

Programmable Terminal NA-series

Replace Guide

From NA5-V1 to NA5-V2

NA5-15W101□-V2

NA5-12W101□-V2

NA5-9W001□-V2

NA5-7W001□-V2



Replace
Guide

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■ Introduction

This document is intended for the following personnel, who must also have knowledge of electrical systems (an electrical engineer or the equivalent).

- Personnel in charge of designing FA systems
- Personnel in charge of installing and maintaining FA systems
- Personnel in charge of managing FA systems and facilities

This document provides information that you can refer to when replacing the NA5-□□W□□□□□ (-V1) with the NA5-□□W□□□□□-V2. Reading this document lets you identify the items to consider in relation to the replacement with the NA5-□□W□□□□□-V2 and understand how to replace with it.

The explanation for replacement is based on the NA5-□□W□□□□□-V1. Therefore, read the NA5-□□W□□□□□ as the NA5-□□W□□□□□-V2 wherever necessary, as they share the same procedure.

Note that precautions for safe use are not provided in this document.

Before actually using the NA5-□□W□□□□□-V2, be sure to read the precautions for safe use in the NA-series Programmable Terminal User's Manual and other information required for use, and also perform adequate verification before starting actual use.

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 - (b) Usage out of the conditions
 - (c) Usage out of Note about Use in these conditions
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Related Manuals

The following manuals are related to this document.

Man.No.	Model	Manual name
V125-E1	NA5-□□W□□□□ (-V1)	Programmable Terminal User's Manual (Hardware(-V1))
V118-E1	NA5-□□W□□□□ (-V□)	Programmable Terminal User's Manual (Software)
V119-E1	NA5-□□W□□□□ (-V□)	Programmable Terminal User's Manual (Device Connection)
V120-E1	NA5-□□W□□□□	Programmable Terminal Startup Guide
V128-E1	NA5-□□W□□□□-V2	Programmable Terminal User's Manual (Hardware(-V2))

Terminology

Term	Description
NA5-V0	NA5-□□W□□□□
NA5-V1	NA5-□□W□□□□ -V1
NA5-V2	NA5-□□W□□□□ -V2

1 Applicable Models

1-1 Applicable Models

Models replaced Programmable Terminal		Recommended alternative Programmable Terminal
NA5-15W101S-V1		NA5-15W101S-V2
NA5-15W101B-V1		NA5-15W101B-V2
NA5-12W101S-V1		NA5-12W101S-V2
NA5-12W101B-V1		NA5-12W101B-V2
NA5-9W001S-V1		NA5-9W001S-V2
NA5-9W001B-V1		NA5-9W001B-V2
NA5-7W001S-V1		NA5-7W001S-V2
NA5-7W001B-V1		NA5-7W001B-V2

1-2 Optional Products

The following products need to be changed when replacing the NA5-V1 with the NA5-V2.

Product name	Models replaced For NA5-□□W□□□□-V1	Recommended alternative For NA5-□□W□□□□-V2	Remarks
Anti-reflection Sheets	NA-15WKBA04	NA-15WKBA04-V2	For 15-inch
	NA-12WKBA04	NA-12WKBA04-V2	For 12-inch
	NA-9WKBA04	NA-9WKBA04-V2	For 9-inch
	NA-7WKBA04	NA-7WKBA04-V2	For 7-inch

The following products can be shared between the NA5-V1 and the NA5-V2.

Product name	Model	Remarks
Mounting brackets	NA-ATT01	2 pieces contained Equivalent to those included with the NA Unit
SD memory cards	HMC-SD292	2 GB
	HMC-SD492	4 GB
	HMC-SD1A2	16 GB
USB memory devices	FZ-MEM2G	2 GB
	FZ-MEM16G	16 GB
Battery	CJ1W-BAT01	
High-pressure Waterproof Attachment (PWA)	NA-9WATW01	For 9-inch
	NA-7WATW01	For 7-inch

1-3 List of Changes

Hardware changes

The NA5-V2 is lighter (2-1-2 General Specifications)
The NA5-V2 has reduced dimensions (2-1-5 Dimensions)
The NA5-V2 operates with no use of battery (2-1-2 General Specifications, 3-1-1 No Use of Battery)
The mounting position of the attachment bracket has been changed (3-1-2 Mounting Position of the Attachment Bracket)
The installation method to conform to UL Type 4X has been changed (3-1-3 Adding the Means to Conform to UL Type 4X)
The increment of screen brightness setting level has been changed (3-1-4 Screen Brightness)
The NA5-V2 does not need protective grounding (3-1-5 Protective Ground Connector)
The front case material has been changed (2-1-2 General Specifications)

Software changes

Supported fonts have been all changed (3-2-1 Fonts)
Viewable document file formats have been changed (3-2-2 Viewable Document File Formats)
The locale for project languages has been changed (3-2-3 Changes in Locale for Project Languages)
The appearance and display positions of objects subtly differ (3-2-4 Appearance and Shifted Display Positions of Objects)
The file path delimiter used for the subroutine function has been changed (3-2-5 Change in File Path Delimiter)
The case sensitivity of file paths has been changed (3-2-6 Change in File Path Case Sensitivity)
The appearance of the PDF viewer has been changed, and the search function has been removed (3-2-7 Change of PDF Viewer)
The CIP server function has been removed (3-2-8 Removal of CIP Server Function)

2 Specifications

This chapter provides tables of hardware specifications and the changes from the NA5-V1. The changes are described from 2-1-2 General Specifications.

2-1 Rating/Performance

2-1-1 Performance Specifications

Display

Item		Specifications (Same for all models)			
Display panel	Display device	TFT LCD			
	Screen size	15.4 inches	12.1 inches	9.0 inches	7.0 inches
	Resolution	1,280 × 800 dots (horizontal × vertical)		800 × 480 dots (horizontal × vertical)	
	Colors	16,770,000 colors			
	Effective display area	331 × 207 mm (horizontal × vertical)	261 × 163 mm (horizontal × vertical)	197 × 118 mm (horizontal × vertical)	152 × 91 mm (horizontal × vertical)
	View angles	60° to the left, right, up, or down			
Backlight	Life	50,000 hours min.			
	Brightness adjustment	200 levels*1			
Front panel indicators	RUN	Lit green: Normal operation Lit red: Error			

*1. Setting levels are the same while brightness change steps differ between brightness settings 1–100. For details, refer to 3-1-3 Screen Brightness.

Operation

Item	Specifications (Same for all models)
Touch panel	Method: Analog resistance membrane (pressure sensitive)
	Life: 1,000,000 operations
Function keys	3 inputs (capacitance inputs)

Data capacity

Item	Specifications (Same for all models)
User data capacity	256 MB

External interfaces

Item		Specifications (Same for all models)
Ethernet port	Applications	Port 1: Device connection Connecting to anything other than the Sysmac Studio, e.g., VNC clients Port 2: Connecting to the Sysmac Studio in addition to the applications of port 1
	Number of ports	2 ports
	Compliant standards	IEEE 802.3i (10BASE-T), IEEE 802.3u (100BASE-TX) IEEE 802.3ab (1000BASE-T)
	Transmission media	Shielded twisted-pair (STP) cable: Category 5, 5e, or higher
	Transmission distance	100 m
	Connector	RJ-45 8P8C modular connector
USB type-A port	Applications	USB memory device, keyboard, or mouse
	Number of ports	2 ports
	Compliant standards	USB2.0
	Transmission distance	5 m max.
	Connector	Type-A connector
USB type-B port	Applications	Sysmac Studio connection
	Number of ports	1 port
	Compliant standards	USB2.0
	Transmission distance	5 m max.
	Connector	Type-B connector
Serial port	Applications	Device connection
	Number of ports	1 port
	Compliant standards	RS-232C
	Transmission distance	15 m max.
	Connector	D-SUB 9-pin female connector
SD memory card slot	Applications	To transfer or store the project or to store log data.
	Number of slots	1 slot
	Compliant standards	SD/SDHC

2-1-2 General Specifications

Item		Specifications	
		NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Rated supply voltage		24 VDC	
Allowable power supply voltage range		19.2 to 28.8 VDC (24 VDC ± 20%)	
Allowable momentary power interruption time		Operation for momentary power interruption is not specified.	
Power consumption	15 inches	29 W max.	29 W max.
	12 inches	25 W max.	28 W max.
	9 inches	23 W max.	23 W max.
	7 inches	19 W max.	19 W max.
Ambient operating temperature		0 - 50°C	
Ambient storage temperature		-20 - +60°C	
Ambient operating humidity		10 to 90% with no condensation	
Atmosphere		Must be free from corrosive gases.	
Pollution degree		2 or less: IEC 61010-2-20	
Noise immunity		2 kV on power supply line (Conforms to IEC 61000-4-4.)	
Vibration resistance (during operation)		Conforms to IEC 60068-2-6. 5 to 8.4 Hz with 3.5 mm half amplitude and 8.4 to 150 Hz with 9.8 m/s ² constant acceleration for 100 minutes each in X,Y, and Z directions (Time coefficient of 10 minutes × coefficient factor of 10 = total time of 100 min.)	
Shock resistance (during operation)		IEC60028-2-27 147 m/s ² 3 times each in X, Y, and Z directions	
Weight	15 inches	3.2 kg max.	2.6 kg max.
	12 inches	2.4 kg max.	1.9 kg max.
	9 inches	1.8 kg max.	1.3 kg max.
	7 inches	1.4 kg max.	1.0 kg max.
Front case material		Metal	Plastic

Item	Specifications									
	NA5-□□W□□□□-V1	NA5-□□W□□□□-V2								
Battery life (Same for all models)	Battery life: 5 years at 25°C The RTC will be backed up for 5 days after the battery runs low. The RTC will be backed up by a super capacitor for 5 minutes after removing the old battery. (This assumes that the power is first turned ON for at least 5 minutes and then turned OFF.)	The same as with the predecessor when the separately sold battery is used. Without a battery, the RTC can be backed up for a maximum of 10 days. The retention time depends on the continuous power-ON duration of the NA Unit as follows. <table><tr><td>Continuous power-on time of NA Unit *1</td><td>Retention time with power-OFF at an ambient temperature of 40°C</td></tr><tr><td>100 hours</td><td>Approx. 10 days</td></tr><tr><td>8 hours</td><td>Approx. 8 days</td></tr><tr><td>1 hour</td><td>Approx. 7 days</td></tr></table> *1 Retention time corresponds to the charging time required of the built-in capacitor when it stores no electrical charge at all. As the NA Unit has no indicator to let you know of the charging state of the built-in capacitor, connect the battery if the above continuous power-on time of NA Unit cannot be secured or if the NA Unit is disconnected from the battery more than the above duration.	Continuous power-on time of NA Unit *1	Retention time with power-OFF at an ambient temperature of 40°C	100 hours	Approx. 10 days	8 hours	Approx. 8 days	1 hour	Approx. 7 days
Continuous power-on time of NA Unit *1	Retention time with power-OFF at an ambient temperature of 40°C									
100 hours	Approx. 10 days									
8 hours	Approx. 8 days									
1 hour	Approx. 7 days									
International standards	UL508/CSA standard C22.2 NO.14 EMC Directive (2014/30/EU) EN61131-2:2007 Shipbuilding standards LR, DNV, and NK IP65 oil-proof type, UL Type 4X (Front-panel controls) ANSI 12.12.01 Class1 Division 2/CSA standard C22.2 NO.213-M1987(R2013) KC Standards KN 61000-6-2:2012-06 for EMS and KN 61000-6-4:2012-06 for EMI RCM	UL61010-2-201/CSA C22.2 NO.61010-2-201:14 EMC Directive (2004/108/EC) EN 61131-2: 2007 Shipbuilding standards NK, LR、BV、ABS *2 IP65, UL Type 4X (Front-panel controls) UL121201,9th Edition/CSA C22.2 NO.213-2017 UKCA Standards KC Standards KN61131-2 2018 RCM EN61000-6-4:2007+A1:2011								

*2 Support for NA5-15W□□□□-V2 is scheduled for shipments from spring 2026 onward.

2-1-3 Version Information

NA Unit		Corresponding unit versions/version
Model	NA system version	Sysmac Studio
NA5-□□W□□□□-V2	Ver 1.18 or later	Ver 1.65 or later

2-1-4 Supported Devices

The same devices as with the NA5-□□W□□□□-V1 can be connected.

2-1-5 Dimensions

Dimensions

Item	Specifications	
	NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
15 inches	420 × 291 × 69 mm (width × height × depth)	414 × 287 × 69 mm (width × height × depth)
12 inches	340 × 244 × 69 mm (width × height × depth)	333 × 240 × 69 mm (width × height × depth)
9 inches	290 × 190 × 69 mm (width × height × depth)	283 × 185 × 69 mm (width × height × depth)
7 inches	236 × 165 × 69 mm (width × height × depth)	220 × 160 × 69 mm (width × height × depth)

Panel cutout dimensions

Item		Specifications	
		NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Panel cutout dimensions	15 inches	392 +1/0 × 268 +1/0 (horizontal × vertical) Panel thickness 1.6 to 4.5 mm (PWA used) 1.6 to 6.0 mm (PWA not used)	392 +1/0 × 268 +1/0 (horizontal × vertical) Panel thickness 1.6 to 6.0 mm (PWA not used)
	12 inches	310 +1/0 × 221 +1/0 (horizontal × vertical) Panel thickness 1.6 to 4.5 mm (PWA used) 1.6 to 6.0 mm (PWA not used)	310 +1/0 × 221 +1/0 (horizontal × vertical) Panel thickness 1.6 to 6.0 mm (PWA not used)
	9 inches	261 +1/0 × 166 +1/0 (horizontal × vertical) Panel thickness 1.6 to 4.5 mm (PWA used) 1.6 to 6.0 mm (PWA not used)	261 +1/0 × 166 +1/0 (horizontal × vertical) Panel thickness 1.6 to 4.5 mm (PWA used) 1.6 to 6.0 mm (PWA not used)
	7 inches	197 +1/0 × 141 +1/0 (horizontal × vertical) Panel thickness 1.6 to 4.5 mm (PWA used) 1.6 to 6.0 mm (PWA not used)	197 +1/0 × 141 +1/0 (horizontal × vertical) Panel thickness 1.6 to 4.5 mm (PWA used) 1.6 to 6.0 mm (PWA not used)

3 Functionality Changes

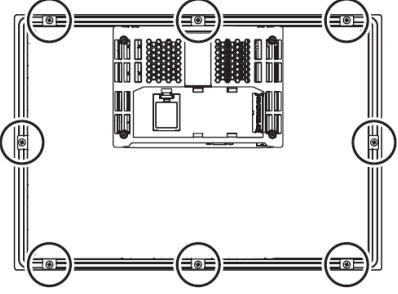
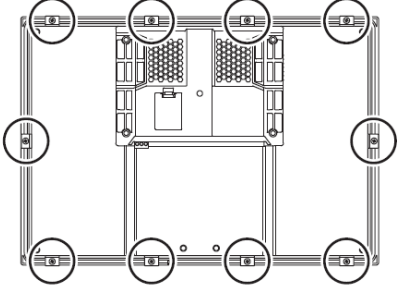
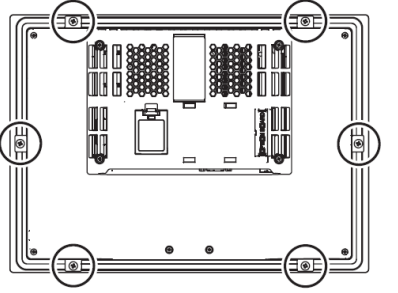
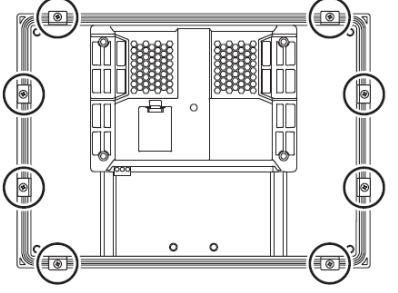
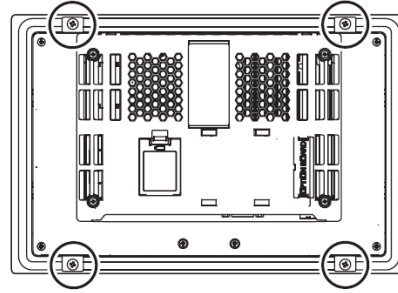
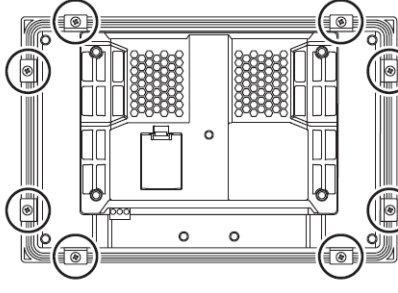
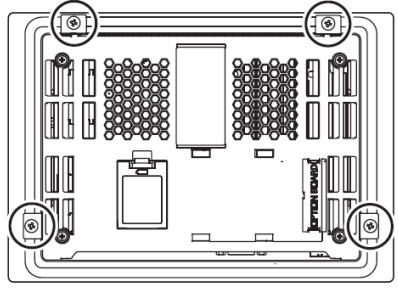
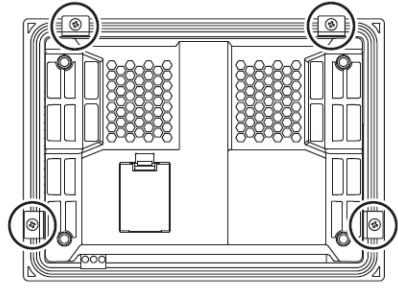
3-1 Hardware

3-1-1 No Use of Battery

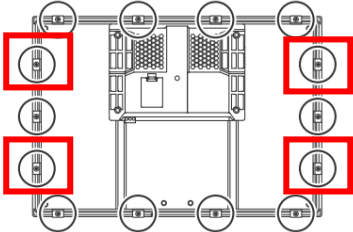
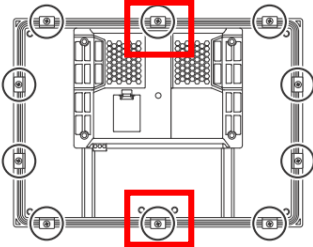
Specifications	NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
No use of battery	You need to connect the battery. The RTC is initialized with power shutoff if the battery is not connected.	The RTC retains its setting for a certain period of time without a battery. The use of the battery is also possible as conventionally. When the battery is not connected, the RTC retains its setting for a maximum of 10 days after power shutoff.
Factory-connected battery	The battery is connected to the product.	The battery is not connected to the product. The use of the conventional battery is also possible. Purchase the option (CJ1W-BAT01) if the RTC needs to operate for 10 days or more after power shutoff.

3-1-2 Mounting Position of the Attachment Bracket

The mounting position of the attachment bracket has been changed.

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
NA5-15W□□□□-V1 	NA5-15W□□□□-V2 
NA5-12W□□□□-V1 	NA5-12W□□□□-V2 
NA5-9W□□□□-V1 	NA5-9W□□□□-V2 
NA5-7W□□□□-V1 	NA5-7W□□□□-V2 

3-1-3 Adding the Means to Conform to UL Type 4X

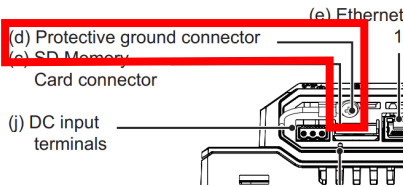
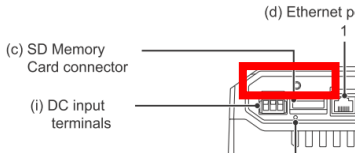
NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
To conform to UL Type 4X, install the NA Unit using the high-pressure waterproof attachment (NA-□□WATW01).	Refer to the following instruction that varies depending on the model. NA5-15W□□□□-V2, NA5-12W□□□□-V2 Do not use the high-pressure waterproof attachment, but purchase and install additional panel mounting brackets. Refer to below for installation locations. NA5-15W□□□□-V2 Secure the NA Unit with mounting brackets in the 14 locations shown below. The mounting brackets included with the NA Unit are 4 pieces short; purchase 2 units of the option “NA-ATT01”.  NA5-12W□□□□-V2 Secure the NA Unit with mounting brackets in the 10 locations shown below. The mounting brackets included with the NA Unit are 2 pieces short; purchase 1 units of the option “NA-ATT01”.  NA5-9W□□□□-V2, NA5-7W□□□□-V2 Install the NA Unit using the high-pressure waterproof attachment (NA-□□WATW01) as conventionally.

3-1-4 Screen Brightness

The change of brightness in each increment step and the lowest brightness vary as follows depending on the screen brightness setting, which you can change with the system variable “_HMI_Brightness” or System Menu.

Specifications	NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Screen brightness levels	200 levels	200 levels (Brightness change steps differ between brightness settings 1–100.)
Lowest brightness	The backlight turns off when the lowest brightness is set.	The backlight does not turn off when the lowest brightness is set. The backlight does not turn off so that you will not lose sight of the screen view.

3-1-5 Protective Ground Connector

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Provided  The NA5-V1, which is housed in a metal case, is provided with the protective ground connector to protect you from electrical shock in case of current leakage that occurs from some reason.	Not provided  The NA5-V2, which is housed in a plastic case, does not need the protective ground connector, as there is no risk of electrical shock any longer.

3-2 Software

3-2-1 Fonts

The NA5-V1 differs from the NA5-V2 in supported fonts.

Refer to the table below for the correspondence of fonts.

When changing the device from NA5-V1 to NA5-V2 in Sysmac Studio, fonts are automatically converted.

After the device change, the appearance and layout may differ, so please make sure to check the screen data.

Make any necessary adjustments as needed.

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Arial	Liberation Sans
Arial Black	Liberation Sans Black
Arial Narrow	Liberation Sans Narrow
Comic Sans MS	Omron NA Comic Sans
Courier New	Omron NA Mono
DF7segHMI	DF7segHMI
Ebrima	Omron NA Sans African
Estrangelo Edessa	Omron NA Sans Syriac
Euphemia	Omron NA Sans Canadian Aboriginal
Gautami	Omron NA Sans Telugu
Georgia	Source Serif Pro
Gulim	Omron NA Sans G KR
GulimChe	Omron NA Sans G Che KR
Impact	Anton
Iskoola Pota	Omron NA Sans Sinhala
Kalinga	Omron NA Sans Oriya
Kartika	Omron NA Sans Malayalam
Khmer UI	Omron NA Sans Khmer
Lao UI	Omron NA Sans Lao
Latha	Omron NA Sans Tamil
Lucida Sans Unicode	Omron NA Sans Unicode
Malgun Gothic	Omron NA Sans KR
Mangal	Omron NA Sans Devanagari
Meiryo	Omron NA Sans JP
Meiryo UI	Omron NA Sans UI JP
Microsoft Himalaya	Omron NA Serif Tibetan
Microsoft JhengHei	Omron NA Sans TC
Microsoft New Tai Lue	Omron NA Sans New Tai Lue
Microsoft PhagsPa	Omron NA Sans PhagsPa
Microsoft Sans Serif	Liberation Serif
Microsoft Tai Le	Omron NA Sans Tai Le

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Microsoft Uighur	Omron NA Serif Old Uyghur
Microsoft YaHei	Omron NA Sans SC
Microsoft Yi Baiti	Omron NA Sans Yi
MingLiU	Omron NA Serif TC
MingLiU_HKSCS	
MingLiU_HKSCS-ExtB	
MingLiU-ExtB	
Mongolian Baiti	Omron NA Sans Mongolian
MS Gothic	Omron NA Gothic JP
MS Mincho	Omron NA Mincho JP
MS PGothic	Omron NA PGothic JP
MS PMincho	Omron NA PMincho JP
MS UI Gothic	Omron NA UI Gothic JP
MV Boli	Omron NA Sans Thaana
NSimSun	Omron NA Serif SC
Nyala	Omron NA Sans Ethiopic
Plantagenet Cherokee	Omron NA Sans Cherokee
PMingLiU	Omron NA PSerif TC
PMingLiU-ExtB	Omron NA PSerif TC
Raavi	Omron NA Sans Gurmukhi
Segoe UI	Omron NA Sans
Segoe UI Light	Omron NA Sans Light
Segoe UI Semibold	Omron NA Sans SemiBold
Shruti	Omron NA Sans Gujarati
SimSun	Omron NA Serif SC
SimSun-ExtB	
Sylfaen	Omron NA Sans Georgian Condensed
Symbol	Omron NA Symbol
Tahoma	IBM Plex Sans
Times New Roman	Omron NA Serif
Trebuchet MS	Alatsi
Tunga	Omron NA Sans Kannada
Verdana	Anuphan
Vrinda	Omron NA Sans Bengali
Webdings	Omron NA Web
Wingdings	Omron NA Wing

If you want to change fonts after NA model change, use the font replacement function.
For the replacement method, refer to “4-7 Font Replacement” in the NA Series Programmable Terminal Software User’s Manual (V118)”.

3-2-2 Viewable Document File Formats

The NA5-V1 differs from the NA5-V2 in viewable document file format.

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
PDF xlsx xls docx doc	PDF

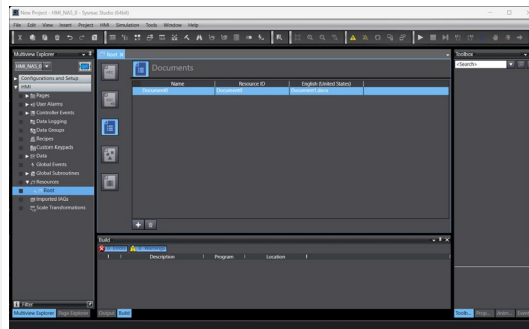
To convert document files registered in the NA5-V1 into PDF format, follow the steps below.
If you store document files in a computer, start from step 6 below.

1. Start Sysmac Studio.
*This step assumes that Sysmac Studio Ver 1.65 or later has been installed.

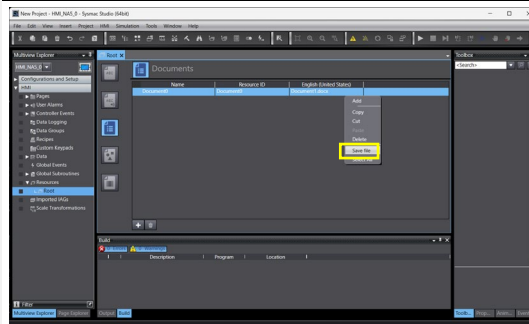


2. After Sysmac Studio has started up, open the project in which the document file is stored.

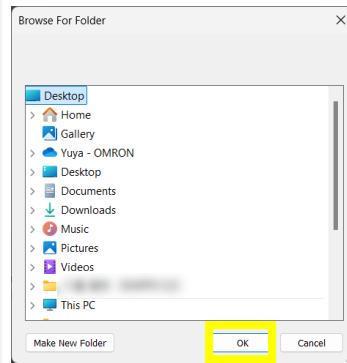
3. After the project has opened, select the resource group in which the file is registered to open the document.



4. Right-click the document file registered in the resource, and select Save file.



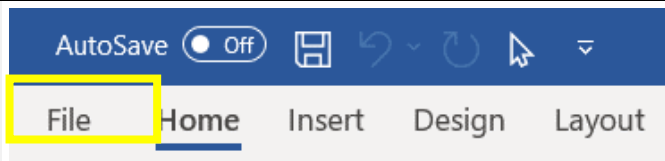
5. A file save dialog box is displayed. Set the location to which to save, and click OK.



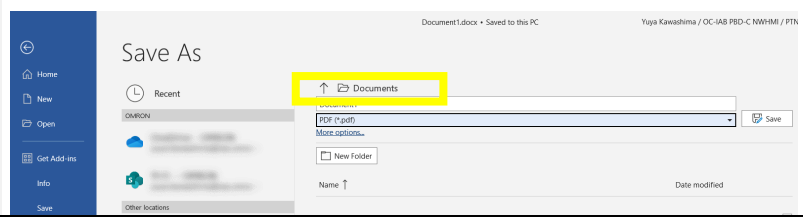
6. Start up Word, then open the saved file, and click File.

*This procedure assumes the use of Word.

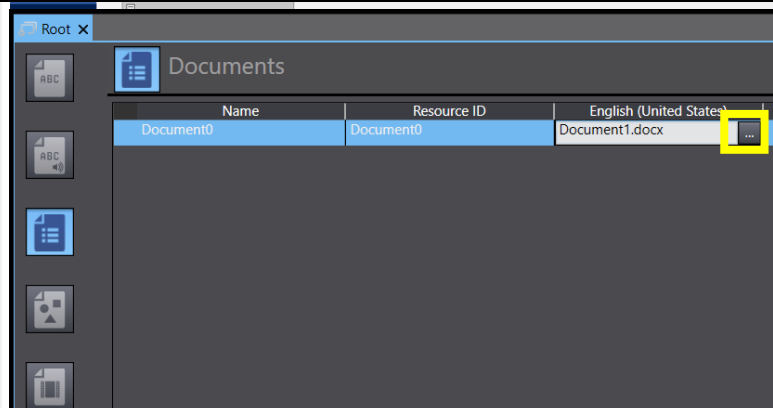
*Excel files can also be converted into PDF format with the same procedure.



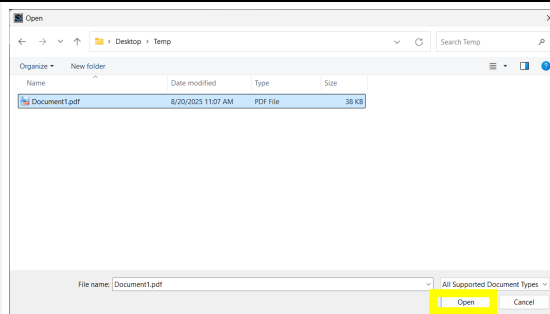
7. Select Save As and save the file in PDF format to a desired folder.



8. Open Sysmac Studio, then select the resource for which to replace the file, and click the  icon.



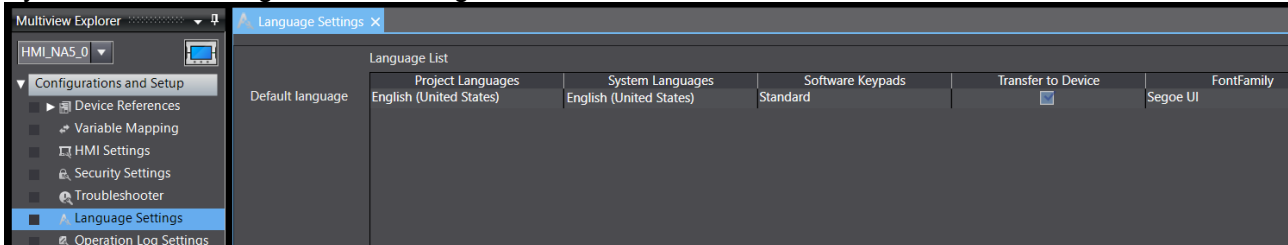
9. A file selection dialog box is displayed. Select the file that you created in step 7, and click Open.



3-2-3 Changes in Locale for Project Languages

A locale refers to settings that differ depending on the language, country and other preferences. The NA is assigned with the locale that is set for the project language.

Sysmac Studio configures this setting in the location shown below.



Locales mainly act on the following display items.

Item	Description
Date and time display format	Date and time formats such as the days of the week and abbreviations
Numeric notation	Digit delimiter and decimal point formats
Calendar	Formats that vary by culture such as Common Era, Gregorian and Islamic calendars

The above-mentioned display items may differ between the NA5-V1 and NA5-V2 when the following project languages are set.

Project Languages	Display item	Description of change
Icelandic (Iceland)	Calendar, date, and the days of the week	The days of the week have been added.
Irish (Ireland)	Calendar, date, and the days of the week	The days of the week have been added.
Azerbaijani (Cyrillic, Azerbaijan)	Calendar, date, and the days of the week	The days of the week have been added.
Azerbaijani language (Latin, Azerbaijan)	Calendar, date, and the days of the week	The days of the week have been added.
Assamese (India)	Time	The AM/PM notation has been changed.
	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
Afrikaans (South Africa)	Time	Notation has been changed from the 12-hour to 24-hour clock.
	Numeric	The period has been changed to the comma.
	Calendar, date, and the days of the week	Notation has been changed to that of the local language.
Amharic (Ethiopia)	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
Arabic (United Arab Emirates)	Time	Notation has been changed to zero suppression.
	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
Arabic (Algeria)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.

Project Languages	Display item	Description of change
	Numeric	The period has been changed to the comma.
Arabic (Yemen)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Iraq)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Egypt)	Calendar, date, and the days of the week	The days of the week have been added. The comma has been deleted.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Oman)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Qatar)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Kuwait)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Saudi Arabia)	Calendar, date, and the days of the week	The days of the week have been added. Notation has been changed to the Islamic calendar.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Syria)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Tunisia)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.

Project Languages	Display item	Description of change
	Numeric	The comma and period have been changed.
Arabic (Bahrain)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Morocco)	Calendar, date, and the days of the week	The days of the week have been added.
	Numeric	The period has been changed to the comma.
Arabic (Jordan)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Libya)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Arabic (Lebanon)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed to zero suppression.
	Numeric	The period has been changed to the comma.
Alsatian (France)	Calendar, date, and the days of the week	The comma and period have been added.
	Numeric	The comma has been changed to the period. The backquote has been added.
Albanian (Albania)	Calendar, date, and the days of the week	The days of the week have been added. The notation form has been changed.
	Time	The expression form has been changed.
	Numeric	The period has been deleted.
Armenian (Armenia)	Calendar, date, and the days of the week	The days of the week have been added.
	Numeric	The comma and period have been changed.
Italian (Switzerland)	Calendar, date, and the days of the week	The notation form has been changed.
Inuktitut (Canada)	Calendar, date, and the days of the week	The notation form has been changed.
Igbo (Nigeria)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
	Numeric	The comma has been changed to the period.
Indonesian (Indonesia)	Calendar, date, and the days of the week	The days of the week have been added. The notation form has been changed.
	Time	The semicolon has been changed to the period.

Project Languages	Display item	Description of change
Yi (China)	Calendar, date, and the days of the week	The expression form has been changed.
Uyghur (China)	Calendar, date, and the days of the week	The notation form has been changed.
Welsh (United Kingdom)	Calendar, date, and the days of the week	The days of the week have been added.
Wolof (Senegal)	Calendar, date, and the days of the week	The notation form has been changed.
Ukrainian (Ukraine)	Calendar, date, and the days of the week	The days of the week have been added.
Uzbek (Cyrillic, Uzbekistan)	Calendar, date, and the days of the week	The days of the week have been added.
Urdu (Pakistan, Islamic Republic)	Calendar, date, and the days of the week	The days of the week have been added.
Estonian (Estonia)	Calendar, date, and the days of the week	The days of the week have been added.
Occitan (France)	Calendar, date, and the days of the week	The days of the week have been added.
	Numeric	The semicolon has been changed to the period.
Odia (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Kazakh (Kazakhstan)	Calendar, date, and the days of the week	The notation form has been changed.
Kannada (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Galician (Galicia)	Calendar, date, and the days of the week	The notation form has been changed.
Kinyarwanda (Rwanda)	Calendar, date, and the days of the week	The order of date has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Greek (Greece)	Calendar, date, and the days of the week	The notation form has been changed.
	Time	The period has been deleted.
Kyrgyz (Kyrgyzstan)	Calendar, date, and the days of the week	The days of the week have been added.
Gujarati (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Khmer (Cambodia)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
	Numeric	The comma and period have been changed.
Greenlandic (Greenland)	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
	Time	The colon has been changed to the period.

Project Languages	Display item	Description of change
Croatian (Croatia)	Calendar, date, and the days of the week	The days of the week have been added.
Croatian (Latin, Bosnia and Herzegovina)	Calendar, date, and the days of the week	The days of the week have been added.
Quechua (Ecuador)	Calendar, date, and the days of the week	The days of the week have been added. Notation has been changed to that of English.
	Numeric	The period has been deleted. The comma has been changed to the period.
Quechua (Peru)	Calendar, date, and the days of the week	Notation has been changed to that of English.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
	Numeric	The comma has been changed to the period.
Quechua (Bolivia)	Calendar, date, and the days of the week	The notation form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Xhosa (South Africa)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Corsican (France)	Calendar, date, and the days of the week	Notation has been changed to that of English.
Konkani (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Sami, Northern (Norway)	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
Sanskrit (India)	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Georgian (Georgia)	Calendar, date, and the days of the week	The order of date has been changed.
Syriac (Syria)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	The expression form has been changed.
Sinhala (Sri Lanka)	Calendar, date, and the days of the week	The notation form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Swedish (Sweden)	Calendar, date, and the days of the week	The days of the week have been added.
Swedish (Finland)	Calendar, date, and the days of the week	The days of the week have been added.
Zulu (South Africa)	Calendar, date, and the days of the week	The days of the week have been added. The comma has been added.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Argentina)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Uruguay)	Calendar, date, and the days of the week	The expression form has been changed.

Project Languages	Display item	Description of change
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (El Salvador)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Guatemala)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Costa Rica)	Time	Notation has been changed from the 12-hour to 24-hour clock.
	Numeric	The period has been added.
Spanish (Colombia)	Time	The AM/PM notation has been changed. Notation has been changed to zero suppression.
Spanish (Dominican Republic)	Time	The AM/PM notation has been changed. Notation has been changed to zero suppression.
Spanish (Nicaragua)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Panama)	Time	The AM/PM notation has been changed. Notation has been changed to zero suppression.
Spanish (Paraguay)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Puerto Rico)	Time	The AM/PM notation has been changed. Notation has been changed to zero suppression.
Spanish (Peru)	Calendar, date, and the days of the week	The expression form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Bolivia)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Honduras)	Calendar, date, and the days of the week	The notation form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Mexico)	Time	Notation has been changed from the 12-hour to 24-hour clock.
Spanish (Bolivarian Republic of Venezuela)	Time	The AM/PM notation has been changed. Notation has been changed to zero suppression.
Spanish (United States)	Time	The AM/PM notation has been changed from uppercase to lowercase.
Slovak (Slovakia)	Calendar, date, and the days of the week	The days of the week have been added.
Slovenian (Slovenia)	Calendar, date, and the days of the week	The days of the week have been added.
Swahili (Kenya)	Calendar, date, and the days of the week	The order of date has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Sesotho sa Leboa (South Africa)	Calendar, date, and the days of the week	The days of the week have been added. The notation form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.

Project Languages	Display item	Description of change
Setswana (South Africa)	Calendar, date, and the days of the week	The days of the week have been added. Notation has been changed to that of English.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Serbian (Cyrillic, Serbia)	Calendar, date, and the days of the week	The days of the week have been added.
Serbian (Cyrillic, Serbia and Montenegro (former))	Calendar, date, and the days of the week	The days of the week have been added.
Serbian (Cyrillic, Bosnia and Herzegovina)	Calendar, date, and the days of the week	The days of the week have been added.
Serbian (Cyrillic, Montenegro)	Calendar, date, and the days of the week	The days of the week have been added.
Serbian (Latin, Serbia)	Calendar, date, and the days of the week	The days of the week have been added.
Serbian (Latin, Serbia and Montenegro (former))	Calendar, date, and the days of the week	The days of the week have been added. The period has been added.
Serbian (Latin, Bosnia and Herzegovina)	Calendar, date, and the days of the week	The days of the week have been added.
Serbian (Latin, Montenegro)	Calendar, date, and the days of the week	The days of the week have been added.
Thai (Thailand)	Calendar, date, and the days of the week	The days of the week have been added.
Tajik (Cyrillic, Tajikistan)	Calendar, date, and the days of the week	The days of the week have been added.
Tatar (Russia)	Calendar, date, and the days of the week	The days of the week have been added.
Tamazight (Latin, Algeria)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
	Numeric	The period has been deleted.
Tamil (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Czech (Czech Republic)	Calendar, date, and the days of the week	The days of the week have been added.
Tibetan (China)	Calendar, date, and the days of the week	The days of the week have been added. The order of date has been changed.
	Numeric	The comma has been added.
Telugu (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Danish (Denmark)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	The colon has been changed to the period.
German (Austria)	Numeric	The period has been deleted.
Turkmen (Turkmenistan)	Calendar, date, and the days of the week	The days of the week have been added.
Nepali (Nepal)	Calendar, date, and the days of the week	The notation form has been changed.

Project Languages	Display item	Description of change
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Norwegian, Nynorsk (Norway)	Calendar, date, and the days of the week	The days of the week have been added.
Norwegian, Bokmal (Norway)	Calendar, date, and the days of the week	The days of the week have been added.
Hausa (Latin, Nigeria)	Calendar, date, and the days of the week	The notation form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Bashkir (Russia)	Calendar, date, and the days of the week	The days of the week have been added. Notation has been changed to that of English.
	Numeric	The comma has been changed to the period.
Hungarian (Hungary)	Calendar, date, and the days of the week	The days of the week have been added.
Punjabi (Gurmukhi)	Calendar, date, and the days of the week	The notation form has been changed.
	Time	The AM/PM notation has been changed. Notation has been changed to zero suppression.
Hindi (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Filipino (Philippines)	Calendar, date, and the days of the week	The notation form has been changed.
Finnish (Finland)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	The colon has been changed to the period.
Faroese (Faroe Islands)	Calendar, date, and the days of the week	The days of the week have been added.
French (Canada)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	The colon has been changed to the unit of measure.
French (Switzerland)	Calendar, date, and the days of the week	The comma has been added.
	Numeric	The period has been changed to the comma. The backquote has been deleted.
French (Belgium)	Numeric	The period has been deleted.
Frisian (Netherlands)	Calendar, date, and the days of the week	The notation form has been changed.
Bulgarian (Bulgaria)	Calendar, date, and the days of the week	The days of the week have been added.
Breton (France)	Calendar, date, and the days of the week	The backquote type has been changed.
Vietnamese (Vietnam)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
Hebrew (Israel)	Calendar, date, and the days of the week	The notation form has been changed.

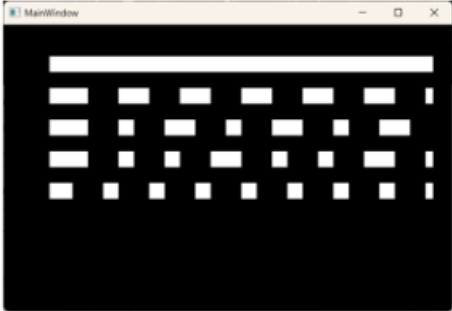
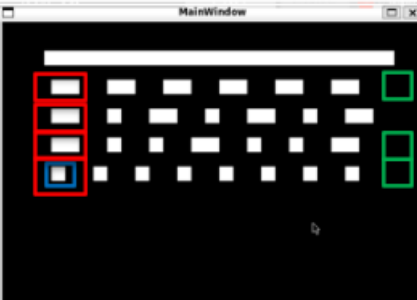
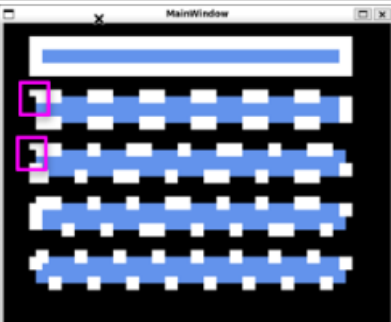
Project Languages	Display item	Description of change
Belarusian (Belarus)	Calendar, date, and the days of the week	The days of the week have been added. The notation form has been changed.
Persian	Calendar, date, and the days of the week	The notation form has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
	Numeric	The period has been changed to the comma.
Bengali (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Bengali (Bangladesh)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Polish (Poland)	Calendar, date, and the days of the week	The days of the week have been added.
Bosnian (Latin, Bosnia and Herzegovina)	Calendar, date, and the days of the week	The days of the week have been added.
Maori (New Zealand)	Calendar, date, and the days of the week	The comma has been deleted.
	Time	The AM/PM notation has been changed.
Mapuche (Chile)	Calendar, date, and the days of the week	The notation form has been changed.
	Numeric	The period has been deleted.
Marathi (India)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Malayalam (India)	Calendar, date, and the days of the week	The expression form has been changed.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Maltese (Malta)	Calendar, date, and the days of the week	The backquote type has been changed.
Malay (Brunei Darussalam)	Time	Notation has been changed from the 24-hour to 12-hour clock.
Malay (Malaysia)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Mohawk (Mohawk)	Calendar, date, and the days of the week	Notation has been changed to that of English.
Mongolian (Cyrillic, Mongolia)	Calendar, date, and the days of the week	The days of the week have been added.
	Numeric	The comma has been changed to the period.
Mongolian (traditional Mongolian script)	Calendar, date, and the days of the week	The expression form has been changed
	Numeric	The comma has been deleted.
Yakut (Russia)	Calendar, date, and the days of the week	The expression form has been changed
Yoruba (Nigeria)	Time	Notation has been changed from the 12-hour to 24-hour clock.

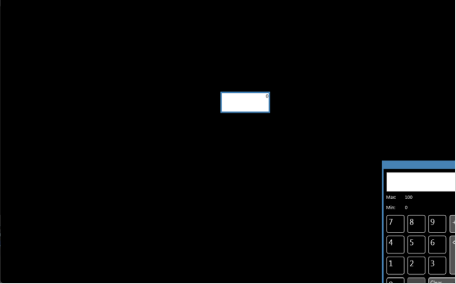
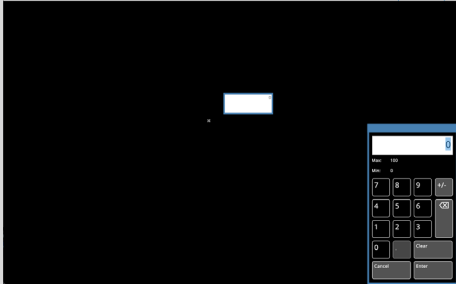
Project Languages	Display item	Description of change
Lao (Lao People's Democratic Republic)	Calendar, date, and the days of the week	The days of the week have been added.
Lithuanian (Lithuania)	Calendar, date, and the days of the week	The days of the week have been added.
Romanian (Romania)	Calendar, date, and the days of the week	The days of the week have been added.
Luxembourgish (Luxembourg)	Calendar, date, and the days of the week	The comma and period have been added.
	Numeric	The period has been deleted.
Russian (Russia)	Calendar, date, and the days of the week	The days of the week have been added.
Romansh (Switzerland)	Calendar, date, and the days of the week	The expression form has been changed.
English (Ireland)	Calendar, date, and the days of the week	The notation form has been changed.
English (Australia)	Time	The AM/PM notation has been changed from uppercase to lowercase.
English (Canada)	Calendar, date, and the days of the week	The days of the week have been added. The notation form has been changed.
	Time	The AM/PM notation has been changed.
English (Jamaica)	Calendar, date, and the days of the week	The order of date has been changed.
	Time	The AM/PM notation has been changed from uppercase to lowercase. Notation has been changed to zero suppression.
English (New Zealand)	Time	The AM/PM notation has been changed.
English (Belize)	Time	Notation has been changed from the 12-hour to 24-hour clock.
English (United Kingdom)	Calendar, date, and the days of the week	The days of the week have been added.
English (South Africa)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
	Numeric	The period has been changed to the comma.
English (India)	Calendar, date, and the days of the week	The days of the week have been added. The comma has been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
English (Caribbean)	Time	Notation has been changed from the 12-hour to 24-hour clock.
English (Zimbabwe)	Calendar, date, and the days of the week	The order of date has been changed.
	Time	Notation has been changed from the 12-hour to 24-hour clock.
English (Trinidad and Tobago)	Time	The AM/PM notation has been changed from uppercase to lowercase. Notation has been changed to zero suppression.
English (Malaysia)	Calendar, date, and the days of the week	The comma has been added.
	Time	The AM/PM notation has been changed from uppercase to lowercase.
Upper Sorbian (Germany)	Calendar, date, and the days of the week	The word meaning the day has been deleted.

Project Languages	Display item	Description of change
Chinese (Simplified Chinese, Singapore)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	The AM/PM notation has been changed.
Chinese (Simplified Chinese, China)	Calendar, date, and the days of the week	The days of the week have been added.
Chinese (Traditional Chinese, Hong Kong Special Administrative Region)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Chinese (Traditional Chinese, Taiwan)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	The AM/PM notation has been deleted. Notation has been changed to zero suppression.
Chinese (Traditional Chinese, Macao Special Administrative Region of the People's Republic of China)	Calendar, date, and the days of the week	The days of the week have been added.
	Time	Notation has been changed from the 24-hour to 12-hour clock.
Japanese (Japan)	Calendar, date, and the days of the week	The days of the week have been added.

3-2-4 Appearance and Shifted Display Positions of Objects

The NA5-V2 differs from the NA5-V1 in the appearance and display positions of objects.
The differences are shown below.

	NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Graphic objects— Dotted line Differs in the start and end points of dots.	 	 
Shape Object – Line End The end shape will change to a square		
Text Color— Gradation Differs in how radial gradients are applied.		

	NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
Gauges Differs in depiction effect resulting from probe/border thickness settings.	The probe extends off the gauge if its border is made thicker 	The probe does not extend off the gauge even if its border is made thicker 
	The probe's border hides the probe's center pin if made thicker. 	The probe's center pin shows even if the probe's border is made thicker. 
	Only the border corresponding to the probe length shows if the probe thickness is set to 0. 	The probe's border does not show if the probe length is set to 0. 
Popup Window	The pop-up window can now be moved beyond the screen boundaries. 	The pop-up window can only be moved within the screen boundaries. 

3-2-5 Change in File Path Delimiter

The delimiter used to refer to files with the subroutine function has been changed.

The delimiter was “¥” for the NA5-V1 whereas “/” is used for the NA5-V2. Please change applicable delimiters.

In the case where the same project file may be used for the NA5-V1 and V2, it is possible to run the program with shared code if the following property is used.

System.IO.Path.DirectorySeparatorChar

An example of change is shown below.

In the example, a text file stored in the SD memory card is read.

- Before change

Sub Sample

'Specify the text file path

Dim filePath as String = "¥SDCard¥test.txt"

Using sr = New IO.StreamReader(filePath)

Dim buffer As String = sr.ReadToEnd()

End Using

End Sub

- After change

Sub Sample

'Specify the text file path

Dim filePath as String = String.Format("{0}SDCard{0}test.txt", _
System.IO.Path.DirectorySeparatorChar)

Using sr = New IO.StreamReader(filePath)

Dim buffer As String = sr.ReadToEnd()

End Using

End Sub

The instructions described in the instructions reference do not need the change of delimiter.

3-2-6 Change in File Path Case Sensitivity

When specifying a file path using functions not listed in the “NA-series Programmable Terminal Subroutine Reference Manual” included with Sysmac Studio, the method of distinguishing between uppercase and lowercase letters has changed.

In NA5-V1, uppercase and lowercase letters were not distinguished, but in NA5-V2, they are now distinguished.

Therefore, the file path must match exactly.

For example, when referring to the text file “Sample.txt” on the SD card, the following differences apply.

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2
All of the following specification methods can be used for reference. ¥SDCard¥Sample.txt ¥SDCARD¥SAMPLE.txt ¥sdcard¥sample.txt	Referenceable Formats ¥SDCard¥Sample.txt Unsupported Reference Formats ¥SDCARD¥SAMPLE.txt ¥sdcard¥sample.txt

Please refer to the separate document “NA-series Programmable Terminal Subroutine Reference Manual” for supported functions.

If you are using functions that are not supported to reference files, please modify them so that the file path matches exactly.

3-2-7 Change of PDF Viewer

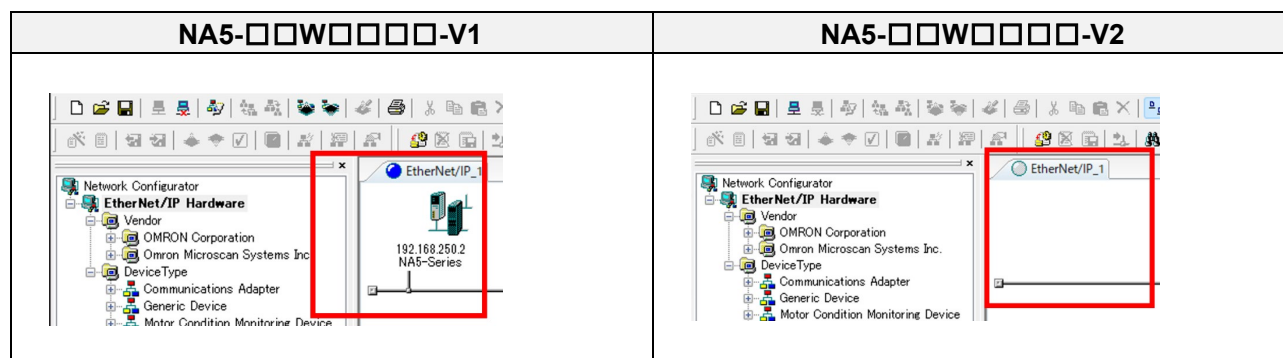
The appearance of the PDF viewer will be changed as shown in the image below.

In addition, the search function has been removed in NA5-V2.

NA5-□□W□□□□-V1	NA5-□□W□□□□-V2

3-2-8 Removal of CIP Server Function

Since the CIP server function has been removed in NA5-V2, it will not be displayed in tools such as Network Configurator that have CIP device detection functionality



4 Work Procedure

4-1 Work Flow

For the replacement with the NA5-V2, follow the procedure below. For detailed procedure, refer to the subsequent pages.

4-2 Preparations

4-2-1 Checking If the Existing Unit is Grounded Positively

4-2-2 Project Upload from the Current Model

4-2-3 Change the Project Device to NA5-V2

4-2-4 USB Driver Installation (if USB devices are directly connected with a USB cable)

4-3 Removal of the Current Model

4-3-1 Turning OFF the Current Model

4-3-2 Removal of All Cables

4-3-3 Storage Removal (if a storage is used)

4-3-4 Removal of the Current Model from the Control Panel

4-4 Installation of the NA5-V2

4-4-1 Installation in a Control Panel

4-4-2 Grounding Wiring

4-4-3 Cable Wiring

4-4-4 Storage Installation (if a storage is used)

4-5 Startup

4-5-1 Turning ON the NA5-V2

4-5-2 Project Download to the NA5-V2

4-5-3 Setting Checks and Communication Checks

4-5-4 Operation Start

4-2 Preparations

4-2-1 Checking If the Existing Unit is Grounded Positively

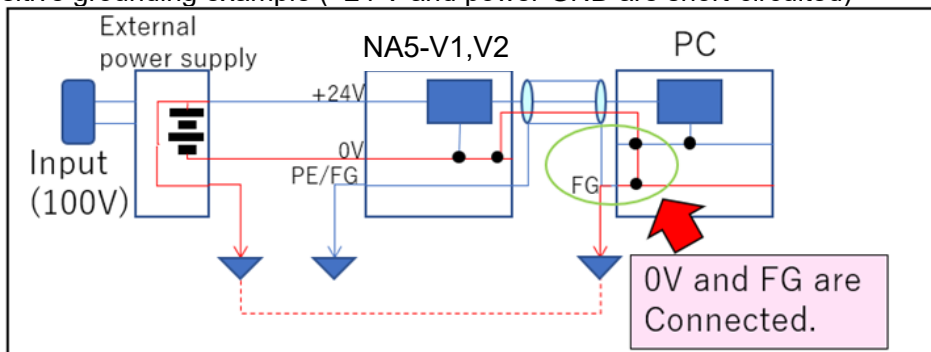
This section describes the changes between the NA5-V0, NA5-V1, and V2.

Since there is no change between the NA5-V1 and NA5-V2, this chapter is intended for only users who replace the NA5-V0 with the NA5-V2.

1) Checking the wiring drawings to see if the Unit is grounded positively

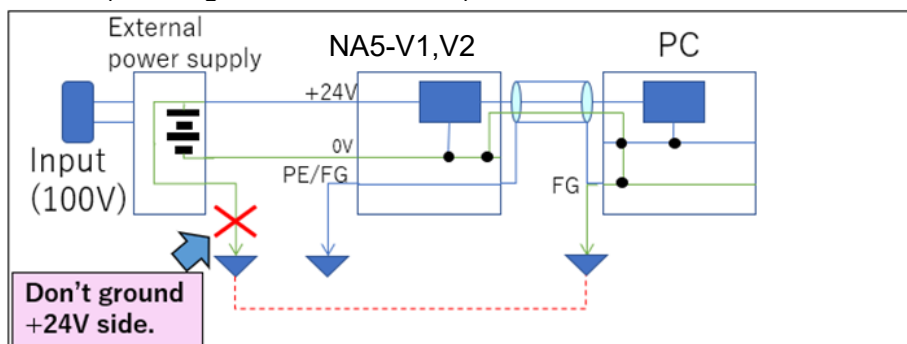
Check beforehand the wiring drawings to make sure that the 24 V side and grounding side of the NA Unit are not short-circuited (check that the 24 V side is not grounded). If they are short-circuited, replacing the NA5-V0 with the NA5-V1 or V2 will produce a short circuit as shown in the **positive grounding example** below and thereby may result in damage to the device, since the internal power supply in the NA5-V1 and V2 is a non-isolated DC power supply.

Positive grounding example (+24 V and power GND are short-circuited)

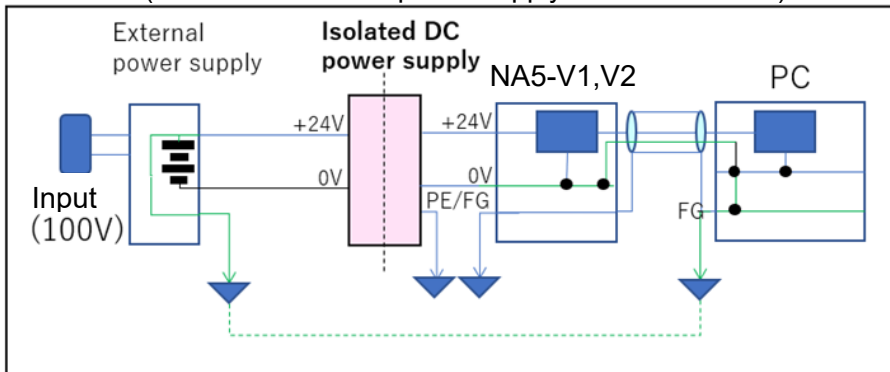


*If the 24 V side and the grounding side of the NA Unit are found to be short-circuited (the 24 V side is grounded), correct the wiring as illustrated below so that the 24 V side is not grounded (measure 1) or insulate the external power supply from the NA Unit (measure 2).

Measure 1 (Do not ground the 24 V side)



Measure 2 (Isolate the external power supply from the NA Unit)



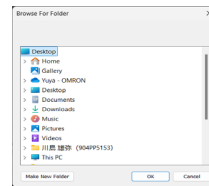
2) Checking the control panel to see if the Unit is grounded positively

Using a tester or a similar device that can check wiring, make sure that the 24 V side and grounding side are not short-circuited.

4-2-2 Project Upload from the Current Model

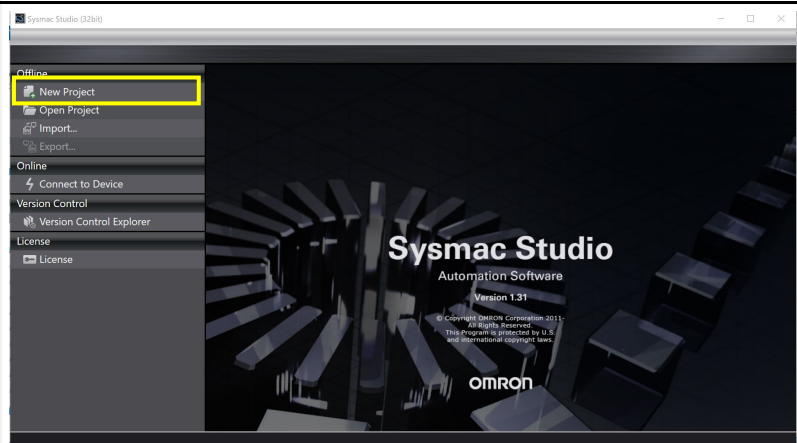
1. Start Sysmac Studio.

*This step assumes that Sysmac Studio Ver 1.65 or later has been installed.

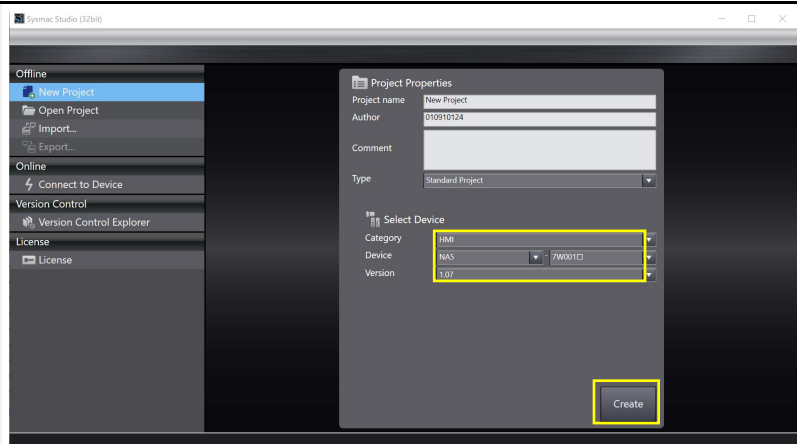


2. After Sysmac Studio has started up, select **New Project**.

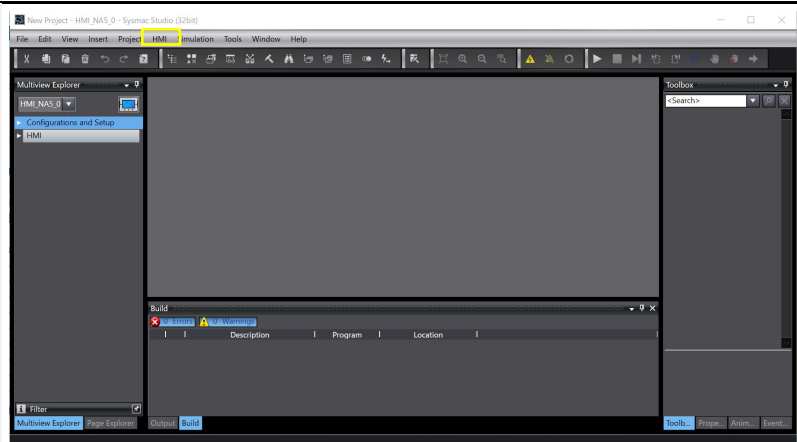
*When relinking with the PLC, create a new HMI project using the PLC project.



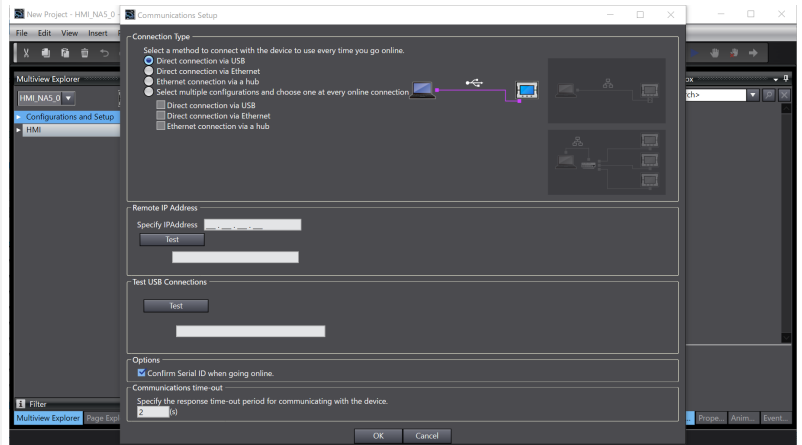
3. The dialog box shown to the right is displayed. Select HMI for **Category**, the NA5-□□W□□□□-V1 model for **Device**, and the device version for **Version**, and then select Create.



4. Select **Communications Setup** from **HMI** in the main menu.

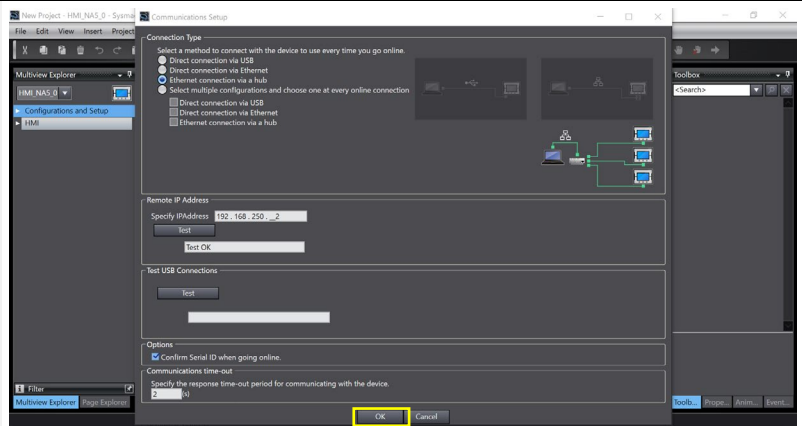


5. The **Communications Setup** dialog box is displayed.

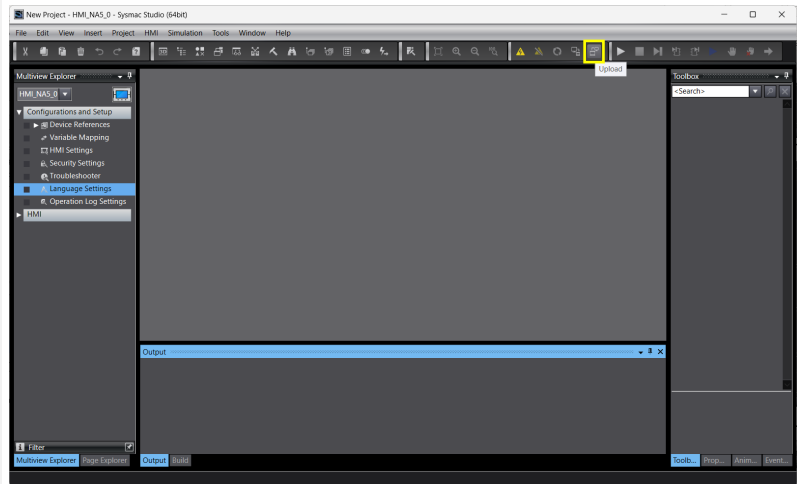


6. Select the connection method for the connection configuration in Connection Type and then click OK.

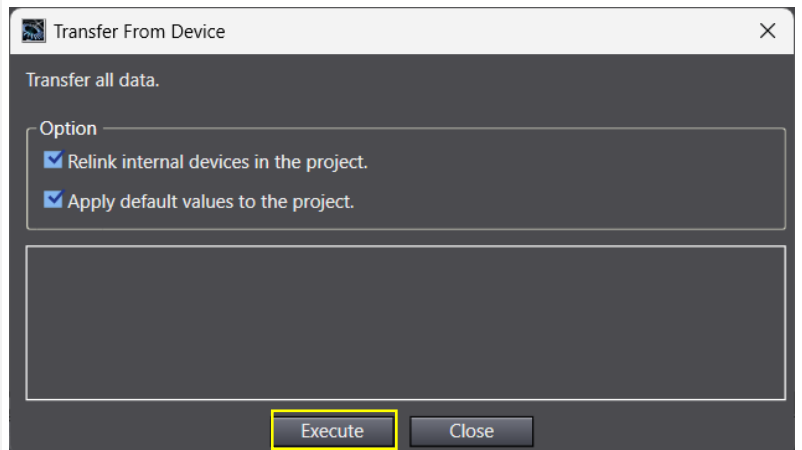
*For an Ethernet connection via a hub, enter the IP address of the HMI to which you need to connect in Remote IP Address. Click the **Test** button; Test OK indicates that Sysmac Studio is ready to be online.



7. Click the **Upload** icon on the toolbar. Or, select **Transfer From Device** from **HMI** in the main menu.

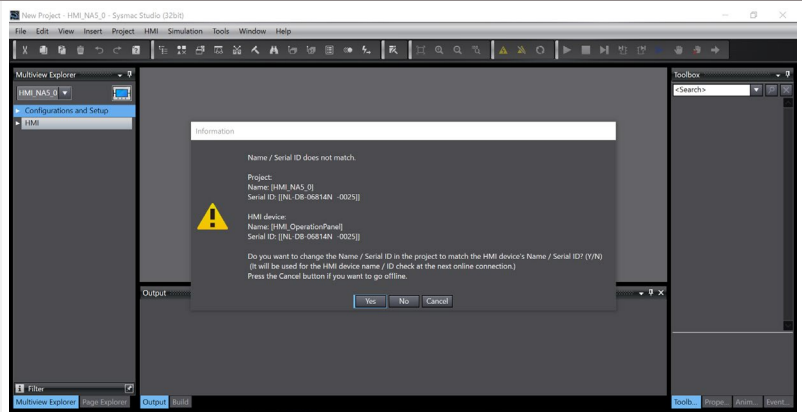


8. The Transfer From Device dialog box is displayed. Select Execute.

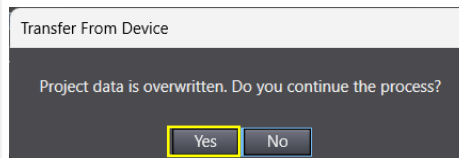


9. The Information dialog box is displayed, showing the message: Name / Serial ID does not match. Select Yes.

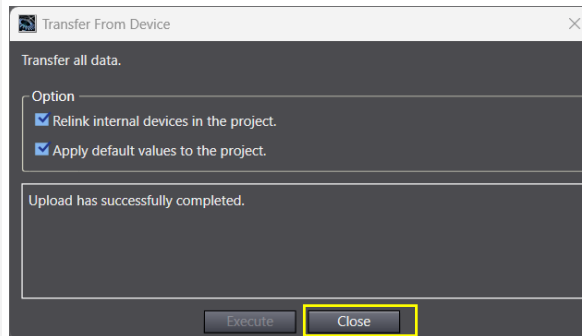
If the dialog box does not appear, execute the next step.



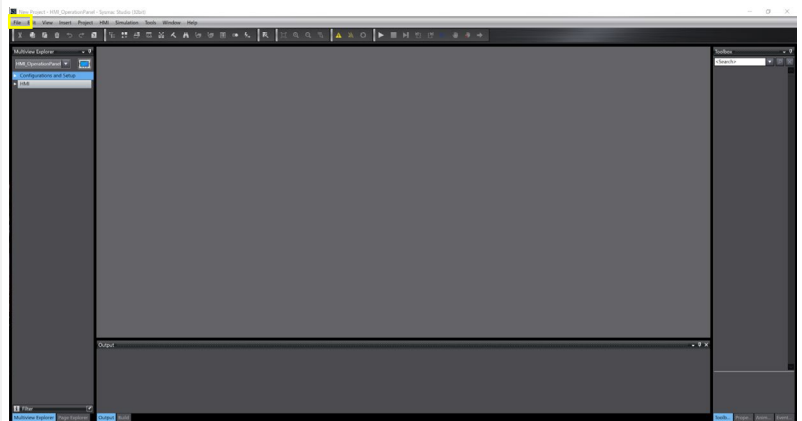
10. The dialog box is displayed. Select Yes.



11. After upload is completed, select Close.

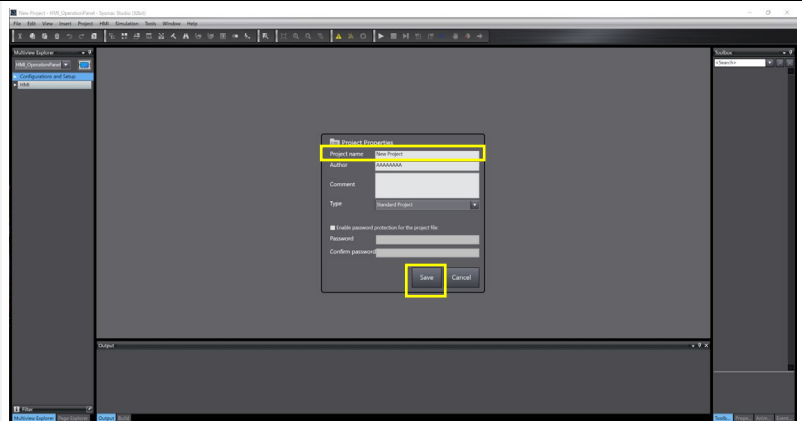


12. Select Save As from File.

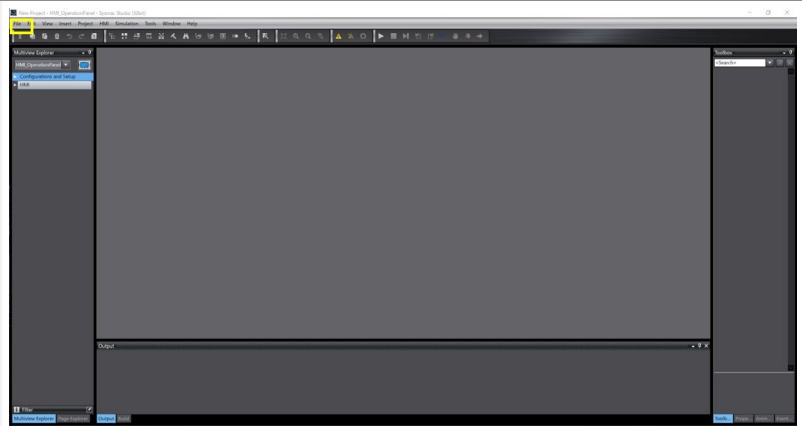


13. Enter the project name and click **Save**.

*If Control From Project File is selected, go to “4-2-3 Change the Project Device to NA5-V2”.

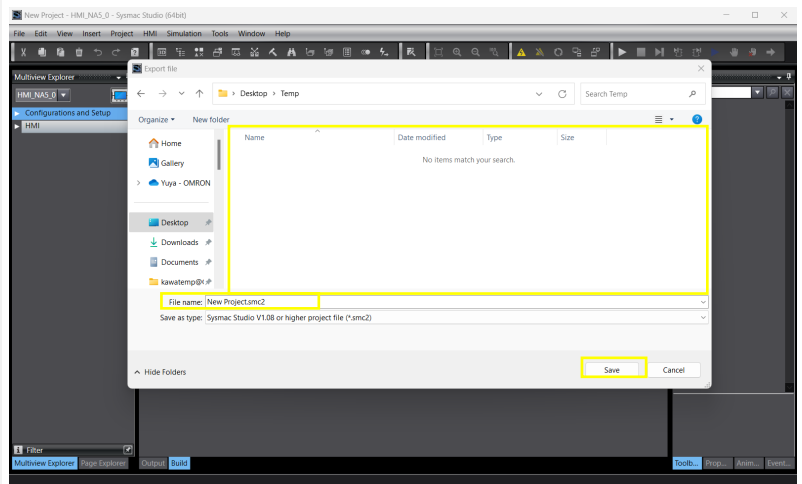


14. Select Export from File.



15. Specify the folder to which to export, enter the file name, and click **Save**. The project is saved in the specified location.

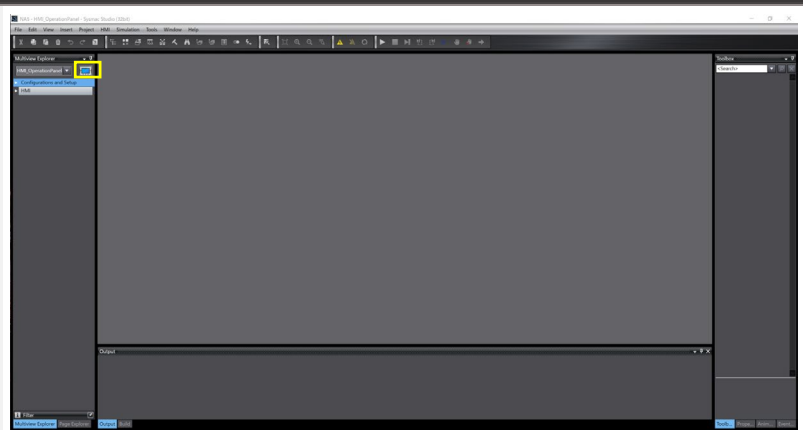
*This step is intended to back up the original data. When redoing the step, import the saved project file.



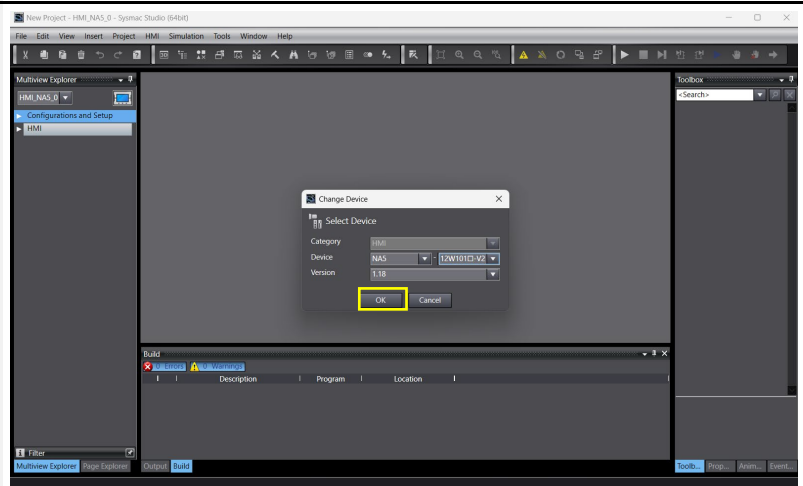
Go to “4-2-3 Change the Project Device”.

4-2-3 Change the Project Device to NA5-V2

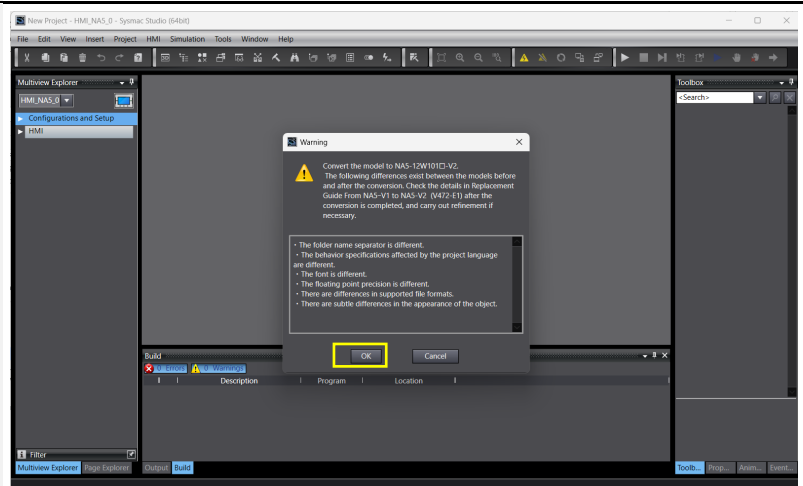
1. With Sysmac Studio offline, right-click the NA5 icon and then select **Change Device** while keeping open the project that you just have uploaded.



2. Select the NA5-V2 device and version and click **OK**.
*You cannot downgrade to an older version.

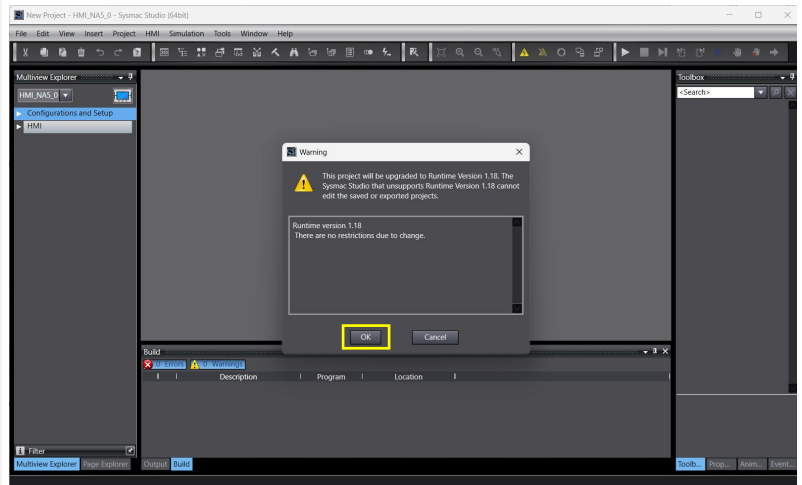


3. A warning message is displayed. Click **OK**.
*Displayed when models are changed.



4. A warning message is displayed.
Click **OK**.

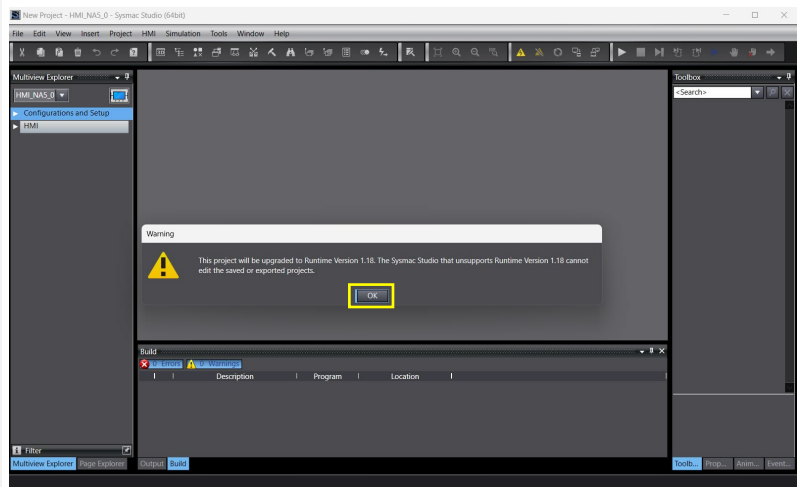
*Displayed during upgrading.



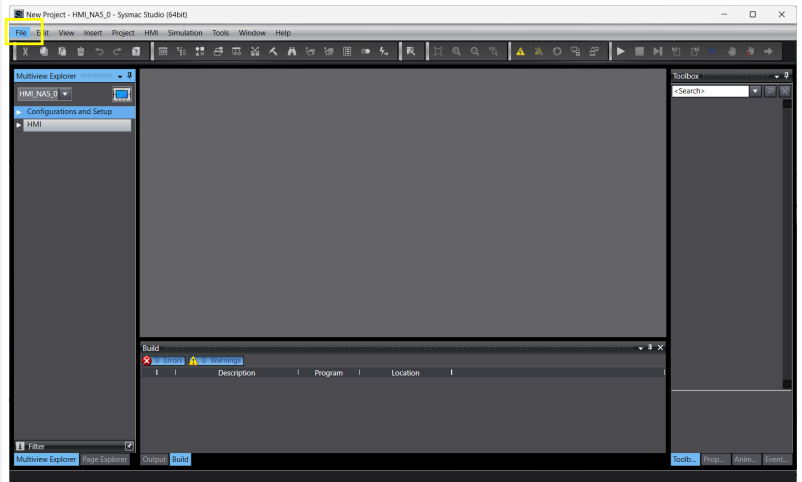
5. A warning message is displayed.
Click **OK**.

*Displayed during upgrading.

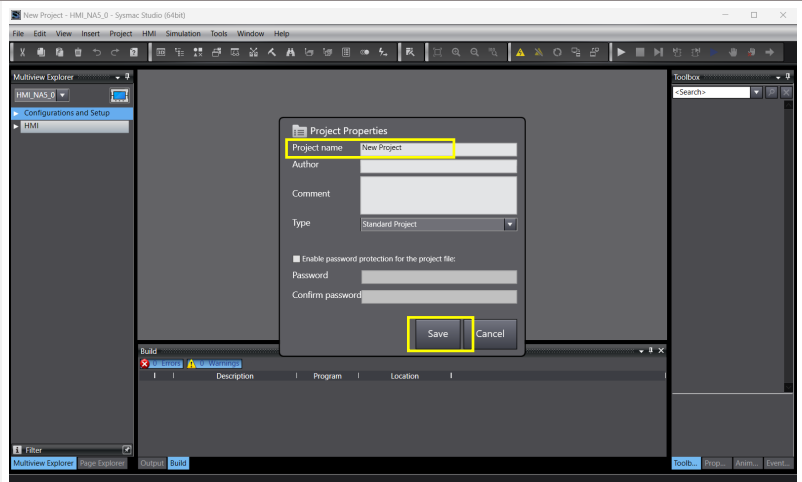
*When exporting (saving) the NA5-V2 project, go to No.6. If you do not need to export it, go to 4-3 Removal of the Current Model.



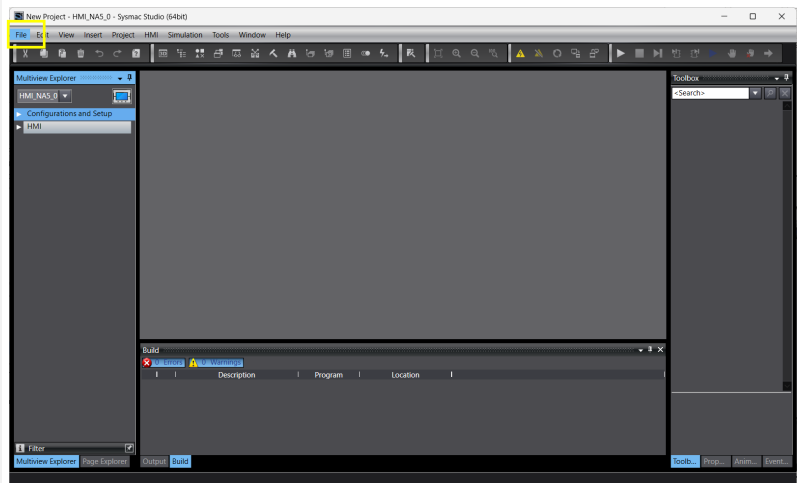
6. Select Save As from File.



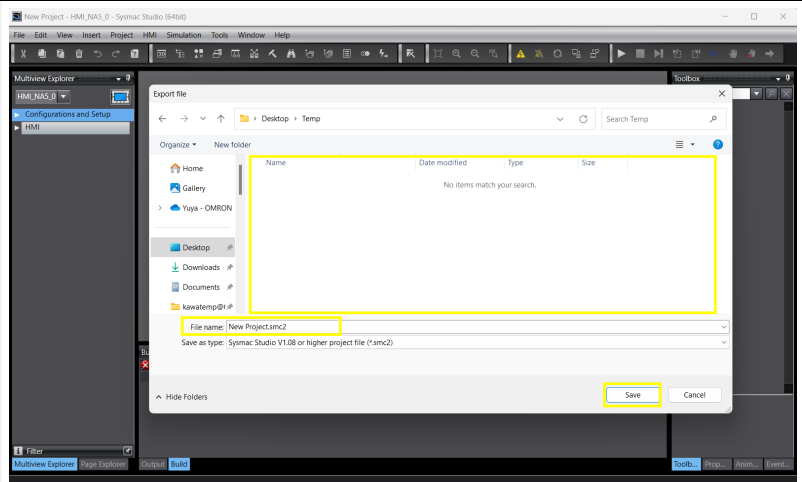
7. Enter the project name and click **Save**.



8. Select Export from File.



9. Specify the folder to which to export, enter the file name, and click **Save**. The project is saved in the specified location.



10. Go to 4-3 Removal of the Current Model.

4-2-4 USB Driver Installation (if USB devices are directly connected with a USB cable)

When you connect Sysmac Studio to the NA5-□□W□□□□-V2 with a USB cable directly, the USB driver does not install automatically. To install it, refer to “A-1-3 Installing the USB driver for the NA5-□□W□□□□-V2 (P.A-5)” in the Sysmac Studio Version 1 Operation Manual (W504-E1).

4-3 Removal of the Current Model

4-3-1 Turning OFF the Current Model

Turn OFF the 24 VDC power supply to the NA Unit.

4-3-2 Removal of All Cables

Remove all cables from the NA Unit.

4-3-3 Storage Removal (if a storage is used)

Remove all USB memory devices and SD memory cards.

4-3-4 Removal of the Current Model from the Control Panel

Remove the NA Unit from the control panel.

4-4 Installation of the NA5-V2

4-4-1 Installation in a Control Panel

Install the NA5-V2 Unit to the control panel using panel mounting brackets and a Phillips screwdriver.

4-4-2 Grounding Wiring

1) Protective ground

The NA5-V2 does not have a protective ground connector. Remove the cable connected to the protective ground connector of the NA5-V1.

2) Functional ground

Functional grounding is done to protect device and system functions.

This includes prevention of noise from external sources, or prevention of noise from devices or equipment that could have harmful effects on other devices or equipment. Before grounding, sufficiently check the particular circumstances.

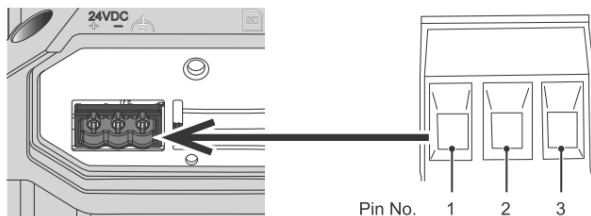
Applicable Wire

Size	Conductor cross-section
AWG #12 to 22	0.35 to 3.31mm ²

Screw Tightening Torque

0.5 to 0.6 N·m

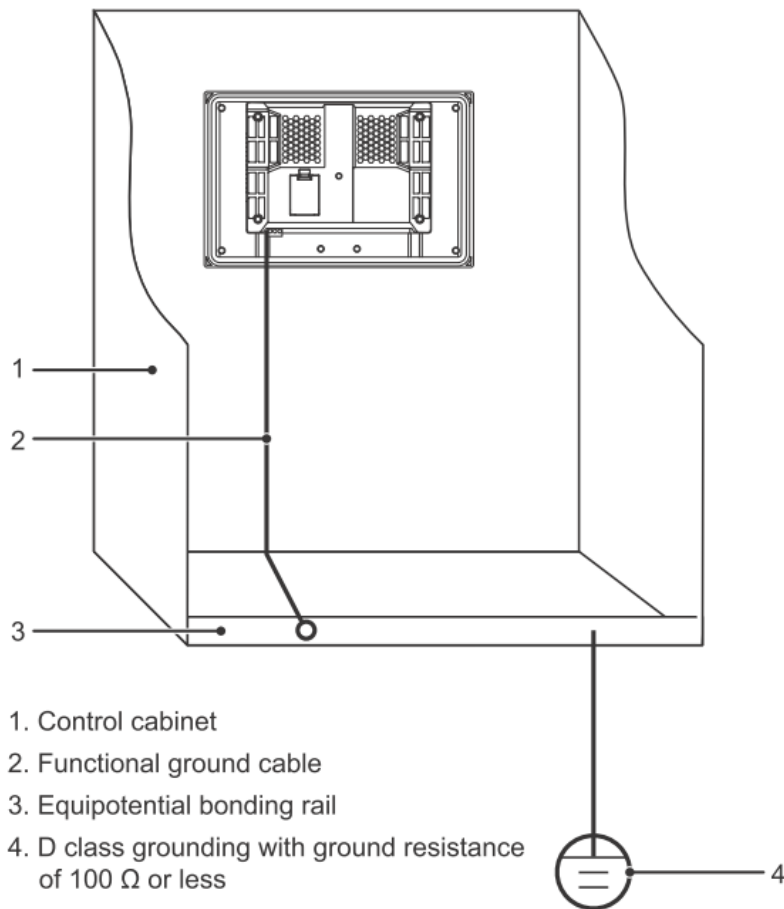
Power Supply Connector



Pin No.	Signal name	Name
1	+24 V	+24-V input
2	0 V	0 V
3	FG	Functional ground

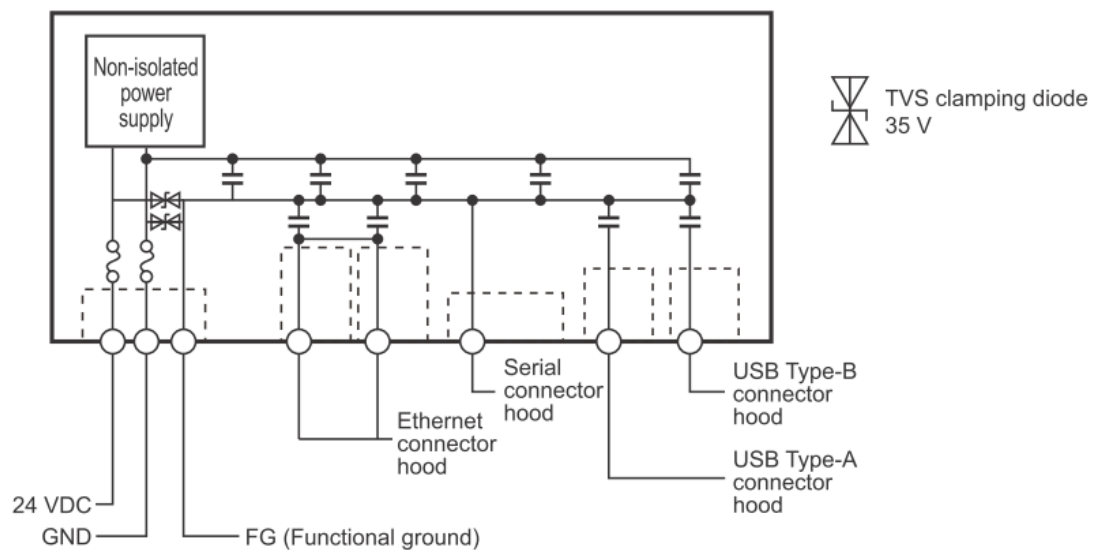
3) Grounding wiring

Route the grounding wire as illustrated below.



4) NA5-V2 Unit internal grounding connection

Before wiring, sufficiently check the particular circumstances by referring to the grounding connection diagram below.



4-4-3 Cable Wiring

Wire all cables of the NA5-V2 Unit.

4-4-4 Storage Installation (if a storage is used)

Install a USB memory device or SD memory card as required.

4-5 Startup

Performance may change with replacement.

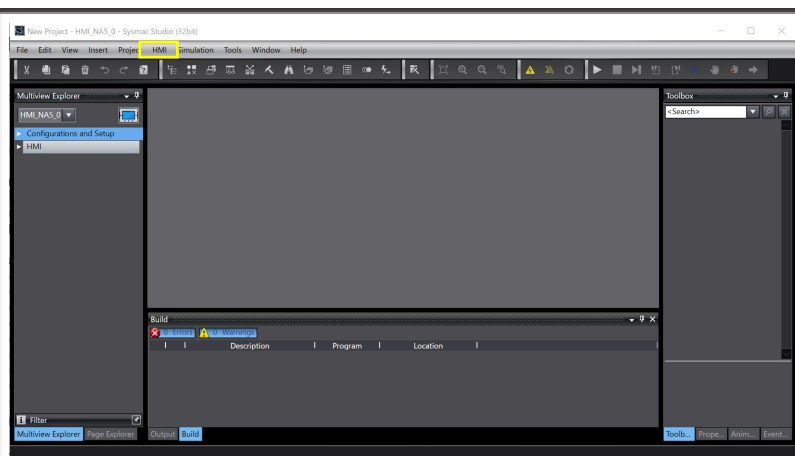
Sufficiently check the operation of any downloaded project before you start actual system operation.

4-5-1 Turning ON the NA5-V2

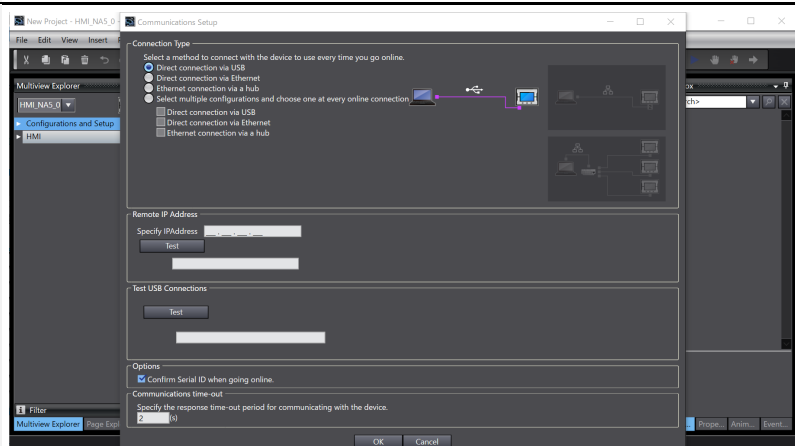
Turn ON the 24 VDC power supply to the NA5-V2.

4-5-2 Project Download to the NA5-V2

1. Select **Communications Setup** from **HMI** in the main menu while keeping open the project for which you have made a device change to NA5-V2.



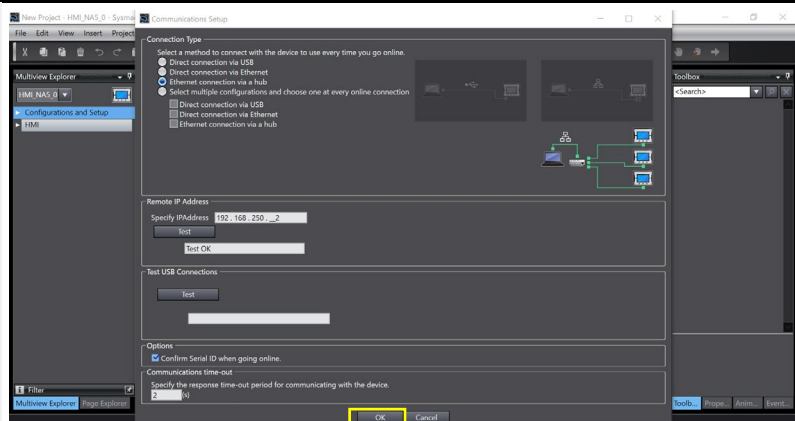
2. The Communications Setup dialog box is displayed.



3. Select the connection method for the connection configuration in Connection Type and then click **OK**.

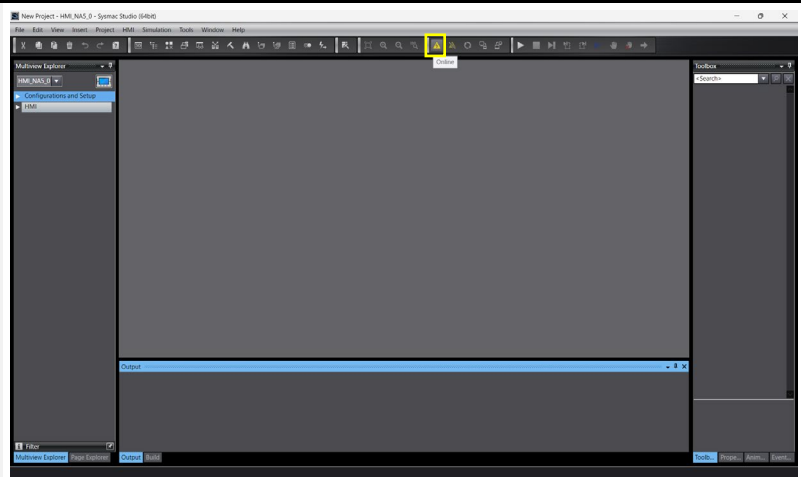
*For an Ethernet connection via a hub, enter the IP address of the HMI to which you need to connect in Remote IP Address. (Initial value; 192.168.250.2)

Click the **Test** button; Test OK indicates that Sysmac Studio is

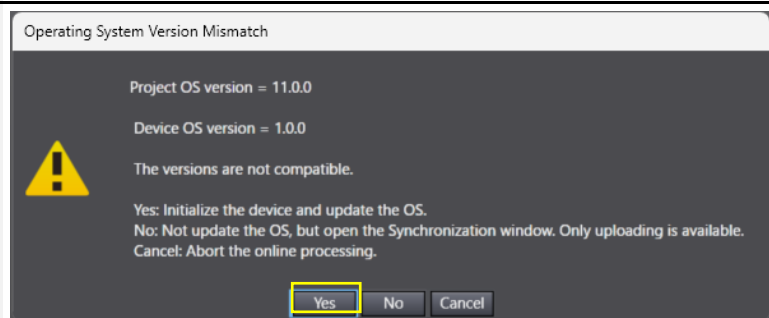


ready to be online.

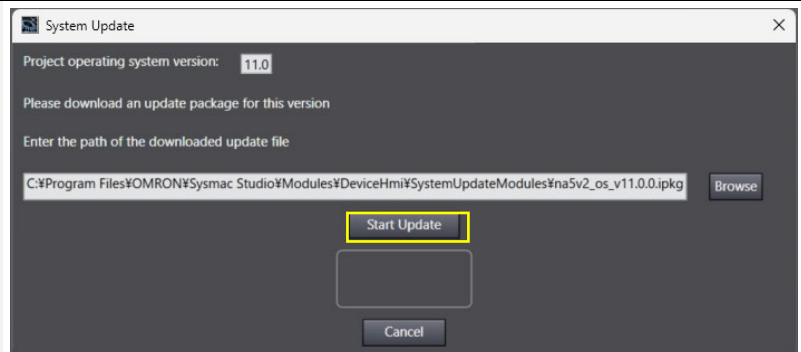
4. Click the **Online** icon on the toolbar, or select **Online** from **HMI** in the main menu.



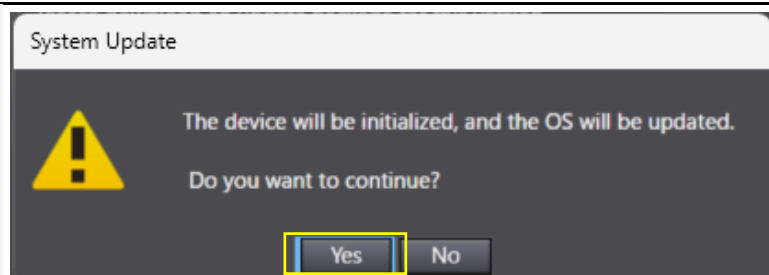
5. When the system version mismatch dialog appears, select **OK**.



6. When the system update dialog appears, select **Start Update**.

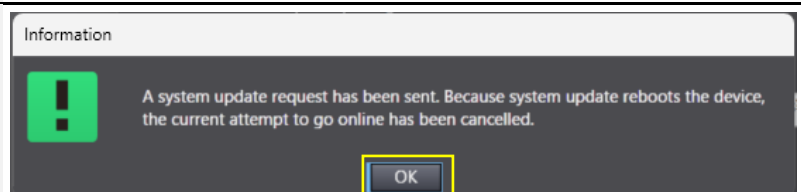


7. When the confirmation dialog appears, select **Yes**.



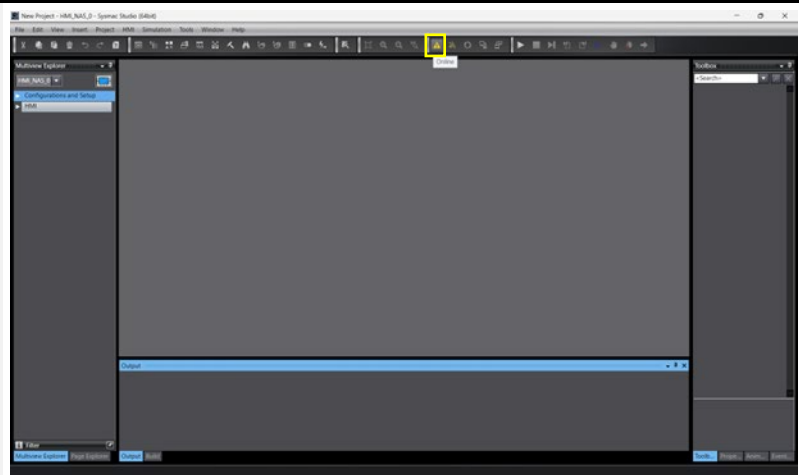
8. The system update will be executed, and when it is completed, a dialog notifying you of the restart will appear. Select **OK**.

*The system update behavior of NA5-V2 differs from that of NA5-V1. However, the state after

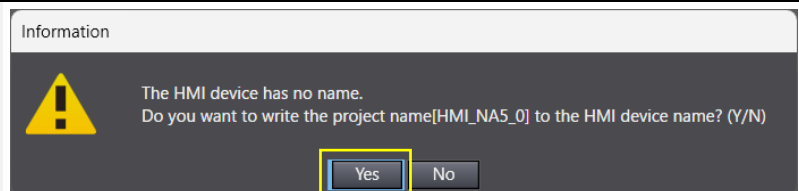


execution is the same.

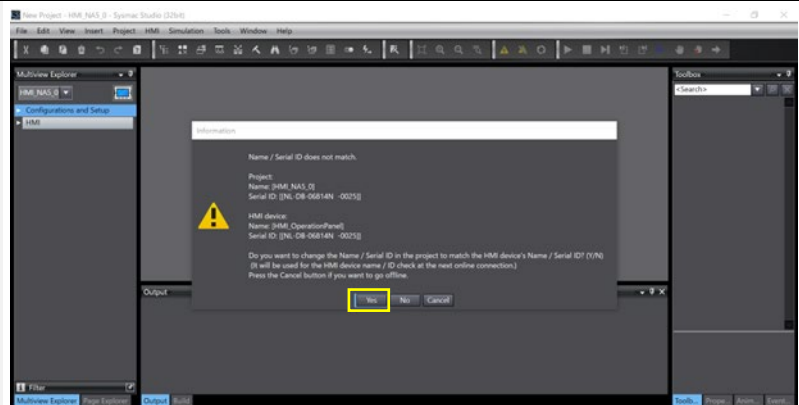
9. After the NA restarts and the system menu is displayed, click the **Online** icon on the toolbar again, or select **Online** from **HMI** in the main menu.



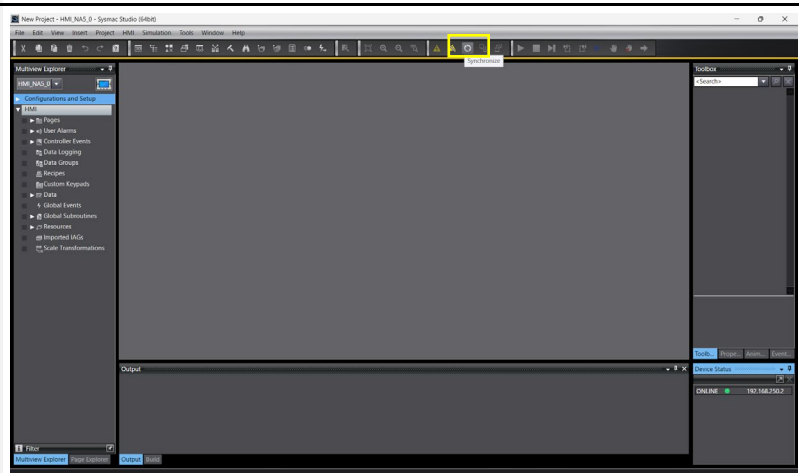
10. If a dialog appears notifying that the device name is not set, select **Yes**.
If it does not appear, proceed as usual.



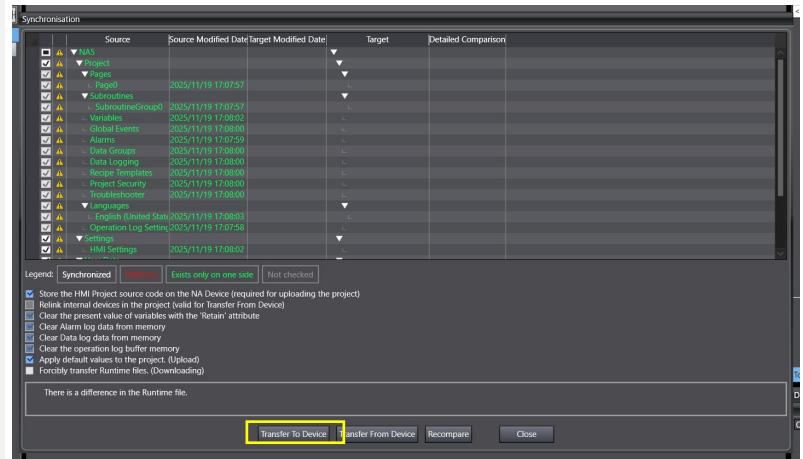
12. A dialog box may appear stating: **Information** Device name / Serial ID do not match. If it appears, select **Yes**.
If it does not appear, proceed as usual.



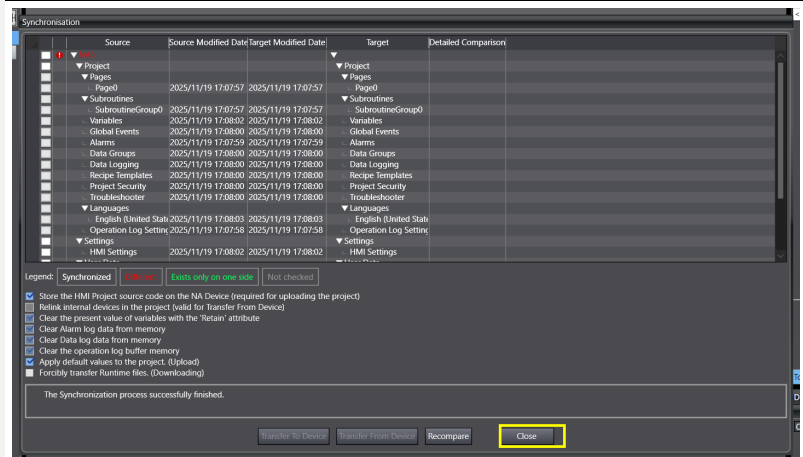
13. Once the online connection is established, click the **Synchronization** icon on the toolbar, or select **Synchronization – NA Device** from **HMI** in the main menu.



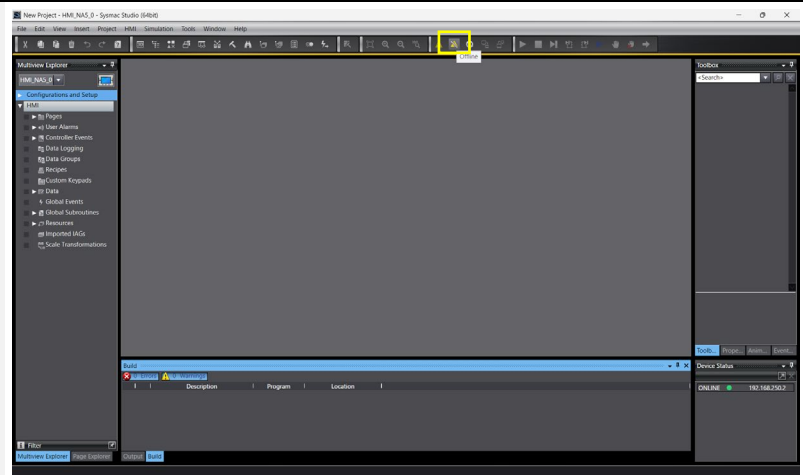
14. The synchronization screen will appear. Select **Transfer To Device**.



15. After synchronization is complete, select **Close**.



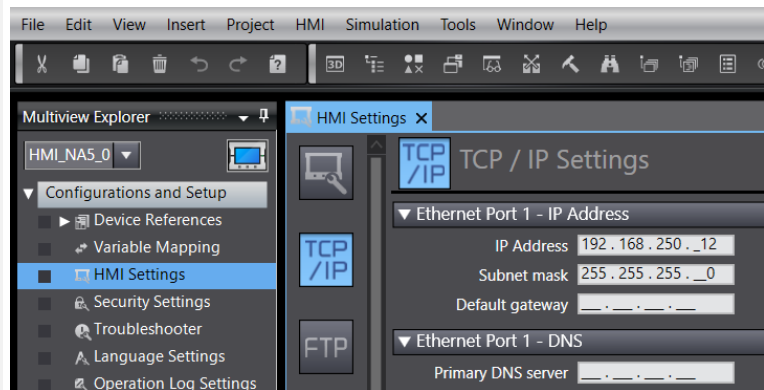
16. Click the **Offline** icon on the toolbar, or select **Offline** from HMI in the main menu.



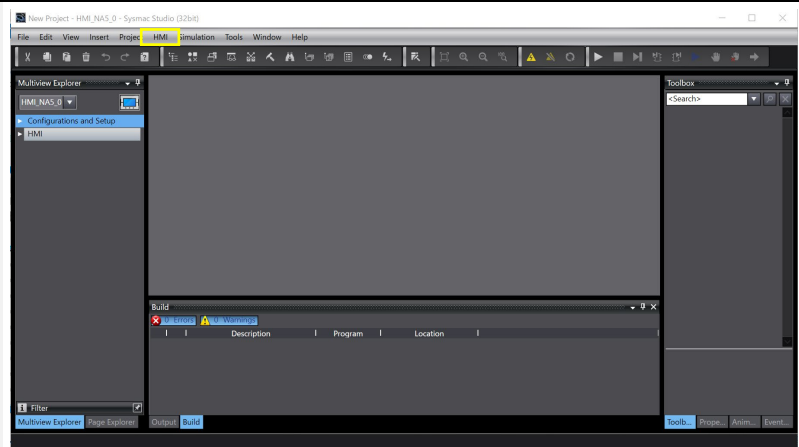
*In the case when you set other IP address than the default, refer to the following steps to see how to configure the communication settings that are applied to your use of the NA Unit.
In the case when using any other communication method than Ethernet connection via a hub or using the default (192.168.250.2) as the IP address, go to "4-5-3

Setting Checks and Communication Checks”.

17. Double-click HMI Settings under Configurations and Setup in Multiview Explorer. In the opened screen, select TCP/IP and check the IP address setting of the NA.

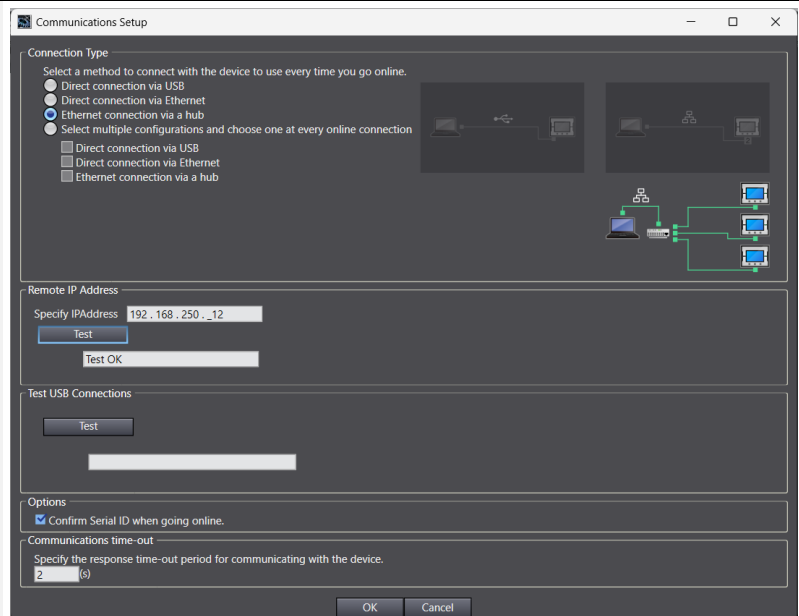


18. Select **Communications Setup** from **HMI** in the main menu.



19. The Communications Setup dialog box is displayed. In the Remote IP Address field, enter the IP address that you checked in step 17.

Click the **Test** button; Test OK indicates that Sysmac Studio is ready to be online.



4-5-3 Setting Checks and Communication Checks

With the NA Unit integrated into the actual system, manipulate the project and confirm the following: that correct values are written to the connected device, that the pages change correctly, and that values set at the connected device are updated.

4-5-4 Operation Start

Start actual operation.

5 Appendix-1 Using Storage Media for Transferring

The use of storage media allows you to upload project files when Sysmac Studio is not available in the field.

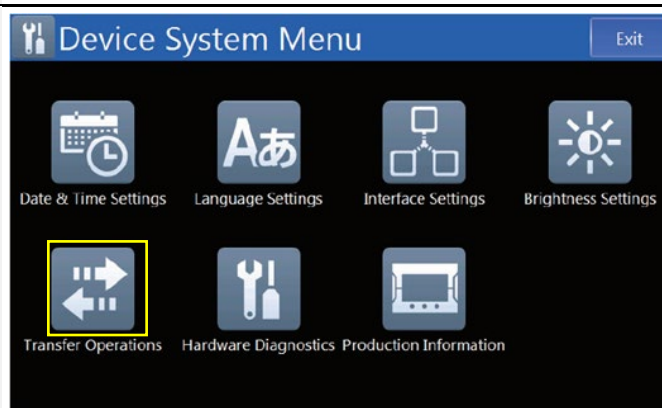
*Device change process needs Sysmac Studio.

5-1 Using Storage Media for Uploading from the Current Model

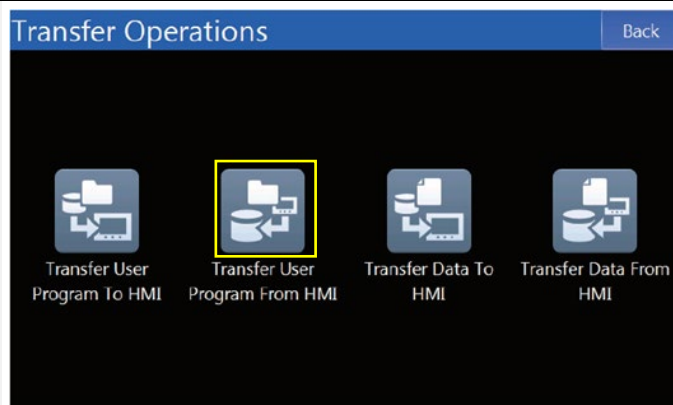
1. Insert the SD memory card or USB memory device to use for the upload into the computer.

2. Tap the corner of the touch panel to open the Device System Menu.
While the corner to tap is the upper left and lower right corners by default, you can reconfigure it.

3. Touch **Transfer Operations**.

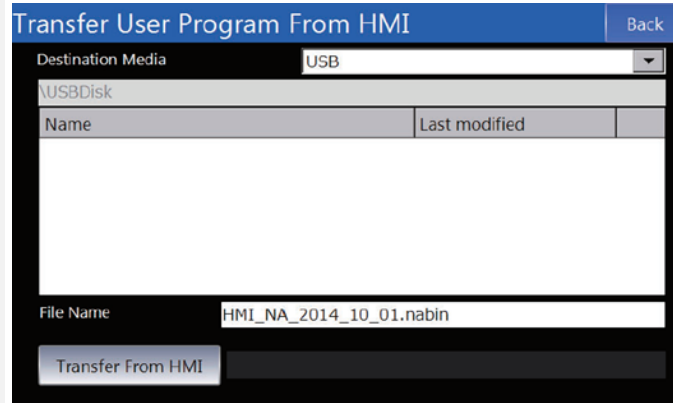


4. Touch the Transfer User Program from HMI button.



5. Specify the destination media and file name and touch the **Transfer From HMI** button. The project is uploaded to the specified media.

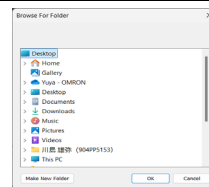
*Do not remove the storage media during upload.



6. Turn OFF the power supply to the NA5 and then remove the storage media from the NA5.

7. Connect the storage media to which the project was uploaded to the computer, and then start Sysmac Studio.

*This step assumes that Sysmac Studio Ver 1.65 has been installed.

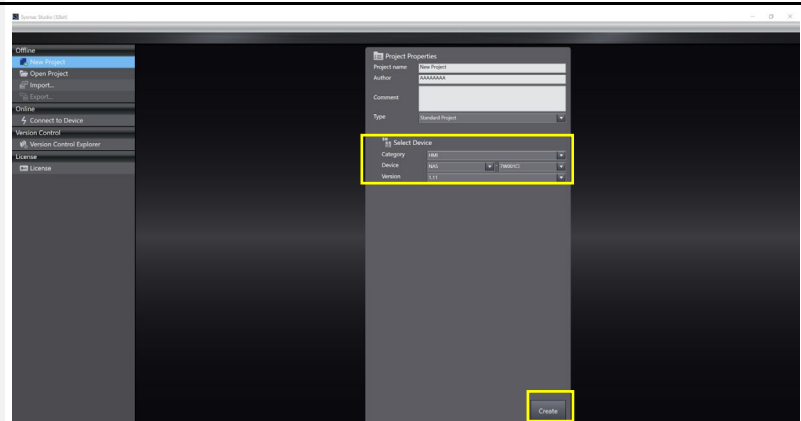


8. After Sysmac Studio has started up, select **New Project**.

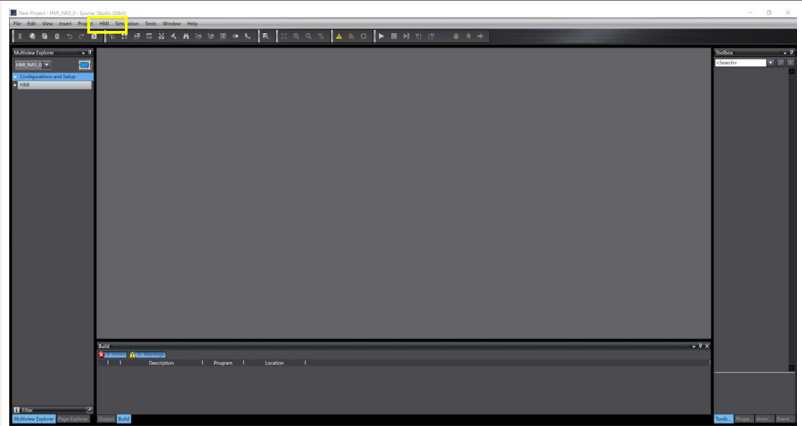
*When relinking with the PLC, create a new HMI project using the PLC project.



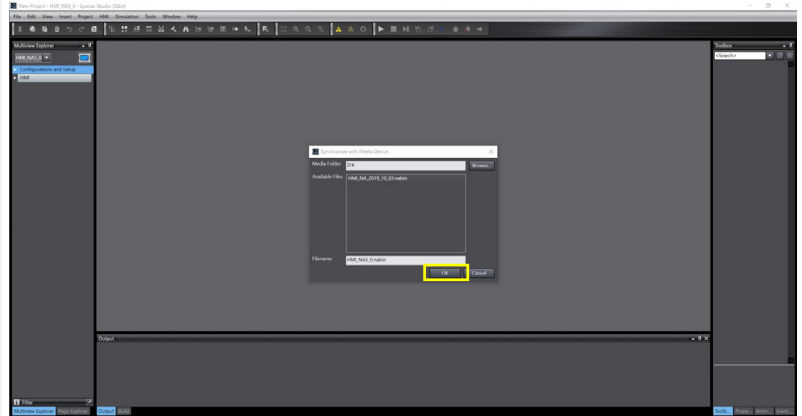
9. The dialog box shown to the right is displayed. Select HMI for **Category**, the NA5 model for **Device**, and the device version for **Version**, and then select Create.



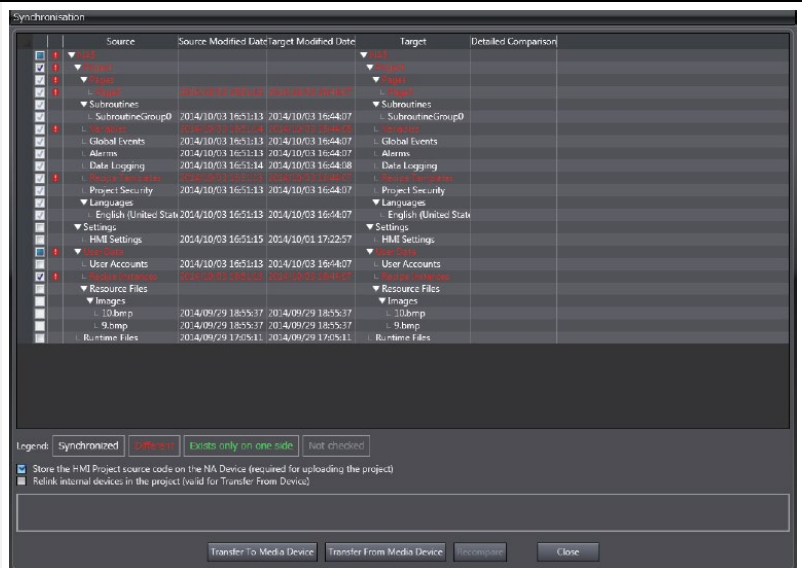
10. Select **Synchronization – Media Device** from **HMI** in the main menu.



11. Specify the storage media and click **OK**.

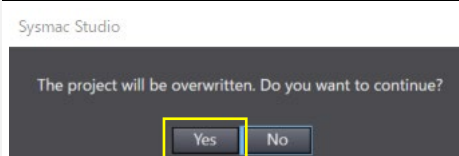


12. Select all check boxes.

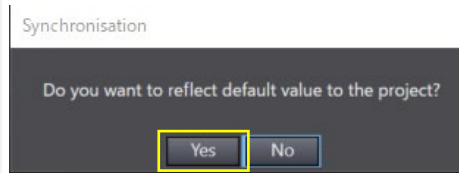


13. Click the **Transfer From Media Device** button.

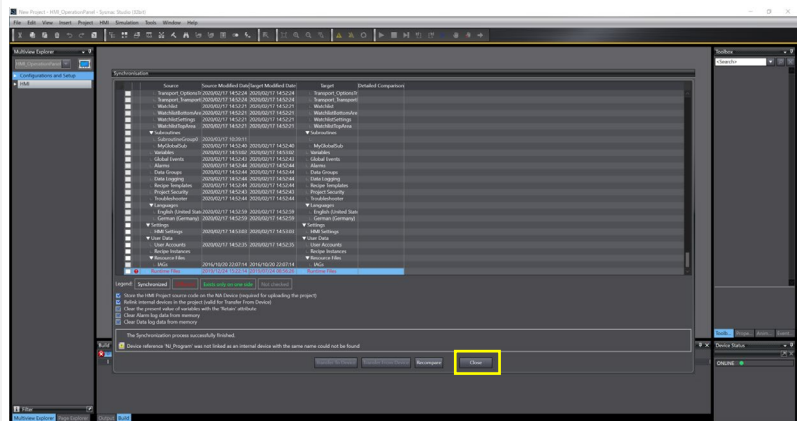
14. The message shows: The project will be overwritten. Do you want to continue? Click **Yes**.



15. The message shows: Do you want to reflect default value to the project? Click Yes.



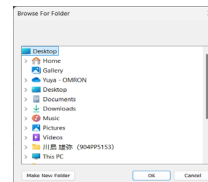
16. After synchronization is completed, click **Close**.



5-2 Using Storage Media for Downloading

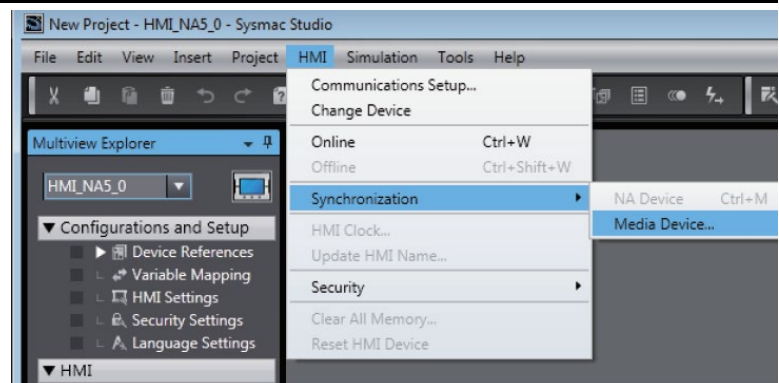
1. Insert an SD memory card or USB memory device to use for the download into the computer.

2. Start Sysmac Studio.
*This step assumes that Sysmac Studio Ver 1.65 or later has been installed.

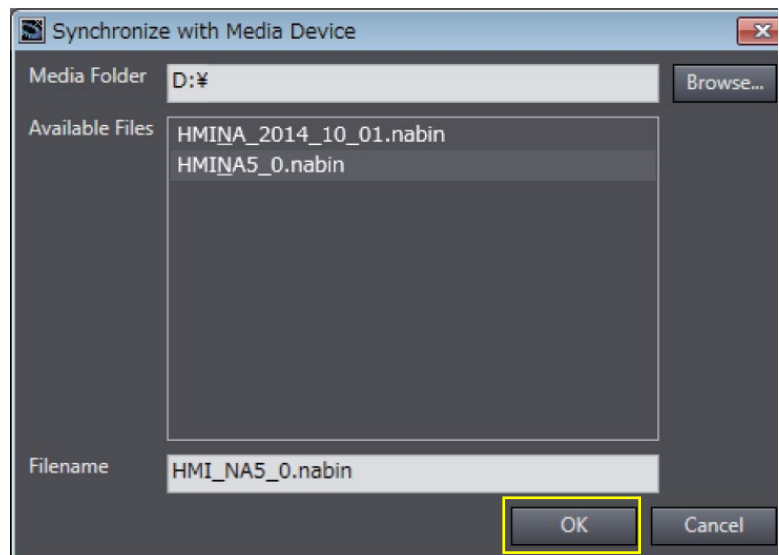


3. Open the project file that you want to download.

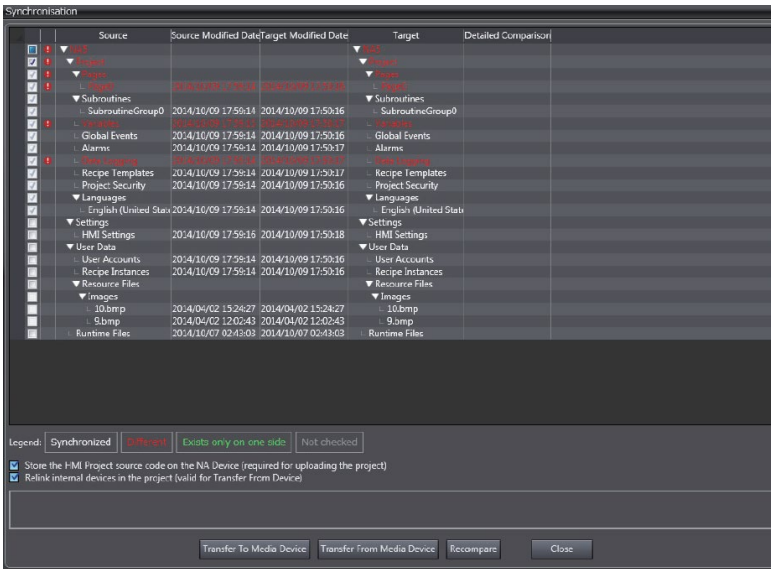
4. Select Synchronization – Media Device from the HMI Menu.



5. Select the file to use for the download and click OK.

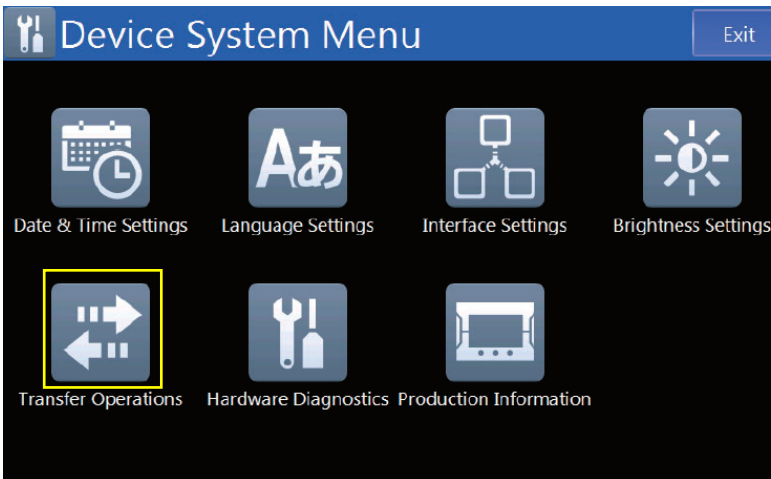


6. The project on the Sysmac Studio is compared with the project in the storage media and the Synchronization Window is displayed.

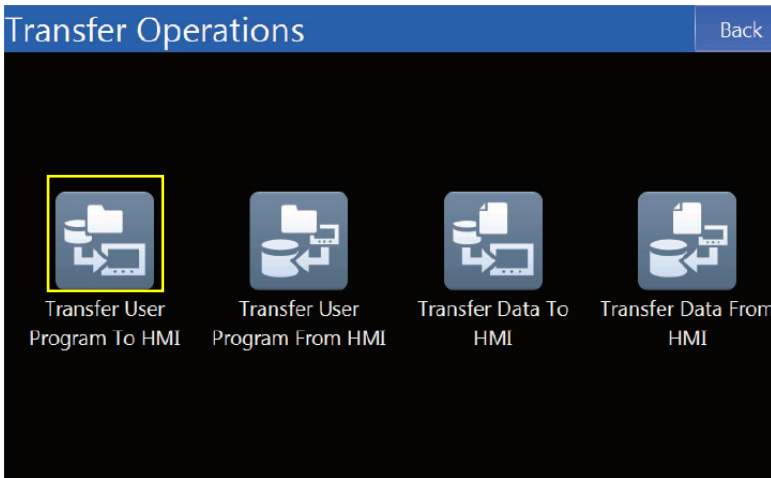


7. Click the Transfer To Media Device button to transfer the project to the storage media.

8. Insert the storage media into the HMI, display the Device System Menu, and touch the Transfer Operations button.



9. Touch the Transfer User Program To HMI button.



10. Select the project to transfer and touch the Transfer to HMI button to download the selected project to the HMI.
Go to 4-5-3 Setting Checks and Communication Checks.

Transfer User Program To HMI

Back

Source Media

USB Storage

\\USBDisk

Name	Last modified
HMI_NA5_0.nabin	2015-10-16-13:43:12

Compare with HMI

Transfer to HMI

Revision History

Revision History	Date	Revised content
A	December 2025	Initial release

Note: Do not use this document to operate the Unit.

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Cat. No. V472-E1-01 1225 (1225)