

Release Notes for SigmaLogic™ Software Package

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LogicWorks Configuration Utility 2.0.0.324

1. New Features

Number	Summary	Release Notes
828	Add ability for the user to configure the Brake delay through LogicWorks	In addition to being able to configure use of a SigmaLogic output for motor-brake functionality, the Brake Delay setting can now be adjusted using LogicWorks. Units are in [msec] and the default is 50msec. Adjust this value to delay the servo off command to the SigmaLogic axis until the holding brake is given time to fully engage. This is particularly helpful in vertical loading situations to reduce or prevent load drop due to gravity effects.
942	Add Controller Type and Motor Type to Status Bar	Starting with LogicWorks v2.0.x SigmaLogic7 versions are supported along with Linear Motors. The lower status bar now shows the SigmaLogic type and motor type information when an axis is connected.
1033	For Linear Motor Configure-Options, set default to Use Force Limits and set values to 50%	For new linear motor projects, the default force setting is 50%. This will be enough to create reliable motion but should help mitigate runaway or potential damage during startup and testing. After startup, adjust this value on the Configure-Options page of LogicWorks.
1044	Add ability to import the current SigmaLogic drive parameters into the project	Users now have an additional method to retrieve/set SigmaLogic drive parameters. In addition to importing a SigmaWin+ v5.x file, users can now import directly from the SigmaLogic axis. Once imported, these parameters may be saved as part of the LogicWorks project and will be included in the files sent to the flash archive during Send. This is especially helpful since at the time of LogicWorks v2.0.x release, neither SigmaWin+ v5.x nor SigmaWin+ v7.x support the SigmaLogic7 products.

2. Bug Fixes

Number	Summary	Release Notes
437	Sequence page check boxes have wide selection area	Previous to LogicWorks v2.0.x selection box area included the box, the text beside it and also the white space beyond the text. This potentially led to inaccurate entry of sequence step data. The click-able area has now been reduced to eliminate the white space.
561	Limit regen setting based on Amplifier	LogicWorks Configure-Options page will now limit the setting for External Regen Wattage to that of the connected Axis capacity. It will perform this limiting both at time of value entry and during SEND.
732	LogicWorks writes incorrect Pn522 (Positioning Completed Width) value when the value being written is small	In LogicWorks-v1.1.1 and earlier, values entered for Configure-Options- Position Completion Window that are smaller than 0.01 will result in an actual window of 0 encoder counts at the motor. Depending on the tuning of the axis, the servopack may never report 'In-Position' via the PSET output to the controller, or the signal could be very jittery and unstable. For some moves, such as during the homing process, a debounced In-Position signal is checked as part of the process. If the signal is unstable, the debounce will not be met and the process could "Hang". Starting in version 2.0.x, resolution for the Position Completion Window is extended to 6 decimal places (0.000001).
1041	Logicworks does not direct the user to reboot after being returned to factory defaults	After performing a Configure-->Update-->Return to Factory Settings, LogicWorks should alert the user that a reboot is required and offer the option to Reboot Now. Occasionally this pop-up was not appearing. NOTE: This pop-up may not appear if the SigmaLogic unit's archive had been

previously deleted

3. Known Issues

Number	Summary	Release Notes	Workaround
591	LogicWorks Crashes when clicking flag reference text	Double clicking on the reference text in the Flag Reference Table will cause the Flag Reference Table to close immediately.	Single-click over the flag reference text to place the cursor in the text field or drag the mouse over the text to highlight it for change.
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 SigmaLogicEmbeddedCode 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
1180	SigmaWin+ v7 does not fully support Sigma-7Siec or SigmaLogic7 products	As of the release of SigmaLogic7 Compact and SigmaLogic7 Modbus, SigmaWin+ v7 does not fully support the configuration and saving of parameter files from any of the Sigma7-based products including Sigma-7Siec, SigmaLogic7 Compact and SigmaLogic7 Modbus products. The utility will connect and pop up an error message. It will treat the units as a standard Sigma7-EtherCAT version servopack. Utilities for tuning and setting individual parameters will still function. However, saving parameter files will not be possible. Full support of these products by SigmaWin+ v7 is expected in the next release targeted for mid 2017.	If parameters need to be changed or special tuning functions performed beyond what LogicWorks v2 can support, use SigmaWin+ v7 to run tuning utilities and save individual parameter changes. Then use LogicWorks to retrieve the servopack parameters into the project file via Configure - Options - Import Servopack Pns.

SigmaLogic Embedded Software v2.0.0.38

4. New Features

Number	Summary	Release Notes
366	Homing torque limit of zero should disable torque limit, not return error	Homing Torque Limit fields now accept a zero value unless Home to Hard Stop method is chosen. Setting a zero value will result in full torque/force availability during the homing process.

368	Homing - Support OffsetSpeed=0 and OffsetSpeed<0	Homing functionality using MAH_Yaskawa has been improved. The order of the inputs on the AOI have been changed to reflect the actual sequence of events more accurately. - Negative values for Backoff Distances are accepted. The absolute value will be used and the direction will always be set opposite to the chosen search direction. - Zero values for Backoff distance will be accepted and will cancel the requirement for Backoff Speed entry. - Zero values for Torque Limit will be accepted and will result in full available torque/force during homing - Zero values for Offset distance will be accepted and will cancel the requirement for Offset Speed entry. NOTE: Offset will remain required if Homing to Hard Stop. This homing process cannot finish on the hard stop.
371	Homing - apply accel rate to homing mode 2 (limit)	In previous versions, Home to Limit switch method did not limit the acceleration rate sufficiently for large load situations when the end-of-travel sensor was reached. Starting in version 2.0.x, the servopack parameters for stop action at limit switch will be temporarily modified during the homing process to match the specified HomeAccDec. When homing is completed (or aborted), the parameters will be returned to the original values.
372	Homing - Backoff move should use approach speed in homing mode 2 (limit)	The backoff move during Homing to Limit used a different speed than other homing types. This has been rectified for consistency so that the Approach speed is used during the Backoff move portion of all homing types.
745	Add support for PLC reboot of the SigmaLogic axis	A new command bit has been added to the communication interface so that the master controller can programmatically reboot the SigmaLogic axis. For the provided set of AOIs, the controller tag is found at 'AxisRef'.O.RebootController'
804	Allow gear ratio from MAG and position target from MAM to be changed on the fly the same way as MAJ and MTRQ	The gear ratio values for MAG_Yaskawa may now be changed on-the-fly. To implement, leave the EnableIn active while changing only the field values for SlaveCounts and MasterCounts.
973	Add C-pulse only Homing Types	Two new Homing Types have been added: Type 12: Home to C-Pulse only in Positive Direction Type 13: Home to C-Pulse only in Negative Direction When executed, this process will: 1) Search for the C-Pulse in the specified direction 2) Perform an offset move to final position 3) Set the specified position
1001	Improve the synchronization between when Alarm Bit comes on vs Alarm String is displayed	In previous versions, the verbose error text information was transmitted some time after the application error bit was received by the master controller. Now the Application Error bit will come on when the text is ready. This allows users to better trigger a display of the message. Error presence can be detected at MCFG_Yaskawa block using: - "MCFG_Ref'.SvALM - "MCFG_Ref'.SvWRN - "MCFG_Ref'.CntrALM - "MCFG_Ref'.AppER Starting in AOI v200, trigger the decoding of the alarm code using new AOI MRSE_Yaskawa - Motion Report Servo Error. The verbose description can be found at the controller tag 'Axis_Ref'.I.AlarmText.
1003	Support a Brake Override signal or command	A BrakeBypassRequest command bit and a BrakeBypassActive status bit has been added to the memory map. While the servopack is disabled, a False to True transition of the BrakeBypassRequest bit will turn on the /BK output at SO1 of the servopack if it has been configured to be used as a brake output. This will temporarily release the motor brake so that the axis can be manually moved. Setting BrakeBypassRequest to False will turn off /BK output at SO1. If the servopack becomes enabled while BrakeBypassActive is on, BrakeBypassActive will be turned off even though the request remains. The user will have to retoggle the request bit to repeat the bypass. For Ethernet/IP, BrakeBypassRequest is located at Instance 112:DINT[1]:Bit2 and the BrakeBypassEnabled status is located at Instance102:DINT[39].Bit22. For Modbus/TCP, BrakeBypassRequest is located at Register 40003 Bit2 and the BrakeBypassActive status is located at Register 30080 Bit6.
1045	Add support for Home to HardStop with C-Pulse	Starting in version 2.0, an option to use the C-Pulse after homing to hard stop has been added. This will help improve final homing repeatability.

5. Bug Fixes

Number	Summary	Release Notes
968	CPU Exception or Watchdog alarm on MedTask for firmware above 3.0.0.173	Users would experience a CPU exception on power-up when using firmware above 3.0.0.173. This issue has now been fixed by rearranging internal code for better task balancing.
981	JogActive and JogBusy bits not functioning properly	Embedded code and AOI interlocking has been changed to improve the manner in which the motion status outputs function. Previously, JogBusy (IP) and JogActive (DN) would turn off immediately if the EnableIn was removed from the MAJ_Yaskawa AOI even though motion was still in progress. These outputs will now remain ON until motion is stopped. If the user toggles the MAJ_Yaskawa EnableIn too rapidly, the outputs will stay on for as long as the current motion is in the stopping process. Then EN may come on without any other status outputs. This is an indication that the SigmaLogic unit is waiting for a new rising edge of the MAJ_Yaskawa block to begin motion. consider interlocking the jog input with

'MCFG_Ref'.MotionIdle for this axis.

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 for RSLogix 5000 v2.0.0

7. New Features

Number	Summary	Release Notes
374	Transmit P-OT, N-OT and HBB status to plc application code	Additional status information has been added for specific SigmaLogic physical inputs. These can be accessed at controller tag 'Axis_Ref'.IOStatus. Ethernet/IP: Input DWord[38] Bit26: Positive Overtravel (P-OT) Bit27: Negative Overtravel (N-OT) Bit28: Hardware Base Block (HBB)
383	Homing AOI - display order of MAH inputs to reflect the chronological sequence of the homing routine	MAH_Yaskawa now has a different order for the inputs that better reflects the homing process. CAUTION: Existing applications should inspect the instances where this block is used. Tags and/or data placed on the inputs will need to be relocated or unexpected results will occur.
736	Transfer External Encoder Position to the PLC	Starting in AOI v200 the External Encoder Position and Speed is reported to the host PLC. The values are available at the MCFG_Yaskawa outputs: - 'MCFG_Ref'.ExtPositionFB - 'MCFG_Ref'.ExtSpeedFB The position of the external encoder may be defined using MAHSP_Yaskawa and setting the UseExternalEncoder parameter to 1.
884	Decode of Alarm messages in MCFG_Yaskawa has a negative impact on execution time	A New AOI has been created: MRSE_Yaskawa - Motion report Servo Error. The parsing of the string data for the error message has been moved out of the MCFG_Yaskawa AOI and into this new AOI. This allows the decoding of the message to occur on-demand and saves a great deal of execution time for the project. When triggered, the verbose error description will appear at the controller tag 'Axis_Ref'.I.AlarmText.
974	Add support for C-Pulse only Homing types to MAH_Yaskawa AOI	Support for Homing to C-Pulse Only has been added to MAH_Yaskawa by selecting Home Type 4. A separate parameter determines the direction.

8. Bug Fixes

Number	Summary	Release Notes
851	Occasional Improper Jog functionality	Rapid re-execution of the MAJ_Yaskawa AOI would sometimes cause the axis to either stop moving without restarting OR start moving without stopping. Adjustments to both the AOI v2.0.x and the SigmaLogic Embedded Code v2.0.x have improved the interlocking and Error Code display to prevent this situation and properly alert the user. If the EnableIn input is toggled and re-applied while the axis is still decelerating, the existing outputs will remain functional until the move is complete. Then all outputs will shut off except EN will be re-applied. DN will NOT come on. This means that the command has not been successfully sent/received. Simply toggle the EnableIn of the function block to make another attempt. Note that any Application Error Code will remain reported at the MCFG_Yaskawa block until MAFR_Yaskawa is executed.
863	MAM_Yaskawa AOI: IP output bit is stuck on when the motion is interrupted with MAS_Yaskawa AOI	Starting with MAM_Yaskawa v2.0.x and SigmaLogic Embedded Code v2.0.x , move interlocking and AOI output functionality has been improved. MAM_Yaskawa outputs will remain functional until the move is complete even if EnableIn has been removed. If MAM_Yaskawa is interrupted by MAS_Yaskawa or a servo off condition, the EN will remain ON, DN will remain ON, IP will turn OFF, PC will never come on.

9. Known Issues

None