YASKAWA

Release Notes for iCube Control Products

Release 2024.3.1

Date: 2024-10-07

Version Information:

iCube Engineer Version: 2024.3 (Build 5.0.65523.0)

iC9226M-EC Firmware Version: 2024.3.1.130772

iC9226M-FSoE Firmware Version: 2024.3.1.130773

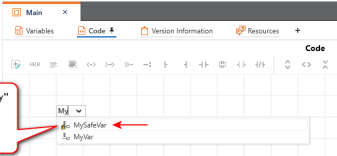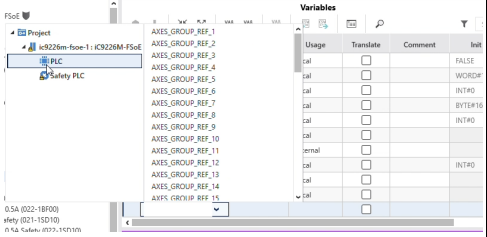Profinet Version: 114

Ethernet/IP Version: 1.2
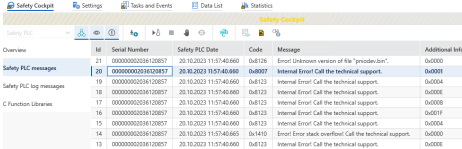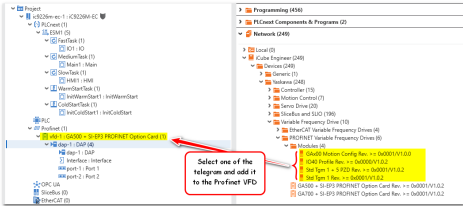
iCube Control Safety Process Related Issues

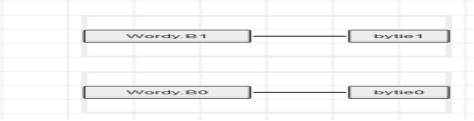| ID	Title	Description	Workaround
46087	Safety PLC is stuck in STOP if no safety variable are linked to the safety device pdo.	When a safety component has a PDI (Process Data Item) linked to a normal PLC variable but not to a safety variable, there is no compilation error, but the Safety PLC remains in Stop state even on trying to run the safety PLC.	Every safety device should have at least one safety PDI (Process Data Item) linked to one safety variable (input and/or output).
49198	Safety PLC: Process data mapping offset is not updated, when a safety slave is deleted.	When a FSoE slave is deleted, the offset of the remaining slaves is not recalculated, so there are empty spaces in the mapping list.	None
49597	Message "The safety message log has no valid data hash" on opening caused by safety project created in a different time zone	Message "The safety message log has no valid data hash" on project opeing will occur if the iC9226M-FSoE project is opened in a different time zone than the one it was saved in. The message is related to a hash used in the persistent safety log. This defect does not represent a safety-critical defect, as the safety log only has a logging function and has no influence on safety-related data that is used to generate the safety-related user program.	Once the project is saved again in the new time zone the error will no longer occur on opening the project.

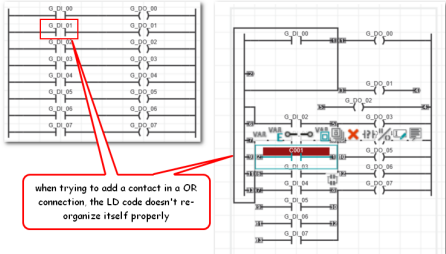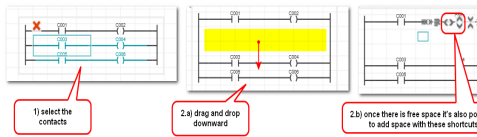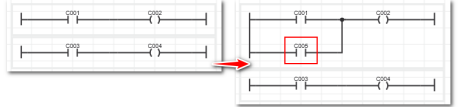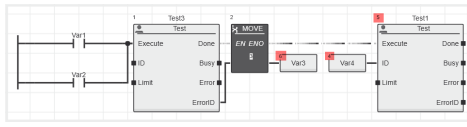| 52878	WBM Archive Project does not handle safety project	Project archive feature in the WBM cannot be used to manage (send to controller or receive from controller) safety projects.	Use iCubeEngineer to commission (download) safety applications.
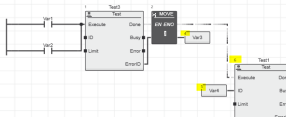
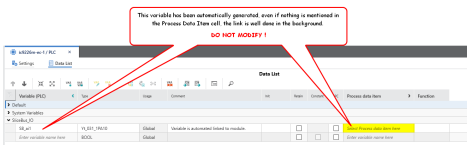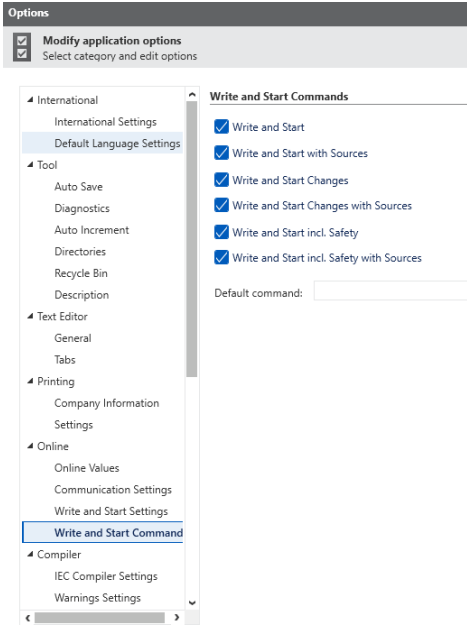# iCube Engineer Known Issues

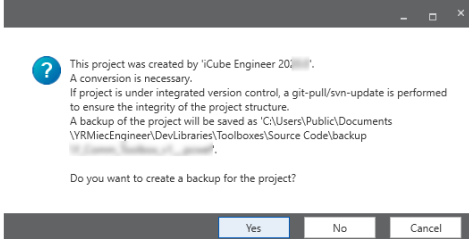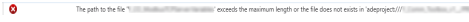| ID	Title	Description	Workaround
9546	'Create New Function Block Instance' option doesn't exist when editing in ST environment	A function block instance cannot be created by right clicking and choosing to create a new instance from the code editor of a Structured Text worksheet.	Drag and drop an instance of a function block from the components tree of the project.
21016	Error (division by zero) is displayed in the wrong line of code	Errors such as division by zero may not be traceable to the exact line where the error occurred. The error line could be wrongly shown on a line in the vicinity of the error occurrence.	The error could be displayed on a line near the line where the error occurred.
25444	Import csv file in the variable table does not retain mapped PDI variables	The import from CSV file functionality to import variable in the data list of the PLC table mention "Finished importing CSV", but doesn't import any PDI linked to the imported variable. ⓘ Finished importing CSV file. (MSG_GEN0060)	The PDI mapping to the imported variable needs to be done manually. The imported variable that are duplicated needs also to be removed manually.
26625	Y_AX_Home_LS_Pulse CreepDistanceLimit not enforced on Re-Trigger	The CreepDistanceLimit is not enforced when the Home _LS_Pulse function block is re-triggered because the MC_StepRefPulse function block is ignoring the distance limit during this case.	none
28153	Controller scan and Profinet scan don't detect devices all times	Controller scan and Profinet Scan does not detect profinet devices always	Multiple scans may be required to detect Profinet devices on the network. Or download NetNames+ : https://www.phoenixcontact.com/en-pc/products/data-interface-em-pnet-gateway-ifs-2904472 ⤓ NetNamesSetup.zip (321 MB) SHA256 checksum: 6f25f188438809f144671c6d1bf857d2b6f4 1c75bbf3d332e62ada4c41d3e1a8 — The NetNames+ tool can be used to adapt IP parameters and device names of PROFINET devices. The DCP protocol (Discovery and Configuration Protocol) is used. — Multilingual 1.50

30202	Project Rebuild is required on project open if Profinet VFD devices are in the configuration	Opening a project that contains a Yaskawa profinet VFD (GA500 or GA700) which was working before ends up in Y_MotionAxisDriver with an Error&errorID 13807 .	Execute a Project-->Rebuild, then download the project again.
31416	Global Replace - creates a new variable and keeps the current one that was supposed to be replaced	Global Replace function creates a new variable and keeps the current one that was supposed to be replaced	Manually remove the old variable if it is not required. User could evaluate if 'Refactor' could be used instead of a 'Global Replace'
32554	Access to Safe Variables from Standard PLC	Names of variables from the Safety PLC project will appear in a list of available variables when working in the standard PLC project. This occurs when typing a variable name - see the example below - as well as when browsing the variable names in the drop-down list. If a safety PLC variable is used within the standard PLC project this will cause an error when the project is rebuilt.	When selecting a variable name, first open the variable list drop-down and then select "PLC" to filter only for standard PLC variables.
36237	Autocompile feature does not work reliably that sometimes the last compiled code is allowed to be downloaded (written) to the controller.	Autocompile frequency is not reliable sometimes. This causes the last compiled code (not the code currently available in the project) to be downloaded to the controller. This would result in a mismatch of code in the project and the code running on the controller.	Perform a project rebuild before downloading a project to the controller.
42328	SliceBus and Bus Coupler safety module diagnostics not available	Diagnostics for the SLIO safety modules on the SliceBus are not available through iCube.	Visually review LED states present on the SLIO safety modules and refer to the meaning of the LED indicators in the technical manual . (https://www.yaskawa.eu/Global %20Assets/Downloads/Technical_Docu mentation/Controls/Slio/Safety/HB300 E_SM-S_02x-1SD10_23-20.pdf) See the section "status indication" as a starting point.

42355	Safety project templates can only be opened in the language setting, with which they were created.	Safety project template can't be opened in German language.	Multiple work around are available: • With German, start project without template and add manually the right safety controller to the PLANT tree. • use English language
43101	A.A48 on Sigma-7 when using iCube Engineer servo parameter editor	The A.A48 alarm indicates corruption of the Servo drive EEPROM memory, which includes the servo drive parameter settings.	Use SigmaWin+ to initialize parameters on the servo drive.
43610	In safety PLC messages further information to the error codes in Columns "Additional information" and "Extended information" are not available	In the Safety PLC cockpit messages, the errors point to internal errors that are hard to decipher.	Contact Yaskawa for help on safety PLC errors.
43636	Drive scanned from the Profinet network doesn't automatically add the GAx00 Motion Config module	Executing a Profinet scan functionality on Yaskawa Profinet VFD doesn't add the Profinet telegram Part.	there are 2 solutions: • add the Profinet VFD from the catalog manually instead of automatically with the Profinet scan • add manually Profinet telegram to the Profinet VFD after the scan has been executed:
43653	iCube not responding and showing random EtherCAT data when Node is disconnected with the Online functions tab open and hot connect enabled	If iCube Engineer's EtherCAT online functions page is online with the controller, and a change in state (power loss) of any device on the etherCAT network or if there is change in the network (disconnected device), the online functions page can become unresponsive.	Make sure to navigate away from the EtherCAT online functions before making changes to the EtherCAT network. Restart iCube Engineer if the online functions page is unresponsive.
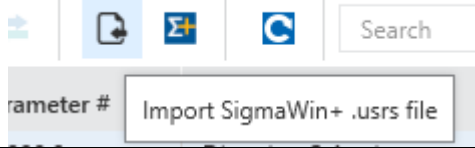
46312	non safety FB from "Safety IEC 61131-3" library aren't supported on iC922xM-EC	If a WORD_TO_BYTES FB is used in the application, a compile error is generated mentioning that the iC922x resource does not support the WORD_TO_BYTES function block because this FB is part of the Safety IEC 61131-3 library.	- Do not use any FB from Safety IEC 61131-3 in a nonsafe PLC. - Use implicit addressing as shown below:
46399	Motion Axis generation fail to create the proper variable when Identity.Axis Number is changed from default	If a user modifies the axis number property of a motion axis and then adds additional motion axes to the project, then the automatic generation of the AXIS_REF variable in the PLC/global variable table is affected.	Do not change axis number property of a motion Axis if additional servopack need to be added to the project at a later stage.
46400	GDS-Error, when connecting the data variable of an FSOE-module with a non-safety plc variable - this variable connection is not undo-able	If the 'Data' Process Data Item of a safety module is connected to a PLC variable as shown below, the project cannot be downloaded. The Data PDI should not be edited by the user.	Do not edit the Data PDIs for safety modules.
46740	'Servonet external axis' is not automatically created when a 'Feedback Option card' is added to a servo and feedback operation mode is 'external encoder monitoring'.	If an SGDV Feedback Option Card is added to a servo in the plant, an external motion axis is automatically created.	The automatically created external axis (when an SGDV Feedback Option card is added to a servo) is only used in Option mode = "Semi-closed loop + External encoder monitoring". In all the other operation modes, this external axis created is not useful.
47538	Unsupported Modules in iCE	The following module listed in the catalog of iCube Engineer is not supported. 1. AI 8x12Bit (0/4)..20mA (031-1BF60) Rev. >= 00/1.00 on PROFINET	Contact Yaskawa support for updated device support information.

47608	LD Network Graphics Incorrect	Modify ladder diagram rung with common power rail can bring organization display issue as follows. when trying to add a contact in a OR connection, the LD code doesn't re-organize itself properly	Make space in the ladder diagram before inserting the OR connection ⊞ contact. 1) select the contacts 2.a) drag and drop downward 2.b) once there is free space it's also pos to add space with these shortcuts OR Do not make the power rails continuous for multiple rungs.
48061	User can't use 021-1BD70 & 022-1BD70 TimeStamp modules with the internal clock of the iCube	021-1BD70 & 022-1BD70 TimeStamp modules can NOT be synchronized with an absolute time. These 2 modules can only be used to read or defined a time relative to a previous rising/falling edge.	No workaround available. A virtual module to simulate the clock is missing for Profinet, EtherCAT and Slicebus.
48936	Y_YA_EC_Diagnostics can get stuck	When only one EtherCAT device is connected, Y_YA_EC_Diagnostics is unable to complete its read operation, and gets stuck Busy in an internal step.	Contact Yaskawa support.
48980	ESI file import: Error Importing Schmersal Safety Field Box ESI	Import of Schmersal Safety Field Box ESI fails. This device is not supported.	None.
49054	ESI file import: Error Importing Fortress amGardPro ESI	Importing of Fortress amGardPro ESI fails. This device is not supported.	None
49197	Incorrect execution order in Ladder Logic	In some scenario in LD, the execution order of the code is wrong as follow : 	1. enable the "execution number" option to see the execution order a. 2. move the FB in order to force the correct ordering as follow : a.

49219	MSG_ONL0156: Unable to download project and unable to find the reason for the download failure	If the error message "MSG_ONL0156: Unable to download the project changes to the device" is shown, the user will have to check the reason for the download failure in the output log of the controller.	The output log can be obtained by SSH-ing into the controller. The output log can be obtained at /opt/plcnext/logs.
49241	Automatic IO Variable generation : PDIs links to PLC variables are not displayed in the data list	The automatically generated variable may not have a Process Data Item linked to it. The link is made automatically by iCube Engineer automatically in the background. If the user map a PDI, this will overwrite this automatic link done by iCube Engineer. 	The user should NOT try to map a PDI to the variable. The link is already done in the background and the communication with the device should work properly.
49305	Software crashes when selecting 'Write and Start incl. Safety' from the Write and Start Commands config	iCube Engineer crashes if the Write and Start commands are edited from the Extras > Options menu in iCube Engineer's home page. (without opening a project) 	Modify the Write and Start Commands settings from the Extras > Options menu in an already opened project.

49501	iCube Engineer 2024.3 removes the POU of a project build in earlier versions during project conversion	When converting a older version project into iCube Engineer 2024.3, with the following pop up : ![dialog popup] This project was created by 'iCube Engineer 20...'. A conversion is necessary. If project is under integrated version control, a git-pull/svn-update is performed to ensure the integrity of the project structure. A backup of the project will be saved as 'C:\Users\Public\Documents\YRMiecEngineer\DevLibraries\Toolboxes\Source Code\backup ...'. Do you want to create a backup for the project? Yes No Cancel the following error can appear: The path to the file "..." exceeds the maximum length or the file does not exists in 'adeproject:///...' Resulting in corrupted code display as follow in the component tree : ![corrupted icon] One of the possible reason other than the maximum length is that the POU, FB or datatype worksheet have been renamed in the previous iCube Engineer version with the same string name but different font case, example : "**p**ou_1" replaced with "**P**ou_1". During the conversion the link between the component tree and the file is then lost afterward.	rename the file accordingly to the component item name in the older iCube Engineer version. The file should be contained into <Project Name>/content/... *note: when using *.pcwex format, the file needs to be unzipped to find the "content" folder.* Then open in the new iCube Engineer version and proceed to the conversion of the project again.
49949	Cannot Debug/Monitor Safety PLC Variables after Write and Start Standard PLC Project	After writing and starting a standard PLC project, done while debug and monitoring of both the Standard and Safety PLC projects are active, the values reported for Safety PLC variables will not match the actual values and a reintegration request is required.	Following the Write and Start of the Standard PLC project, it is necessary to set ACK_REI_FSOE_GLOBAL=True to provide a reintegration request. Once the reintegration request is provided, the variable values shown when debugging match the actual states. Set ACK_REI_FSOE_GLOBAL=FALSE to complete the process.
49950	Unexpected Error - Project Cannot Be Built. Online Mode Is Not Possible	When rebuilding a project after making edits in the standard PLC area and while still connected to the iCube controller, iCE may report "MSG_ONL0048: The project cannot be built. Online mode is not possible."	Disconnected from both the standard and safety PLC, then rebuild the project (Project->Rebuild)

50132	Safety PLC does not exit Debug Mode	Under some circumstances the Safety PLC does not successfully exit debug mode.	Ensure the safety PLC enters Safe Run mode after exiting debug mode by checking the safety PLC status. The safety PLC status can be seen in the iCube Engineer Safety Cockpit. The SF RUN and SF ER LEDs on the iCube controller also display the safety PLC status. Safe Run is indicated with the SF RUN LED solid and the SF ER LED off.

50179	Unable to use the same toolbox library with a different path than default library path: "The reference library could not be loaded because the library ...... "	If the user moves the library folder with libraries in it to a different location, projects which refer to the libraries in the original project will have compile errors when the old libraries are deleted and the libraries from the new location are added. The compile error is "The reference library could not be loaded because the library xxx with the same ID has already been loaded"	There are options:
			
			• Do not change the library location for an existing project.
			
			• Share a project as an archive.
			
			• Fix the library location as follows:
			
			  1. **In Window Explorer:** Copy all the libraries used in the project in a new folder location
			
			  2. **in iCube Engineer:** open: "Extras" --> "Options..." --> Tool/Directories
			
			  3. modify the path of "User libraries location" to the new path defined in step 1
			
			  4. save the project
			
			  5. close completely iCube engineer (not only the project)
			
			  6. re-open iCube Engineer and the project
			
			    a. All the paths for each library should be modified and no error should occur.

50997	Execution of 'MC_Stop' returns Error with ID '14054' on 'Y_MotionAxisDriver' FB for ModbusRTU Drives	Sometimes the first execution of the 'MC_Stop' for a Drive controlled with ModbusRTU (040-1CA00) Function Block is not working properly. The axis will **not** stop in this case, the Driver Function Block will return an Error 14054.	Always check the Y_MotionAxisDriver FB status when using ModbusRTU Drive with PLCopen_Part1 library.
51198	Missing documentation for PLCnextBase_1_5_1	version 1.5.1 does not contain any documentation	Use documentation of the Version 1.6.4 version is available via PLCnextStore
51211	Error: "A license error has occured" after locking computer or energy saving mode	After a few hours of running iCE and possibly staying idle, a pop up message saying ' A license error has occurred' appears. The only option is to click OK. The user can lose unsaved code.	Make sure that the code is saved in regular intervals. Autosave can be enabled and the frequency can be controlled by the user from Extras/Options/Tool/Autosave.
52815	Sigma-XT: "Import SigmaWin+ .usrs file" always imports the parameters for the first axis regardless of axis selected	"Import SigmaWin+ .usrs file" always imports the parameters for the first axis regardless of axis selected. rameter # Import SigmaWin+ .usrs file	Do not use the Import SigmaWin+.usrs file functionality in iCube Engineer for multi-axis servos.
52962	IP address conflicts, when creating an iCE project with PN devices and EoE-EtherCAT devices	IP address conflicts can occur between devices on the controller subnet.	Automatically assigned IP addresses for Profinet devices should be assigned in an IP address subnet that does not overlap with manually assigned IP addresses for other devices included Ethernet/IP and Ethernet over EtherCAT (EoE) devices.
53109	SI-EP3 PROFINET Option Card for VFD: No information about STO inside Status Word available	In the Statusword of SI-EP3 PROFINET option card there is no information about STO (Safe Torque Off) inside the Status Word. Therefore there is no reaction possible with the MC Function blocks (e.g. MC_MoveVelocity, MC_ReadStatus) in case of STO	Using the Multiprotocol Card JOHB-SMP3 (PROFINET mode) there is the STO information in Status Word Bit 14. Control/Status has to be set on 1: Yaskawa P-Drive

| 53202 | Installing iCube Engineer as administrator and opening as normal user create issue to find user libraries location | The User libraries are installed at the time of software installation at the following path: C:\Users\<user>\Documents\iCube_Engineer\Libraries.
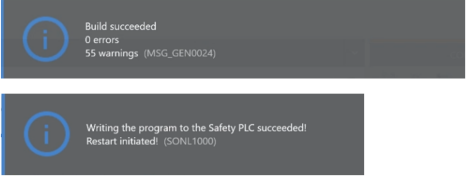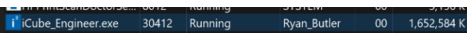
If the installation is done as administrator, the <user> is the administrator account.

In case the administrator and the local user are two different accounts, and iCube Engineer is being opened from the normal user, the following error will occur: "Library not found at referenced location".
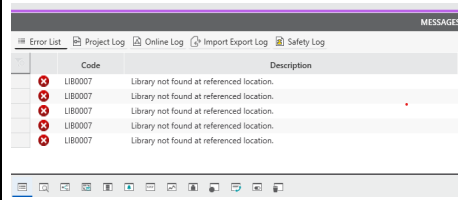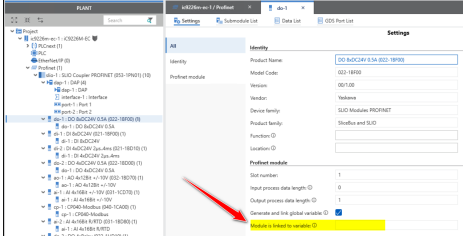
 | There are 3 possible workarounds in this situations:

1. Start iCube always in *Run As Administrator,* in this case the the default path to look for user libraries in iCube will change to *C:\Users\<user>\Documents\iCube_Engineer\Libraries.*

2. Incase you don't want to Run the iCube in Run as Administrator then after running iCube change the path in the iCube software where it looks for the user libraries. For this go to *Extras->Options->Tools->Directories->User Libraries location.*

3. Copy the library from the administrator folder to the user folder. |

53293	Safety PLC Write & Start Project Stops Working	Users may experience cases where the project Write & Start function does not work. This can occur with both the Standard PLC -> Write and Start (incl. Safety) and also the Safety PLC -> Write and Start functions. When this issue occurs there are several indications that the user will not see, which should appear within approx. 10-20 seconds of stating a Write and Start. These missing indications include Progress bar and status messages such as shown below: Also, iCube Engineer will not display snack-bar messages such as: Another effect of this issue is that iCube Engineer will hang when closed. This can be seen in the Windows Task manager by looking at the Task Manager's Details screen, for example: 	There is no known workaround at this time, however some recommended methods for handling and recovering from this issue are: • Watch for iCube Engineer to display snack-bar and Progress bar messages when a Write and Start is performed. These messages should appear within 10-20 seconds. • After the issue occurs, close iCube Engineer and terminate the process from the Windows Task Manager • Before closing iCube Engineer, be sure to save your project and make note of the location where it is saved
53540	Unexpected controller reboot when using PBCL_SysDeviceStatus_1	Depending on the data type used in the InOut variable "anyResult", the controller might unexpectedly trigger a power cycle (reboot).	When using PBCL_SysDeviceStatus_1, set the data type of the variable connected to "anyResult" to the one defined in the documentation for the status variable specified in "strIndent". For example, to read "Status.Memory.Usage.Percent" (defined as a BYTE in the documentation), define the variable connected to "anyResult" as a BYTE data type.

53699	Generated Safety Variables are not removed when Safety modules are deleted	Generated Safety Variables are not removed when Safety modules are deleted	Delete the safety variables after removing the safety modules
54301	Deleting a servopack from the plant leaves behind servo IO global variables	When a servo is deleted from the EtherCAT node in the PLANT tree, the global variable that represents servo IO in the PLC data list is not deleted.	User can manually delete the global variable from the PLC data list.
54418	Cannot rebuild project, Internal error: UTL0001	Internal error UTL 0001 can occur if one of the temporary output files is locked.	Make sure no files in the Binaries directory are locked from editing due to be open in an editor.
54483	ECAT Online : missmatch analyzer is showing Sigma7W servopack modules in red	In the EtherCAT online functions page, modules that are part of multi module devices, are sometimes shown in red.	Check the state of the EtherCAT device and ensure that the device is in state 8 (OP state).
54882	Impossibility to bring back undocked window on a broken monitor	If an iCube Engineer window was undocked and moved to a secondary monitor, and if the user disconnects the secondary monitor, it is not possible for the user to bring back the undocked window back to the original monitor. The click action to make the window visible seems to work, but the window does not appear on the original screen.	Right click on Windows desktop > Display settings > Select 1 monitor.
55296	FB-Lib: Y_FileRW_Toolbox_2024_03: Y_RW_Write_CSV_File: Appending more than 512 Byte to the CSV file leads to an error	Using Y_RW_Write_CSV_File with a Buffer size above 512 bytes generate a string error on the PLC side.	Do not used Buffer size input > 512 byte.
55375	Multiple bus scan proliferates Motion Axes instances	Performing an EtherCAT bus scan does not automatically delete existing Motion Axes from the plant. This leads to proliferation of Motion Axis objects which are not connected to an underlying servo object, which causes additional configuration-related motion alarms.	The following recipe produces a clean bus scan without extraneous objects or variables: 1. Delete all EtherCAT servo nodes in the plant 2. Delete all servo Motion Axes in the plant 3. Delete all related global variables for servo-# and AXIS# from the PLC global variables list 4. Perform bus scan

56229	Y_RW_Write_CSV_File: Appending doesn't work when executed with a task interval lower than 4ms	When using the "Append" input of Y_RW_Write_CSV_File in a program run with a task interval of < 4ms, the information is not appended to the file. The CSV file is overwritten as if "Append" was set to FALSE.	Use the Append mode of Y_RW_Write_CSV_File in a POU in a task >= 4 ms.
56328	Unable to determine cause of error when EIP status variable is set to 0x000E	Detailed status of EtherNet/IP scanner connection is not available.	EtherNet/IP diagnostics will have to be done by using wireshark. The user will have to use a network hub for capturing network traffic.
56341	ECAT Online : missmatch analyzer is showing SLIO Ecat module in red	The Mismatch Analyzer tab in the EtherCAT Online Functions page shows modules in EtherCAT devices in red.	None. This does not affect the functionality of the modules.
56464	In a project created using iCE 2023.9, and opened in 2024.3 axes cannot be used in simulation mode	If a project was created in 2023.9 and opened in 2024.3, servo axes cannot be used in simulation mode	Users will have to use real axes for projects created in 2023.9 and upgraded to 2024.3
56946	EtherCAT Bus Scan: Unable to find modules of EtherCAT devices in certain conditions	EtherCAT Bus Scan: Unable to find modules on the CoE bus coupler in certain conditions. A first bus scan without an existing configuration on an iC9200 controller can result in modules not being discovered.	A configuration needs to be present in the ECAT master for a successful discovery of modules on a bus coupler. A write and download of the project with the bus coupler in the configuration will establish the required configuration. A secondary bus scan will result in the discovery of modules on the coupler. Safety modules will communicate over FSoE only if the bus coupler is set up in enhanced mode.
56985	Profinet device integrated via "Online-Devices" has no name for automatically integrated variables	Using the "Online-Device" option to scan Profinet coupelr with SLIO module and then use the button "Add to project" create a module with the "Generate link global variable" checkbox checked but no variable linked to it : 	Uncheck and recheck the box "Generate and link global variable". This will populate the -> Field "Module is linked to variable...".
57006	Parameter tab missing for Sigma-X drives using catalog entry ending in 0x10002	The parameter tab is missing from device configuration page of Sigma-X drives if revision number 0x10002 of the SigmaX servo is chosen while performing an etherCAT bus scan.	Do not use revision 0x10002 of Sigma-X catalog on an EtherCAT bus scan. Use a newer version consistent with the servo drive firmware.

57927	Velocity input on MC_TorqueControl does not limit velocity on Direct Drive Motors	The velocity input on MC_TorqueControl does not limit the velocity in torque mode for direct drive motors.	Use MC_WriteDriveParameter to limit the velocity using Pn407 before using MC_TorqueControl on direct drive motors. The units of velocity when Pn407 is managed using MC_WriteDriveParameter will have to be rpm.
58067	Bus scan misidentifies SGDXS unit as SGDXW when using "Apply the selected file to other similar slaves"	During EtherCAT bus scan, if the discovered device profile does not match the device profile of similar devices from the same vendor, the user is asked to chose an appropriate device profile available in the catalog. The user can choose to use the same catalog profile for other devices that may be discovered and have the same decision to be made by pressing the "Apply the selected file to other similar devices' check box. This check box selection may lead to erroneous results.	Do not use the "Apply the selected file to other similar devices' check box when prompted to choose the desired device profile from the catalog when performing an EtherCAT bus scan.
58211	IO variable generation: ComState structure elements display FALSE and are not linked to PDIs	ComState elements of autogenerated global variables for SLIO modules is not currently populated. It displays the value FALSE always	Do not use the elements of the ComState structure of autogenerated IO variables corresponding to SLIO modules.
58268	EIP assembly instance configuration: Error on download after EIP instances are changed (swapped)	When the iC922x controller is an EtherNet/IP adapter, and the user changes the assembly instance number of an instance that already exists, the ports mappings get corrupt and the project cannot be downloaded.	Workaround: 1. Disconnect variables from PDIs 2. Save project 3. Close and reload project 4. Reconnect variables to PDIs 5. Build project
58334	Importing csv file resulting in cryptic error message : Error during generating native code, internal meta-compiler	Importing a large csv file can cause a native code generation error.	None
58359	Y_CO_FTP_SendFile Function Block reports timeout error incorrectly even though the file gets sent	Y_CO_FTP_SendFile Function Block reports timeout error incorrectly even though the file gets sent.	User can ignore the "12202" ErrorID and "421 Login time exceeded. Closing control connection." error string.

		IF HotConnect is disabled ("Create HC devices for slaves" is unchecked) and DeviceID is not being used, manually changing the order of devices in the EtherCAT node of the project's PLANT, will cause an incorrect position in the topology. This can affect the EtherCAT communication to devices.	
58851	Re-ordering EtherCAT devices by dragging and dropping in the plant tree results in a invalid EtherCAT configuration	IF HotConnect is disabled ("Create HC devices for slaves" is unchecked) and DeviceID is not being used, manually changing the order of devices in the EtherCAT node of the project's PLANT, will cause an incorrect position in the topology. This can affect the EtherCAT communication to devices.	If the user wishes to reorder devices in the EtherCAT node of the project's PLANT, delete all devices and re-add them. Also make sure that the 'position in topology' for each device is correct.
59056	Unable to get Sigma-X CoE data from the EtherCAT/Online Functions page	Unable to get Sigma-X CoE data from the EtherCAT/Online Functions page	Use Y_EC_COE_SdoRead function block to read EtherCAT objects. EC Lyzer or EC-Engineer could be used to get CoE data.
60283	Automatically generated input variables of module 022-1BD70 on SliceBus do not show the current values of the process data items	For SliceBus module 022-1BD70 the automatically generated variables must be deactivated. With iCube Engineer 2024.3 this module is only working manually created variables.	1. Deactivate the checkbox "Generate and link global variable" of the module 2. create a new variables and link them manually to each PDI in the Data list tab of the module.
60367	Debug Mode: In certain situations, the debug values of variables are not available in iCube Engineer's debug view.	In certain situations, the debug values of variables are not available in iCube Engineer's debug view. The variables cannot be added to the watch window.	Declare the variable whose value needs to be monitored in another location (POU), and add that to the watch window.

iC9226 Firmware Known Issues

ID	Title	Description	Workaround
16544	DHCP causes Profinet to exit the PLCnext application	When DHCP is enabled, the PROFINET functionality is not supported and is automatically disabled in the configuration.	None
18996	Spike in commanded velocity and Torque at the end of MC_StepRefPulse implementation - missing decel input	There can be a jerk in motor position when the c pulse is detected using the MC_StepRefPulse using a high velocity.	Use a low value for velocity for detecting the c pulse when the MC_StepRefPulse function block is used.
31468	Data memory limits on the iC922x	The maximum program memory is 32MB, however an application can be created without an error that exceeds this limit. On download an error will occur. The maximum memory in the error message is 64MB, however the actual limit is 32MB.	Keep program memory usage to less than 32MB.

31986	MC_TrackConveyorBelt reports MC_GroupReadStatus::InPosition output incorrectly for groups with real axes	The GroupReadStatus::InPosition output does not come on when MC_TrackConveyorBelt is complete on a group with real axes that has disengaged. This is a regression from the MPIec product. It appears to be a reporting problem, but the motion should behave properly. There are no known workarounds specifically for the InPosition output. Application code should not rely on the InPosition output to tell the group state.	Contact Yaskawa support.
33996	The Safety PLC will not run without a configured FSoE module	Safety PLC will not run without a configured FSoE module	Add a FSoE slave in the project configuration and map at least (1) safety process data item to a safety PLC variable. If the safety module is not actually present, a topology error will be reported, which can be ignored. The communication to the existing modules is running.
34460	Parameters 1305 and 1307 for scan compensation incorrect values or not settable for Ethercat external encoders	Parameter 1305 (feedback compensation) is fixed to a value of one network cycle. It cannot be modified.	None
34872	SliceBus network shutdown when a breakpoint is reached	If a breakpoint is activated for the first time (logic halts at the breakpoint), the PLC enters debugging state. In this state the various fieldbuses (EtherCAT, Slicebus) stop running and all outputs are set to state FALSE. The PLC leaves the debugging state only when all breakpoints in the project are removed.	It is not possible to keep the fieldbusses running when the PLC enters the debugging state. The PLC State can be monitored using the notifications tray in iCube Engineer. Do not use breakpoints if the application requires fieldbus activity while in the debugging state.
34961	Unexpected behavior of 'Debugging' flag when a breakpoint exists in a project and the PLC is stopped and started	If a breakpoint is set in a project , and the project is stopped and warm started, the PLC should start with 'debugging' mode enabled. However, there is a short time period (2 ms) on startup where the PLC runs without the 'debugging' flag before the 'debugging' flag comes on. During this time period, all physical output states would change based on programmed logic before becoming FALSE because of the debugging flag.	None

37843	MC_Reset on Sigma Config-D external axis allows servo on for main module	When using Sigma-7S or Sigma-XS servopacks with an external encoder feedback module, and configured for independent +1/2 axis feedback mode, if the servopack experiences an alarm, both logical axes will enter an alarm state. In this situation, calling MC_Reset on the external axis will also operate on the main servo axis (and vice versa), potentially and perhaps unexpectedly moving **both** axes from ErrorStop to StandStill/Disabled state.	Generally: MC_Reset is not required for external axes. Thus, to avoid this situation, do not call this function block on an external axis in this configuration. Instead, call MC_Reset only for the main servo axis.
39022	Logic Analyzer inconsistent in picking the trigger for short duration pulses on local and remote modules	Logic analyzer cannot trigger a plot based on a rising or falling signal if the trigger variable (not a port variable) is tied to a process data item (like a digital input or output) and the signal has a small pulse width (1 or 2 ms).	Map the process data item to a port variable and use the port variable to trigger the logic analyzer.
40832	Non safe exchange variable has unstable state when the safe module is passivated	When the FSoE device communication state is not in "ProcessData" (regular operation), then the non-safe PLC exchange variable value is not valid.	Verify that that FSoE device is in "ProcessData" state before using the exchange variable value. Contact Yaskawa support for more information on how to use FSOE_MSTR_ADDR_0000x_PASS_OUT to check for the status of the device.
40870	No error generated when bypassing the 32Mebibytes data Memory limit	User is able to add variables that consume data memory greater than 64 MB.	Make sure that the total memory used in a project is less than 32 MB.
41020	Limits for Safety PLC number of variables and process data mapping are not checked at compile time	There is no error message in iCube Engineer if the limits for Safety PLC variable assignments mapped to process data is exceeded until an attempt is made to download the project to the safety PLC.	Use the following limits for variables which are mapped to safety process data in the Safety PLC: - The total of all variables which are mapped to the safety process data must not exceed 19980 bytes. - Each safety variable which is mapped to process data occupies 16 bytes. - Each standard variable which is mapped to process data occupies 8 bytes.

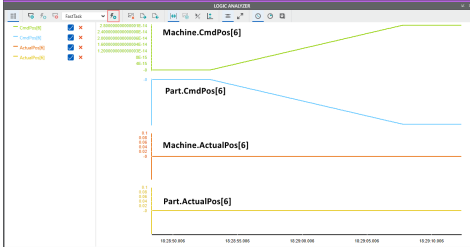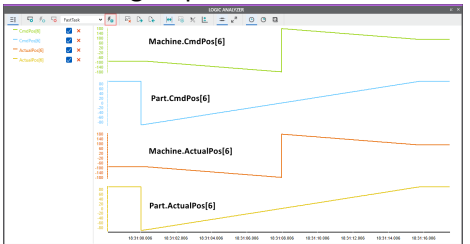| 44020	SPLC1000 board with under/over temperature shutdown can not be diagnosed usefully	If an overtemperature/under temperature error occurs on the safety PLC, it goes into a Hard Fail-safe state: the safety CPU will set the red ERR LED and and stop all communication; all connected FSoE devices will enter fail-safe state after FSoE communication watchdog time. Once the heartbeat between the standard PLC and the safety PLC detects that communication between the safety PLC and standard PLC has stopped, the data from the safety PLC will no longer be valid.	Include heartbeat logic in the code on the standard PLC to detect that the safety PLC is unresponsive and to determine if the data from the safety PLC is valid.
44534	ErrorID 4915 when using Y_WriteParameters on SGDXS	Y_WriteParameters for CoE servopacks may intermittently return error 4915 (parameter write failed) rather than 4916 (servopack reboot required).	Verify the parameters are set correctly with Y_VerifyParameters to confirm the write succeeded.
46129	MC_SetPosition reports error 4380 after MC_TrackConveyorBelt is used with no other motion	MC_GroupSetPosition reports error 4380 when executed after MC_TrackConveyorBelt.Done and motion is idle.	Execute a move on the group to the current position (results in no motion), then use MC_GroupSetPosition.
47907	iC9226M-FSoE: PLC state changes to STOP with Watchdog under heavy network load with UDP broadcast frames	Under high network load with UDP broadcast frames, it could happen that the standard PLC state changed to STOP because the watchdog time of the SafetyProxyTask was exceeded.	None, except avoiding heavy UDP broadcast load
49270	In a continuous power cycle test in rare cases the IO DIAG LED is lit	It can happen sporadically that the IO DIAG LED is lit at start up without the log mentioning the issue. This means no issue is present.	If the IO DIAG is lit without log information, perform a power cycle or write and start a project.
49331	MC_TouchProbe can not take ownership of TouchProbe after failed attempt to take ownership and then completion	In a multimodule set up (servo is module 1 and feedback option card is module 2), the two modules cannot swap ownership of the touchprobe. Example: o module1 arms latch for touchprobe1 o module1 latch aborted o module2 arms latch for touchprobe1. Not allowed.	On a Sigma-7 servopack, warmstart the PLC to swap ownership of the touchprobe. On a Sigma-X servopack, use MC_AbortTrigger to swap ownership of touchprobe. OR warmstart the PLC and swap ownership.

51216	LLDP duplication between PROFINET Device/Controller and Ethernet/IP Adapter	Ethernet/IP and Profinet Device have different specifications and implementations for LLDP frame emission. Thus, multiple frames are emitted, with different content, if both components are enabled. This can cause some automatic device configuration issues with the Profinet network.	It is recommended to disable the Ethernet/IP component when using the Profinet Device/Controller component, and vice versa. This can be configured using the WBM System Services view. If both Ethernet/IP and Profinet are required in the application, please contact Yaskawa support for assistance to defeat the Ethernet/IP LLDP feature.
54091	EtherCAT DC sync is not checked for initially unpowered hot-connect axis	At project start, the motion kernerl verifies that all Sigma servopacks are configured with DC sync enabled. If DC sync is disabled, a warning alarm is posted for the axis. If a hot-connect configured axis is initially offline at project start, the DC sync status of the servopack cannot be verified.	Keep DC synchronization enabled for all Sigma servopacks.
54297	Diagnostics EtherCAT Page in the Web Management shows detected slaves when no slaves are configured in project, but there are slaves on the EtherCAT network	The EtherCAT diagnostics page in the WBM can show the detected slaves on the EtherCAT network, when no slaves are defined in the project configuration.	Do not use the EtherCAT diagnostics page to verify the number of sub devices (slaves) configured in a project. Use the project configuration in the PLANT tree of iCube Engineer.
56171	Unable to download to iC9226 if Profinet Controller is enabled and Profinet license doesn't exist.	Activating the Profinet Controller services without the Profinet license will unload the project in the controller and forbid any new project download.	Do no activate the Profinet Controller functionality if the controller doesn't have prior a Profinet license.
56683	Ethernet/IP: IO connection RPI/API not checked against actual maximum update rate	The Ethernet/IP Scanner and Adapter components share a single cyclic update rate, which is configured in iCube Engineer on the Assemblies tab, Schedule Interval field. Neither outgoing scanner IO connections nor incoming adapter IO connections correctly advertise the RPI / API on the wire, if lower than this configured limit. This can lead to unexpected timeouts or connection errors.	Set the Schedule Interval to the minimum expected production interval for all scanner and adapter connections expected in the system.

56721	Pn20E,Pn210 non 1:1 can cause fatal hardware exception or incorrect initial startup multi-turn position	Pn20E and Pn210 (electronic gear ratio numerator/denominator) should be set to 1:1 for proper operation with the motion kernel. iCube Engineer enforces this requirement. When these values are set away from 1:1, then incorrect initial start position can be read at program warm start time. In extreme cases, an integer overflow can occur which causes a controller crash.	Ensure that Pn20E, Pn210 (CoE object 2701h) are set to 1:1. Advanced users who modify this setting outside of iCube Engineer should take additional precautions to verify agreement with other related Pns and CoE objects which rely on position scaling units, and precautions should be taken to ensure that homing/verification procedures are followed after program start, as the initial multi-turn position may be incorrect. Values which exceed 65535 (16-bit max) should not be used at all for either parameter, as they can excite the integer overflow error.
56925	Y_F1_WriteParameters reports error 4915 (eeprom save not supported) when there is an active servo alarm	When a servopack is in an alarm state, Y_WriteParameters incorrectly reports error 4915 after .Busy output for 30 seconds, without initiating the final save-to-eeprom operation.	Use SDO write to object 1010h to manually trigger the EEPROM save operation after Y_WriteParameters. Note: the servopack must be servo-OFF for this function to succeed. Ensure that the servopack is servo-OFF before performing the operation.
58060	Sigma-X A.E00/A.EA0 after power cycle with the iC9226 in run state	If there is only one servo is on the EtherCAT network and it is rebooted, the iC9200 may not stay in OP state. It goes to safe OP state along with the servo.	Warm start the iC9200.
58344	PLC reboots continuously after 30 seconds when disabling SliceBus Service in WBM	After deactivating SliceBus Service in Web Interface Services the PLC reboots continuously after approximately 30 seconds. There is no connection possible to the iC9200 due to the rebootin.	Execute a reset type 1 on the controller using the switches and do not disable the SliceBus service again.
58375	PLCnextBaseService issue causes iC9200 controller to get stuck in ER state and is not reachable from iCube Engineer	IF the user receives a message that the PLCnextBase service components are configured but not available yet, and the user reboots the controller as prescribed in the message, the controller may get stuck in ER state and is not reachable from iCube Engineer. ⚠ PLCnextBase: Service components configured but not available yet. Device restart required. (MSG_O	Perform a type 1 reset on the controller. The project will have to be downloaded again. The IP address of the iC9200 controller will be reset back to 192.168.1.1.

ID	Title	Description	Workaround
58463	Unable to use counter module on iC9200 slicebus if there is another counter module on the bus	Unable to use counter module on iC9200 Slicebus if there is another counter module on the bus.	Use only one counter card when using iC9200 Slicebus.

iC9226 Motion Application Notes

ID	Title	Description	Workaround
20033	Drift in position of slave for one way, relative cams that are executed while the master and slave are in motion	If a one way, slave relative mode Y_CamIn is executed repeatedly while the master is in motion, the slave experiences a loss of position of one scan at the start of the new Y_CamIn. This happens when repeated cam synchronization- desynchronization cycles are performed.	Use slave absolute mode when repeated cam synchronization-desynchronization cycles have to be performed. Contact Yaskawa for further details and discussions based on application requirements.
40843	MC_GearInPos: PositionTracker can cause slave motion in opposite direction	In some situations, MC_GearInPos can cause temporary reverse motion during synchronization phase. This may be unexpected for some applications.	Verify the starting conditions when the block will be executed to check if there can be backward motion on the slave axis during the synchronization attempt. Use with caution if backward motion on the slave axis can cause damage.
46472	Large cam out disengage window causes an instantaneous jump in position when the slave is disengaged	A larger Y_CamOut disengage window can lead to an instantaneous jump in position on camming out.	The window should be calculated such that it is larger than the position travelled by the master in one motion network scan.
49665	Incorrect PCS calculation when using an auxiliary axis in a Group	The presence of an auxiliary axis in a group can lead to incorrect calculations of the PCS offset when using Y_GroupSetFrameOffset and/or MC_TrackConveyorBelt.	Do not define auxiliary axes in a group that need other coordinate systems than MCS and ACS. In this particular case, they need to be handled as a single axis out of the group if a PCS coordinate system is necessary for the application.
50022	MC_MoveCircularRelative incorrectly reports error 9002 (unreachable position) in some cases	MC_MoveCircularRelative does not correctly apply the relative-offset when checking for a potential positions outside the workspace, i.e. due to nonlinear kinematics such as Delta robot kinematics. This can lead to spurious 9002 errors if the un-offset position lies outside the workspace.	Use MC_MoveCircularAbsolute and manually apply the appropriate offset to the auxpoint and endpoint.

50028	MC_MoveCircularAbsolute generates unexpected trajectories - start/end position matching tolerance for AuxPoint2 is too tight	MC_MoveCircular with MC_CircleMode#Border uses very tight tolerances to determine whether AuxPoint2 should be considered. When working in 3-dimensional XYZ space, this can lead to unintended circular move geometry, including being in the wrong plane (i.e. XZ vs XY) when the circle start-point and end-point are intended to be colocated, but do not match exactly.	Determine the start-point of the circle programmatically, and assign it exactly to the end-point in the user program. Manually entering a fixed LREAL value for the end-point is not recommended for this use-case.
50808	Problems with PCS handling for group's rotational axis defined as a linear load type	If a group's rotational axis is defined as "Linear (finite)" in its configuration, the group will not handle said axis correctly when commanding trajectories using a PCS coordinate system. In such a case, multiturn rotations are not handled. For example, a rotation of 720° was commanded in the following image. Also, PCS movements where the rotational axis' position crosses 0 might cause a jump in the MCS position, as seen in the following image. The servo will throw an alarm in such a case, stopping the motion of the whole group. 	Some possible workarounds are: • Do not use a PCS coordinate system • Select target positions that avoid conflicting trajectories • Add middle positions commanded in MCS to avoid conflicting trajectories

52948	MC_MoveLinear does not complete when "incorrect" velocity unit specified	For PLCopen Part 4 multi-axis groups, MC_Move type function blocks can become busy indefinitely in certain scenarios for groups which contain both translational and rotational axes - for example, an XYZRz gantry. This occurs when **either** the translational component **or** the rotational component of the move (but not both) has zero magnitude, **and** the input value of Yt_GroupMoveOptions.VelocityUnit matches the zero magnitude component.	For mechanisms with both rotational and translational axes, select an appropriate value for Yt_GroupMoveOptions.VelocityUnit, when either the rotational or translational component of the move has zero magnitude. When the rotational component is zero: select Yt_VelocityUnit#UseTranslationalScalars (the default) OR Yt_VelocityUnit#UseNSpaceScalars. When the translational component is zero: select Yt_VelocityUnit#UseRotationalScalars OR Yt_VelocityUnit#UseNSpaceScalars.