in a maxFloat result. Example: 1.5e38 + 3.0e38 gives 3.4028235e38. In addition, in EN/ENO is enabled, ENO will remain "1" instead of normally becoming "0" when an overflow is detected.	User applications should check for overflow conditions.
6922	MP3200 processes data using big-endian format	The MP3200iec uses a big endian processor, but Ethernet/IP and Modbus/TCP use a little endian data format on the wire. For native data types, such as INT, UINT, DINT, UDINT, LREAL, etc., the MP3200iec will correctly byte swap the data.	For user defined data types such as arrays and structures, the user must perform byte swapping in the IEC application. Tip: Use the BUF_TO_ function blocks from ProConOS firmware library.
7017	218IF-Y1 communication card is not supported on the MP3200iec	The MP3200iec firmware versions 2.3 and 2.4 do not support the 218IF-Y1 communication card.	
7081	MIN, MAX and LIMIT with 64 bit data types when using EN/ENO are not supported on MP2600iec and MP3200iec		Create custom functions in ST or use functions from the Yaskawa and Math Toolboxes.
7448	MC_ReadParameter.Valid flickers multiple times when the web server's Machine Operations page > AxisParameters tab is selected	When MC_ReadParameter FB is set to read Prm 1311 and the user navigates to the web server and opens the AxisParams tab in the machine operations page, the various parameters are displayed, however at this point, MC_ReadParameters.Valid flickers multiple times. The FB behaves correctly because it says that the value is invalid when the wrong value is displayed.	Only read the parameter value when the Valid output is on.

4. Limitations

Unsupported Card Modules

JAPMC-PL2300-E Counter Module
 JAPMC-PL2310-E Pulse Output Module

Unsupported Mechatrolink Devices

SGDH & NS115 with Linear Motor
 JEPMC-PL2900 Counter Device
 JEPMC-PL2910 Pulse Output Device

MP3200iec does not support the JEPMC-218IF-Y1 card.