

NO: PC-393
DATE: May 2020

PRODUCT: SYSMAC STUDIO
TYPE: Software Update

Sysmac Studio (SYSMAC-SE200D) Version 1.40 Release Note

(Contains expanded product capabilities and significant bug fixes)

Effective April 31,2020, the following Sysmac Studio software will be updated to Version 1.40 Changes in Version 1.40 are listed below and this update will be available ONLY via Auto Update for 32 Bit Version and via Auto Update and .iso file for 64 Bit Version.



■ Updates:

■ Support of New Hardware

Controllers:

NX1P2 Controller version 1.41
NX102-□□00 Controller version 1.41
NX102-□□20 Controller version 1.34
NX701 Controller version 1.22
NJ101-□000 Controller version 1.41
NJ301-1□00 Controller version 1.41
NJ501-1□00 Controller version 1.41



NX-TC Temperature Control Units:

NX-TC240□ version 1.3
NX-TC340□ version 1.3



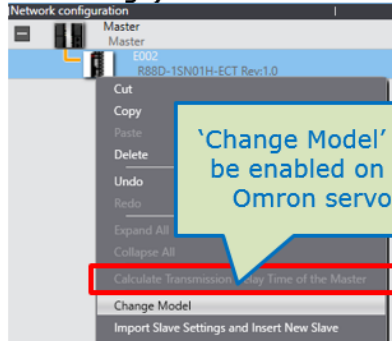
<p>Safety CPUs: NX-SL5700 version 1.4 NX-SL5500 version 1.4</p>	
<p>Devices with EtherNet/IP Connection Settings: MX-Z20□□H-V1 series Laser Marker The revision 3 of K6CM series Motor Condition Monitoring Devices (upgraded) K6CM-VBMx-EIP Revision 3 K6CM-ISMx-EIP Revision 3 The revision 3 of K6PM series Motor Condition Monitoring Devices (new) K6CM-CI2Mx-EIP Revision 3</p>	
<p>GI-S-series Safety I/O Terminal Units GI-SMD 1624 GI-SID 1224</p>	
<p>Programmable Terminals Soft-NA NA5-□□W□□□□-V1</p>	

Enhanced/Improved Functions

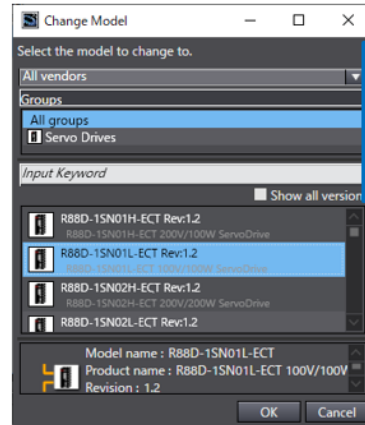
■ Support Model Change on Omron Servo Drives

An Omron servo drive can be changed to another type of servo.

(Before change)

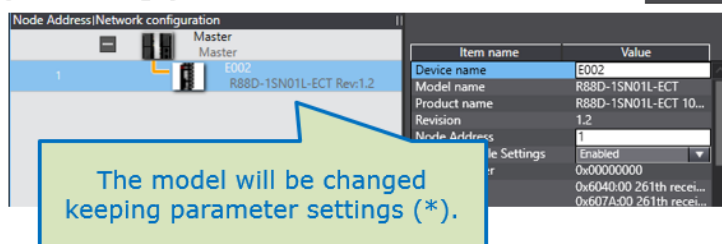


'Change Model' will be enabled on an Omron servo.



A list of changeable devices will be shown.

(After change)



The model will be changed keeping parameter settings (*).



* Some parameters cannot be kept. (refer the following slides)

Which models can be changed

Only slaves with the same 'type' (i.e. ones with compatible parameters) can be changed.

Model before change	Rev		Model after change	Rev
R88D-1SA■■■■-ECT	Any	→	R88D-1SA■■■■-ECT	Any
R88D-1SN■■■■-ECT	Any	→	R88D-1SN■■■■-ECT	Any
R88D-KN■■■■-ECT	2.0 or newer(*)	→	R88D-KN■■■■-ECT	2.0 or newer
R88D-KN■■■■-ECT-L	Any	→	R88D-KN■■■■-ECT-L	Any

How parameters are kept after change

Parameters will be basically kept but the following items may not be completely kept.

Function	Item	If the revisions are the same	If the revisions are different
Slave Setting	PDO Map Settings	All parameters before changing the model are kept after changing	Only parameters that exist on both of models before/after changing are kept regardless of whether its revision gets newer or older
Drive Setting	Parameters		
Axis Setting	Detailed Settings		
Safety Setting	Parameters		

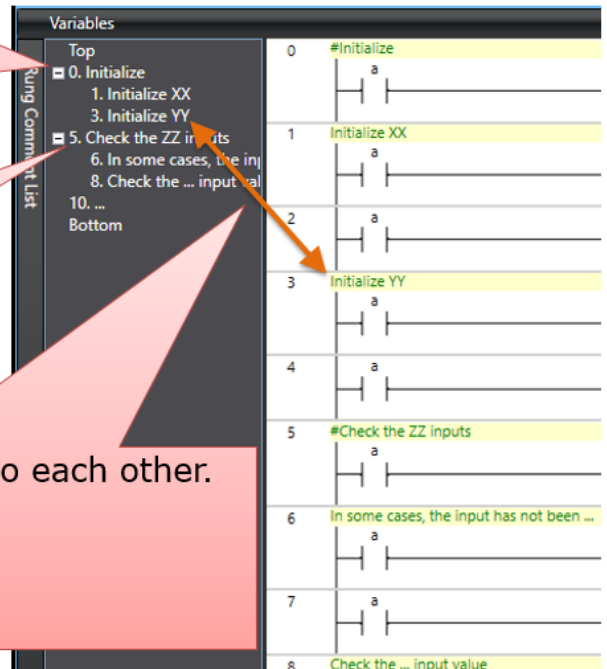
■ New Function: Ladder Rung Comment List

Users can easily manage ladder rung process flow by Rung Comment List.

Displaying ⇔ Hiding
with the expander
Shortcut Keys are as follows.
L : Displaying Shift+L : Hiding

By adding "#" at the top of Rung
Comment, displaying as parent
hierarchy*. (* Only 1 hierarchy support)

Just using a keyboard can move to each other.
Being selected Ladder Rung
→ Rung Comment: the "L" key
Being selected Rung Comment
→ Ladder Rung: the "Enter" key



■ Easier to enter variables in Cross Reference

Users can easily enter local variables in the Reference Target area of Cross Reference Tab Page.

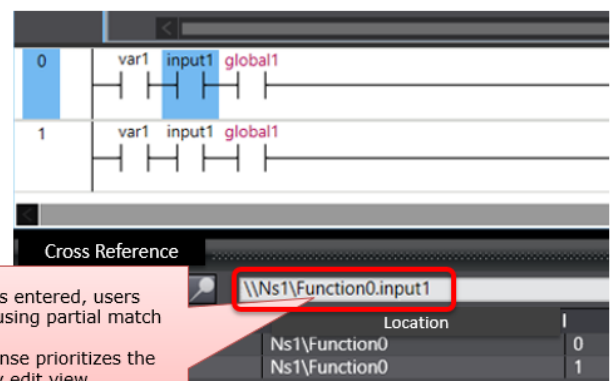
From:

POU names and local variable names had to be entered.

To:

Users can enter a local variable name to display relevant variable candidates. Users do not need to enter a POU name before it.

If only a local variable name is entered, no cross references are searched. Why?



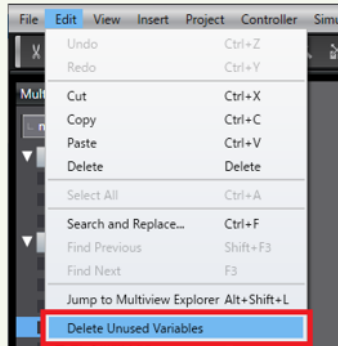
-When a local variable name is entered, users can select relevant variables using partial match search of IntelliSense.
-The display order of IntelliSense prioritizes the local variables of the currently edit view.
IntelliSense example:
When "in" is entered
Ns1\Function0.input1
Ns1\Function0.input2
globalInput1

■ Delete Unused Variables in Safety Program

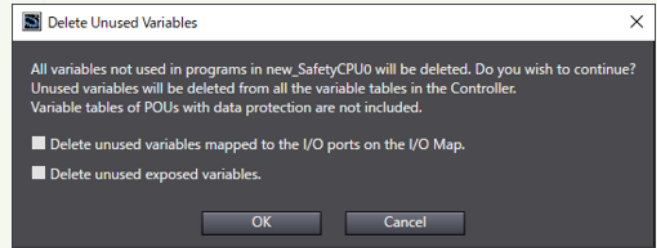
Users can easily delete variables unused in programs.

From: Users needed to manually search variables unused in programs, and then delete them separately.

To: Users can delete all variables not used in programs by batch.



Main menu
[Edit | Delete Unused Variables]



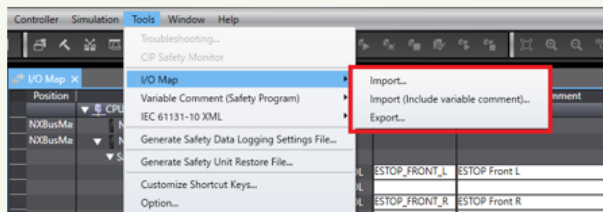
Users can delete variables unused in programs by automated batch.
Users also can delete device variables or exposed variables, if necessary.

■ Import/Export Safety I/O Map

Users can allocate device variables by batch.

From: Users needed to separately allocate device variables in the I/O map.

To: Users can Export/Import the I/O Map settings to assign device variables by batch.



Main menu
[Tool | I/O Map | Import]
[Tool | I/O Map | Export]

CSV file

Level	Position	Port	Variable	Direction	Variable Type	Variable Name	Variable Comment
0	(Network)	CPU	...	...	...	...	...
1	NXBusMaster	NX102	...	...	...	...	...
1	NXBusMaster	NX-SIO800	...	...	...	...	...
2			Safety Inputs				
3			SIO0 Logical Value	R	SAFEBOOL	ESTOP_FRONT_L	ESTOP Front L
3			SIO1 Logical Value	R	SAFEBOOL	ESTOP_FRONT_R	ESTOP Front R
3			SIO2 Logical Value	R	SAFEBOOL	ESTOP_BACK_L	ESTOP Back L
3			SIO3 Logical Value	R	SAFEBOOL	ESTOP_BACK_R	ESTOP Back R
3			SIO4 Logical Value	R	SAFEBOOL	ESTOP_FRONT_L	ESTOP Front L
3			SIO5 Logical Value	R	SAFEBOOL	ESTOP_FRONT_R	ESTOP Front R
3			SIO6 Logical Value	R	SAFEBOOL	ESTOP_BACK_L	ESTOP Back L
3			SIO7 Logical Value	R	SAFEBOOL	ESTOP_BACK_R	ESTOP Back R
2			Status				

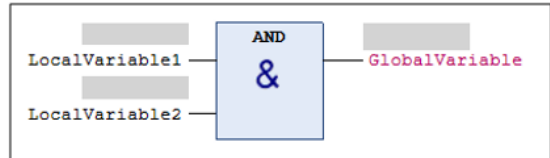
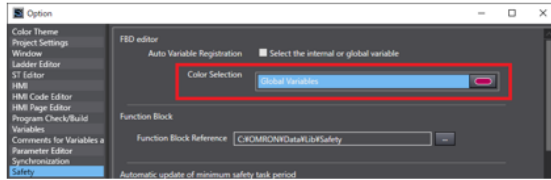
Use a spreadsheet application to set variable names and variable comments.

Users can import an edited CSV file to affect settings of variable names and variable comments in I/O Map.

■ Safety Programming Improvements

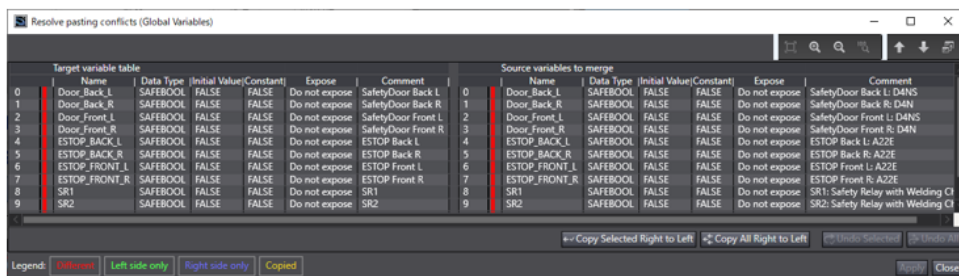
FBD font colors

In the FBD program, users can distinguish between local and global variables by font colors.



Function to resolve conflicts of pasted variables

When users paste variables from a clipboard, the variable conflicts can be resolved.



■ HMI Operation Log

Added support for Operation Log.

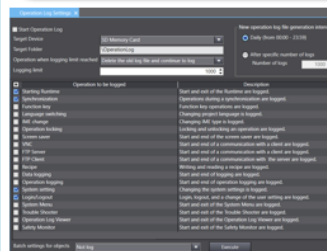
From:

A trouble has occurred. However, users cannot remember what they were doing at that time.

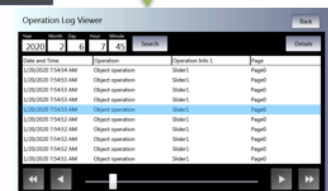
To:

By checking Operation Log, users can track what operation was performed at the time of the trouble occurrence.

I cannot remember what I was doing at the time of the alarm occurrence.



1. Target setting



2. Operation Log recording

■ HMI Safety Monitor

Added support for Safety monitor.

From:

Although a safety-related error has occurred, the cause cannot be identified without connecting Sysmac Studio.

Although the error has occurred, nothing can be done without Sysmac Studio.



To:

Users can monitor the I/O unit status and the status of variables, which are allocated to input and output of Safety controller, by HMI.



Variable status monitor

I/O status monitor



■ HMI FTP Client

Added support for FTP clients

From:

No support for FTP clients.

I want to get a file. But, only the FTP server is supported.



To:

- Added support for FTP clients.

Added the following FTP client functions :
Refer to the *Subroutine Reference* for details.

- FTPOpen
- FTPClose
- FTPListFiles
- FTPGetFile
- FTPPutFile
- FTPDeleteFile
- FTPDeleteDirectory
- FTPCreateDirectory

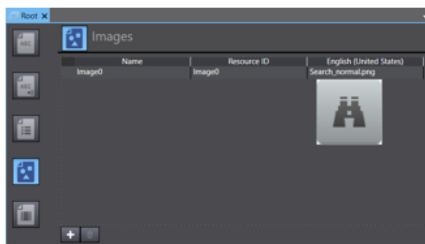
■ Export images, videos, and documents

Added support for exporting images, videos, and documents stored in resources.

From:

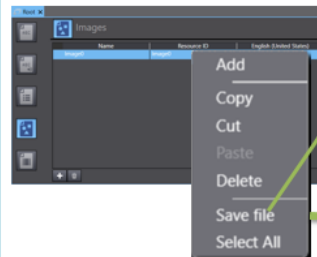
Users want to use images, which are stored in resources, elsewhere. However, users cannot retrieve images from Sysmac Studio.

I want to retrieve this image for using it elsewhere.



To:

Users can click Save file to save selected targets from resources to external files.



Select a target, and then click Save file.

The selected file is saved.

Supported for images, videos, and documents.

■ Import/Export HMI Pages

From:

Users want to manage pages as a library. However, the current method is only copying and pasting from the master data.

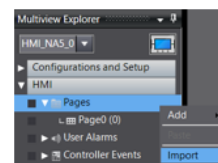
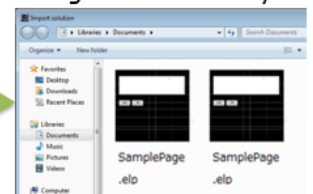
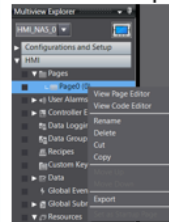
I want to distribute only pages as libraries. However, there is no other choice but to distribute them in a project. It is inconvenient.

To:

Users can import/export each page.

1. Select a page to export.

2. Save/manage it as a library file



3. Import and reuse the library file (*.elp).

■ Change page names once for the entire project

From:

When users change page names, they take time since settings such as action are not follow-up.

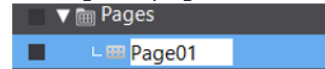
It is inconvenient to change a page name due to a validation error is needed to correct.



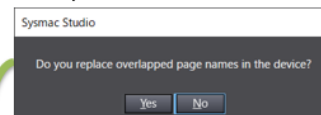
To:

When users change page names, they can replace page names in the entire project.

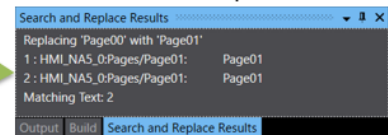
1. Change of page names



2. Replacement



3. Search and Replace Results



Improved/Enhanced Functions

■ Controllers

- Support the function to change Servo Driver models.
- Enable to enter local variables easily to the reference target area in the cross reference Tab Page.
- Solved the problem that a user went to a wrong point when clicking the cross reference list.
- Solved the problem that when connection settings are implemented for a Valcon PLC's device, an error occurred and RPI could not be configured.
- Solved the problem that the data was written to the location designated by the FileSeek instruction even though the FileOpen instruction was executed in the Additional Write Mode during a simulation.
- Solved the problem that when the user-defined functions or function blocks with same names were copied and pasted to another project, properties were not overwritten.
- Solved the problem that the screen was temporarily frozen when a background build was executed during a project editing.
- Solved the problem that when an inline ST loaded an empty project, an error in the inline ST might not be detected.
- Solved the problem that a build error might not be detected during online editing and transferred normally.
- Solved the problem that the online editing functionality might not work properly while an integrated simulation with an HMI was running.

■ HMI

- Solved the problem that when the version 1.11 or higher project was re-opened to be synchronized, data inconsistency might occur.
- Solved the problem that a synchronization might take longer time when a project contained unnecessary data.
- Solved the problem that Sysmac Studio might be terminated abnormally if the windows of Properties or Animations were switched frequently.
- Solved the problem that Sysmac Studio was terminated abnormally when the HMI view was opened from the cross reference results in cross reference tab page while the HMI view was not opened.
- Solved the problem that when a project was converted to the version 1.11 and closed, specified values were initialized after the project was re-opened.
- [Runtime] Solved the problem that some scale marks of the y-axis on a broken line graph might not be displayed partly.
- [Runtime] Solved the problem that a text color of a data lamp might be displayed differently from the set color.
- [Runtime] Improved tag verification at an online edit in the controller. Refer to the manual for the combinations with the controller that enables the functionality.
- [OS] Support NA5-□□W□□□□-V1

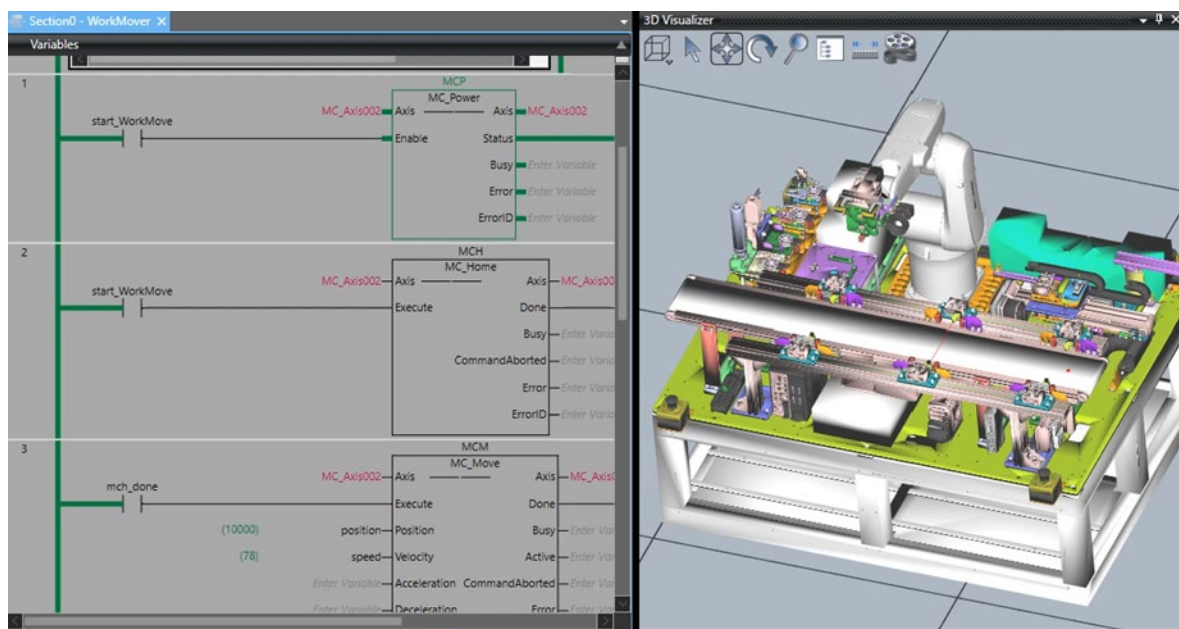
- [OS] Support the Safety Monitor functionality
- [OS] Support the Operation Logging functionality

■ Safety

- Enable to import safety unit restore files.
- Improved the processing time to upload the safety application data.
- Solved the problem that when a large-size project was being opened, the safety application data might not be uploaded.
- Solved the problem that the project with a CIP Safety device of other company could not be opened after the Sysmac Studio update.
- Solved the problem that a part of the power flow is not displayed in the FBD editor.

■ Simulator

- Support the 3D Simulation function.
Use only the Sysmac Studio with loaded 3D CAD data for 3D simulations. Operation of a control program created during machine development can be verified in a virtual environment. This improves program accuracy during design, reducing rework at verification using physical devices and saving development time. Simulations can be used to test feasibility during process design or to share the same understanding between mechanical and electrical designers during operation design, improving design quality and engineering efficiency.



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