

Release Notes for SigmaLogic™ Software Package

Release Date 07/15/2020

Yaskawa America, Inc.

LogicWorks Configuration Utility 2.4.0.38

1. New Features

Number	Summary	Release Notes
429	'Motor Test' page displays alarm description on page instead of alarm code.	To improve the user experience, a hyperlink to 'Alarm Codes' has been added to the 'Motor Test' page. This allows users to more easily discover the meaning of returned alarm codes. Once the hyperlink opens, the table contents can be sorted by clicking on the column headers.
452	Display 'Axis Has Been Homed' status in Logicworks.	Starting in LogicWorks v2.4.0, a new indicator light has been added to the 'Test Run' --> 'Motor Test' page to show if the axis has been homed or not. Red = Not Homed, Green = Homed. Until the axis been homed, or a zero position has been set, it will not be possible to make moves to an absolute position.
501	Relocate the 'Reboot' sub-page from 'Configure' to 'Connection'.	Based on field feedback, the 'Reboot' sub-page has been relocated from the 'Configure' page to the 'Connection' page.
504	Update Page should direct where to get update files.	In previous versions, the link to the 'Download SigmaLogic Software Package' page may have been inadvertently broken. The hyperlink has now been updated.
578	'Return to Factory Settings' and 'Update SigmaLogic Software' lacks confirmation.	A confirmation dialog box has been added when the user clicks on 'Update SigmaLogic Software' or 'Return To Factory Settings' from the 'Configure' --> 'Update page'. This allows the user to confirm that the update process should proceed. In the case of 'Return to Factory Settings', the dialog box also reports whether or not the installed firmware matches the embedded software to be sent. In either case, the user is directed to check the SigmaLogic 'Software Download' page for compatibility.
805	Add indicators to show that a SigmaWin+ file has been successfully imported.	In previous versions, the process to import a SigmaWin+ file of servopack parameters simply ended. Starting in version 2.4, LogicWorks will now show a pop-up dialog for the user to acknowledge that the file has been successfully imported and the process is ended.
1493	SigmaLogic7: Verify support for SGM7D direct drive motors (FT82).	Starting in LogicWorks v2.4.0, the SigmaLogic7 Compact-FT82 and SigmaLogic7 Modbus-FT82 products are recognized. The FT82 version of these units allows control of the SGM7D series of direct drive rotary motors.
2816	Tuning-less Rigidity Level for Sigma-7Sic based platforms cannot be set from 5 to 7.	Starting in v2.4.0, additional settings for Tuning-less Rigidity Level are available to match the full range of SigmaLogic7 Compact and SigmaLogic7 Modbus capability. Levels 5 through 7 have been added for these platforms.
2895	Increase the allowable range of S-Curve Filter to include settings below 0.1s.	In previous versions, the lower limit for S-Curve filter was set at 0.1 sec. This range has been increased to allow a setting down to 0.01 sec. The maximum setting remains the same at 5.0 sec.

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2. Bug Fixes

Number	Summary	Release Notes
3705	LogicWorks Move To Position goes to last target position.	The 'Test Run' --> 'Motor Test' page entry boxes are somewhat slow to update during 'Test Mode'. In previous versions, there could be a mismatch between a position target shown on the screen and what is actually presenting the SigmaLogic axis commanded position. Starting in v2.4.0, LogicWorks will confirm the commanded position monitor matches the target position prior to starting the absolute test move. This may result in a short delay between pressing GO and when the move actually starts.
3755	SigmaLogic Compact with Sigma-5 Motor Miscalculates Pn520 and Pn522.	In previous versions it was assumed that all SigmaLogic7 units had Sigma7 motors attached. For those applications still using older Sigma5 motors, the settings for 'Position Completion Window' and 'Maximum Position Error' were miscalculated due to the encoder resolution difference between these two motors. Starting in v2.4.0, LogicWorks now obtains the attached motor resolution by direct query.

3. Known Issues

Number	Summary	Release Notes	Workaround
595	No project compare on 'Connection.'	The offline file contents are not automatically compared to the actual configuration when 'Connection' is made to a SigmaLogic axis. This can result in a difference between what the user sees in the configuration utility screens and what is stored in the axis.	Establish a Best Practice procedure to manually compare the file name to the current configuration name or to always Receive the current configuration immediately after 'Connection' to a SigmaLogic unit.
638	LogicWorks does not display the values for CN13 Analog I/O.	Support for monitoring and controlling the CN13 Analog I/O points from the PLC was added in SigmaLogic Embedded Code v1.2.0 and SigmaLogic_AOI v1.2.0. However these values are not currently displayed on the LogicWorks Status and I/O monitoring pages.	Use PLC to monitor and control the CN-13 Analog I/O using Tags 'AxisRef'.I.AnalogInput and 'AxisRef'.O.AnalogOutput.
1150	LogicWorks Setup does not support user-defined installation locations.	For LogicWorks v2.0 and earlier, only the default installation location is supported during Setup. This issue will be addressed in a future version of LogicWorks.	Use the default installation location.
1163	Saving project during 'File - Exit' process will not add the project name to the 'Recent Projects' list.	There are many opportunities provided to save the LogicWorks project to a file on the PC. The last occurs during File->Exit process. If "Save Project" is chosen during the exit process, the project will be saved properly to the specified location, but the Recent Projects listing will not be updated.	Save the project first as a separate procedure before starting the 'Program Exit' process.
1168	LogicWorks v2.0 cannot connect to SigmaLogic units with 3.0.0.173 firmware.	LogicWorks v2.0 and above requires firmware version 3.3 or higher. There are several configuration files that have changed format between these firmware versions. Use the SigmaLogic web interface to update firmware. For more assistance, please discuss with your Yaskawa vendor.	None.

SigmaLogic Embedded Software v2.4.0.14

4. New Features

Number	Summary	Release Notes
1281	SigmaLogic software gives an indication to the user if the absolute encoder has been reset automatically in the event of encoder alarm.	The embedded code now reports a new status bit for 'AxisHasBeenHomed' that appears as an output of the MCFG_Yaskawa AOI. This bit is turned ON when a Homing Procedure has been successfully completed. For configurations using absolute encoders as absolute, this homing status will be retained through controller reboot. For configurations using incremental encoders, or for those using absolute encoders as incremental, this bit will be set FALSE at every reboot. In either case, this bit will be set FALSE after an encoder alarm occurs. Until this bit is set TRUE, any absolute moves attempted will result in a returned ErrorID of 13025 - Absolute move not possible. Axis has not been homed.
2359	Improve Homing Procedure when using Home-To-Flag method.	The Home-To-Flag (input) method has been improved to better make use of the End-of-Travel limit switches when searching the range of travel for the home signal. If a limit switch is encountered during the initial search for the leading edge of the home signal, then the motor will reverse and begin searching in the other direction for the trailing edge of the home signal. This will help ensure that the edge closest to the original search direction is used consistently. After the edge has been found, the normal process to re-find the edge in the original search direction at a creep speed will be resumed. If the home signal is not found before the other End-of-Travel limit switch is hit, then the homing process will stop and report ErrorID: 13019 - Home Input Not Found.
2811	Invalid Homing Parameter 13017 is too vague.	In previous versions, the ErrorID 13017 - Invalid Homing Parameters did not provide enough detail for the user to properly troubleshoot the issue. In v2.4.0, additional ErrorIDs have been added as follows to help pinpoint issues with Homing. 13020 - Invalid Homing Type 13021 - Invalid Accel/Decel parameter. Must be > 0.0. 13022 - Invalid Velocity parameter. Must not be 0.0. 13023 - Invalid Torque parameter. Must not be 0.0. 13024 - Invalid Position parameter. Must not be 0.0.
4231	SigmaLogic: Add support for recognizing SGM7D motors when determining rated speed.	As part of fully supporting the SGM7D direct drive rotary motor series, the model numbers require parsing by the embedded software to determine rated speed. This value is then used within the homing processes to set acceleration rates properly. Support for recognizing the models of SGM7D motors has been added in SigmaLogic Embedded Software v2.4.0.
4237	SigmaLogic: Add support for recognizing SGM7G Design Revision when determining rated speed.	Prior to v2.4, the embedded code did not take 'Design Revision' into account when determining motor rated speed. 'Design Revision' is now used to help identify the Low-speed version of SGM7G motors.
4243	SigmaLogic: Add support for SGM7D, SGM7G and FW2 motors in HSI max speed calculations.	Starting in SigmaLogic, Embedded Code v2.4 support has been added for the SGM7D direct drive motors, the Low and High speed versions of SGM7G motors, and the FW2 series of linear motors when the model number is decoded for Max Speed.

5. Bug Fixes

None

6. Known Issues

Number	Summary	Release Notes	Workaround
600	HSI does not wait for move to be 'In Position'.	For all other moves, move complete status is sent to the PLC when the commanded profile is finished AND when the motor position is within the range specified by the LogicWorks configuration under Configure - Options - Position Completion Window. In v1.1.0, the High Speed Index moves do not wait to be in the position completion window. Move complete is set when the commanded profile is finished.	Add external delay for subsequent processes/actions that depend on the motor being settled into its final position.

650	Sequence Table execution resumes in certain cases where servo is disabled, then re-enabled.	In SigmaLogic AOI v1.2.0, MSF_Yaskawa (Motion Servo OFF) is allowed to execute even though another AOI could be active, such as MSQR_Yaskawa (Motion Sequence Run). Disabling the axis during motion will cause an application fault which normally would abort the sequence. However, if the sequence was waiting for a flag either 'Before' or 'After' motion, then no fault would be generated and the sequence table would still be executing even though the servo would not be capable of motion.	The user should issue MAS_Yaskawa (Motion Axis Stop) prior to issuing MSF_Yaskawa (Motion Servo OFF) to properly stop an axis and abort sequence execution. Alternatively, the user could set the 'Cancel' input on MSQR_Yaskawa. Canceling the sequence will also stop motion.
1184	Function Block Error ID 4422 shows up as "Unknown Error".	Application ErrorID 4422 is a new function block error code most relevant to SigmaLogic7 and Sigma-7Siec based products. ErrorID 4422 means "Position Offset Update Failed" and occurs when not enough time is given to the function for setting motor position. In the Sigma-7Siec-based family of products, the absolute encoder offset is stored in EEPROM memory instead of battery-backed RAM as with other products. Writing the offset to flash takes more time than writing to RAM. If the process is interrupted, ErrorID 4422 will be reported.	Set 'Incremental Encoder Mode' OR avoid the 'rapid Move-Set Position' sequence when programming applications for Sigma-7Siec-based products where absolute encoder is required.

SigmaLogic AOI v2.4.0 for RSLogix 5000

7. New Features

Number	Summary	Release Notes
2419	MRSE does not return to "No Alarm" output after an alarm is cleared.	The global input tag for AlarmText reporting at AxisRef.I.AlarmText is only updated at the rising edge of MRSE_Yaskawa (Motion report Servo Errors). But this set up some challenges in the master PLC code on how best to trigger this AOI after the alarm had been cleared. In AOI, set v2.4.0, MAFR_Yaskawa (Motion Axis Fault Reset) will automatically set the AxisRef.I.AlarmText tag back to 'No Alarms' at completion.
2928	MAFR_Yaskawa needs to be held high for at least 10m/s after the DN bit to clear the alarm.	In AOI set v2.4.0 improved internal interlocking was added to MAFR_Yaskawa (Motion Axis Fault Reset). Now the DN output will not come on until it is verified that all faults have been reported clear. This provides a stronger handshake to validate the data across the communication scans.
4246	Add 'AxisHasBeenHomed' status bit to MCFG.	To further improve the ease of implementation on machinery, a new bit in the memory map has been provided to indicate if the axis position has been properly referenced. This bit also appears as an output of the MCFG_Yaskawa AOI as 'AxisHasBeenHomed'. It will be set TRUE after any successful homing method. Any encoder alarm will set this bit to FALSE, thus requiring a new homing process to be executed. For units with the absolute encoder used as incremental, this bit will also be set 'FALSE' at reboot. For units with the absolute encoder used as absolute, the status of the bit will be preserved through reboot. This bit is now internally interlocked to prevent any absolute-type move from starting if the bit is FALSE. In this case, ErrorID 13025 - 'Absolute move not possible.', 'Axis has not been homed' will be returned.

8. Bug Fixes

Number	Summary	Release Notes
4313	MAH locks up if an out-of-range 'Home' type is sent.	In previous versions, sending an out-of-range 'Home' type to the MAH_Yaskawa AOI would result in no action by the block. Homing would not start, nor would it finish. Neither would the block report an error. In AOI set v2.4.0, this issue with the MAH_Yaskawa AOI has been fixed. The Home command is now allowed to go through to the axis, which actually performs the range checking. ErrorID 13020 - 'Invalid Homing Type' will now be returned if out of range.

9. Known Issues

None