

Release Notes for SigmaLogic™ Software Package

Release Date 02/01/2021

Yaskawa America, Inc.

LogicWorks Configuration Utility 2.4.1.7

1. New Features

None

2. Bug Fixes

Number	Summary	Release Notes
4497	If no motor is connected to SigmaLogic-7 400v, LogicWorks thinks it's a 100/200v controller.	It was discovered that if the motor for a SigmaLogic7-400v unit was disconnected (as in a bench test), a Hardware Mismatch would be detected when attempting to connect LogicWorks to that unit. Starting in LogicWorks v2.4.1, the software will query the servopack voltage rather than the motor voltage when determining hardware voltage level of the connected unit.
4771	LogicWorks - Inch user units don't work with Sigmatrac2	It was discovered that Logicworks was sending an inverted Position Scale factor when User Units other than [mm] were chosen for Linear Motor configurations. Starting in LogicWorks v2.4.1, the Scale Factor on the Configure --> Options page will be displayed in [UserUnits/mm] rather than [mm/UserUnits], and the Scale factor will be sent properly.

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
4995	Use of a comma in LogicWorks project file name disrupts SigmaLogic embedded project	When LogicWorks sends a configuration to a SigmaLogic unit, a special configuration file containing the project name along with other key information is stored in flash. This file is read by the SigmaLogic embedded code on power-up. When parsing the file, a comma is used as a delimiter. Thus, it is currently not allowed for the project name to contain commas	Do not use commas when naming LogicWorks files. Instead, use some other character such as a dash or underscore to separate sections of the project name if something other than a space is required.

SigmaLogic Embedded Software v2.4.1.19

4. New Features

Number	Summary	Release Notes
4436	Pass both ControlAlarmId and DriveAlarmID to MCFG_Yaskawa block in SigmaLogic	In SigmaLogic embedded code versions 2.4.0 and earlier, reporting of alarms would be exclusive to a single alarm type, even though more than one might be active at a time. Starting in SigmaLogic embedded code v2.4.1, all active alarm types will be reported to the Status bit for that alarm type and the ErrorID for that alarm type. However only a single decoded Alarm String will be sent according to this priority evaluation: 1 - Function Block Errors (Application errors) - Highest Priority 2 - Servo Alarms 3- Controller Alarms 4- Servo Warnings

5. Bug Fixes

Number	Summary	Release Notes
3491	Comm_FLT bit toggles more than once during reboot	It was reported that the Comm_FLT output at MCFG_Yaskawa AOI would toggle after a reboot. Communications would be good for short period of time when first established, then another fault would be detected before communications would be restored again. The root cause was that Ethernet/IP communications would be delayed while a file from controller flash was being initialized. When this happened, the communication heartbeat signal was frozen for longer than the timeout period. Starting in SigmaLogic Embedded Code v2.4.1, some of the task priorities have been adjusted to allow ethernet communications to continue reliably during the start-up file initialization.
4505	MAS_Yaskawa can get stuck In Progress and never reach Process Complete (PC)	MAS_Yaskawa is waiting for a 'Standstill' condition to be reported to move from In Process (IP) to Process Complete (PC). However, if the internal instruction to stop the axis is still active, the reported condition will be 'Stopping' even though the axis is no longer moving. Starting in SigmaLogic Embedded Code v2.4.1, Additional PLCopen states have been included and OR'd together to report a StandStill condition to the PLC: - Standstill - ErrorStop - Disabled - Stopping, with absolute speed under the threshold of 0.05 rev/sec for rotary motors and 0.1 mm/sec for linear motors for more than 1 second
4616	MTRQ_Yaskawa can get stuck with EN and IP output ON if HBB is hit during operation	MTRQ_Yaskawa is waiting for a 'Standstill' condition to be reported to move from In Process (IP) to Process Complete (PC). However, if the STO input is activated (Hardware Base Block) then the reported state will be 'ErrorStop'. Furthermore, due to an issue in firmware, after releasing HBB the reported state may become stuck in 'Stopping', forcing the user to reboot the unit to clear. Starting in SigmaLogic Embedded Code v2.4.1, the stopping method for MTRQ_Yaskawa has been changed to avoid the firmware condition that could cause a stuck in 'Stopping' condition. Additional PLCopen states have been included and OR'd together to report a StandStill condition to the PLC: - Standstill - ErrorStop - Disabled - Stopping, with absolute speed under the threshold of 0.05 rev/sec for rotary motors and 0.1 mm/sec for linear motors for more than 1 second
4744	SigmaLogic reports CPU Overload error, often during startup	Due to SigmaLogic7 firmware v3.7.0, extra cpu load can be experienced if position is monitored for a non-existent axis. In SigmaLogic7 embedded code v2.4.0, there was internal monitoring for the external encoder axis position even though this axis is not present in hardware. Due to other startup code that exists during reboot, the threshold for CPU Overload was reached more easily. Starting in SigmaLogic Embedded code v2.4.1 (for both SigmaLogic and SigmaLogic7 platforms), code was added to check if the external axis exists before attempting to monitor position. Additional changes were made to the task configuration to move file parsing functions into a Default task so that cpu load is reduced on warm start.
5014	Actual StopDecel value doesn't match the commanded StopDecel	When support for 128-byte instances was added to the product, there were some undetected conflicts between the function blocks that could result in certain command data being overwritten. The issue could exhibit in a number of ways across a range of AOIs as a result of changed or missing motion parameter data. These conflicts have been resolved in embedded code 2.4.1.
5042	Error 13025 is not reported to MAB block	If an error for AxisNotHommed (13025) was reported at the inception of the MAB - MoveAxisBlend AOI, the MAB block would hang with only the EN output on. The embedded code was actually returning an error targeted to the MAM-MotionAxisMove AOI. In embedded code version 2.4.1 the error is now returned to the MAB AOI and is reported at the function block properly.

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.
3672	Home to Flag with or without C-Channel has different results if ON the switch when started.	The Home to Flag process currently has no check of the initial flag status prior to beginning the process, nor is there a requirement that the homing process be started with the flag in an OFF condition. Therefore, if at the start of the homing process, then axis is at a position somewhere within the ON condition of the flag, a different home position could be found than if the axis had started from somewhere else with the flag in an OFF condition.	If this is a concern, then it is suggested that the ON range of the home flag be physically set outside the normal working range of the axis so that it can be approached in a more consistent manner and the process always started with the flag in an OFF condition. If that is not possible, then write application code to read the status of home flag before executing MAH and jog off flag before starting MAH.
5078	Attempted programmatic reboot with servo ON returns errorID -20199	If a programmatic reboot of the SigmaLogic unit is attempted while the servo is Enabled, then the reboot will not occur and MCFG_Yaskawa will show AppErr -20199. This is not a valid error ID. However, executing MRSE will return the correct alarm text stating that Reboot is Not Possible. Please ensure in the PLC application code that the servo is Disabled prior to attempting a programmatic reboot.	

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 be held high for at least 10ms 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 date 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

Number	Summary	Release Notes	Workaround
4866	AOI Active bit of the MCFG block does not work properly	Using multiple instances of an AOI type, for example MAM_Yaskawa in a project may result in the AOI_Active bit at MCFG_Yaskawa to behave improperly. This is because the internal "AOItype"_SB bit will be written in all of the instances.	1) Use AOI_Active in combination with MotionIdle output of the MCFG_Yaskawa AOI. 2) Use independent user-written interlocking specific to the AOI instances to perform even more robust interlocking than is currently available from the AOI_Active and MotionIdle outputs of the MCFG_Yaskawa AOI.
5121	AppError 13010 when disabling MHSI	In SigmaLogic AOI version 240, the MHSI_Yaskawa block will inadvertently return an ErrorID 13010 when the Enable input is released. This ErrorID will appear at the MCFG_Yaskawa output AppErr. This issue will be corrected in a future release of the AOI set.	If detected as part of the MHSI_Yaskawa release process, this error can be ignored. It will not inhibit further operation or motion on its own. Please contact Yaskawa Motion Support if an updated AOI is required before the next official release.