As part of the Sysmac automation platform, Omron NA HMI transforms machine data into information, shows information and controls devices based on requirements at FA manufacturing sites.
The NA Series enables faster, more efficient control and monitoring.
With a widescreen displaying 16,770,000 colours, the HMI that is dynamic, intuitive and predictive makes industrial machines more attractive and competitive.

• Proactive operator/ machine relationship
• Design based on real applications and customer requirements
• Future-proof, scalable platform
• Allows quick reaction

Integrating your world

The Sysmac Studio is the centerpiece of the Sysmac platform, bringing together all areas of automation including: logic, motion, vision, safety and visualization.
The NA Series can be programmed alongside the other devices in one integrated project, which speeds up development.

ONE Tag Database

• Share NJ/NX/NY Controller Variables (Tags) in the machine interface application.
• Variables shared with controller reduce the time and complexity of programming.
• Define/use NA data structures in the machine interface application

ONE Learning, ONE Project

• Program your controller and safety systems
• Simultaneously program the NA Series as device in Sysmac Studio
• Program your whole machine in one project
• Work in a familiar way on all devices

Editors in ONE

• Display both controller and HMI editors on one screen for quick design.

Safe and secure

• Configure individual users with multi access levels

SIMPLE

• Clearly and quickly define the View
• Quickly change properties, animations, events and actions
• Powerful page editor to group objects
• Rotate, and resize - all with a simple click

BUT STILL FLEXIBLE

• Write your Visual Basic Script
• Extend the possibilities with Visual Basic

Test it in ONE

• Integrated testing through simulation of programs on controller and HMI at the same time.
  Checking your device operation at the same time makes debugging quicker and easier.
• Quickly test your device operations via the Simulator.

Features for speed

• Structured programming (through One software)
• Network device insight
• Vision setup
• Machine Controller troubleshooting

Insight & security maximised ...

The NA series has full security and authentication features that keep your valuable assets secure at all times. And if something unexpected does happen, in your machine you will be able to solve the problem quickly and prevent a reoccurrence.

Remote access

• You can view and operate the HMI installed at production sites from your tablet using Ethernet or WiFi.
• The access of remote devices can be managed and limited. This helps prevent accidental operation and information
  leakage, while securing accessibility.

Two devices (A, B) are accessing.

	Device A Access permitted
	Device B Access permitted
	Device C Unauthorized access prohibited
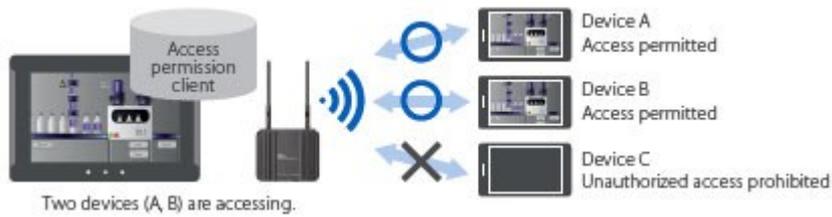
Increased security

The NA Series can be configured to specific staff, with multi access levels with password protection.
This ensures authorised people interact with the machine.

Protecting your assets

• Your project can be passwordprotected along with other applications (Control and Safety).
• Transferring data can be protected (disable overwrite or theft).

... downtime minimised

You can present a machine view that is understandable at a glance. The NA Series brings everything together through rich media including PDF, video, and data to provide an intuitive and proactive machine management tool.

Show your manual in a movie

Imagine actually showing how to perform certain procedures. With the NA Series you have a trained engineer at the operator's side, 24x7.

Show PDFs *

You can use whatever visual assets you already have to illustrate how to do things.

* Version 1.5 or higher of pdf file is not supported.

Check the controller
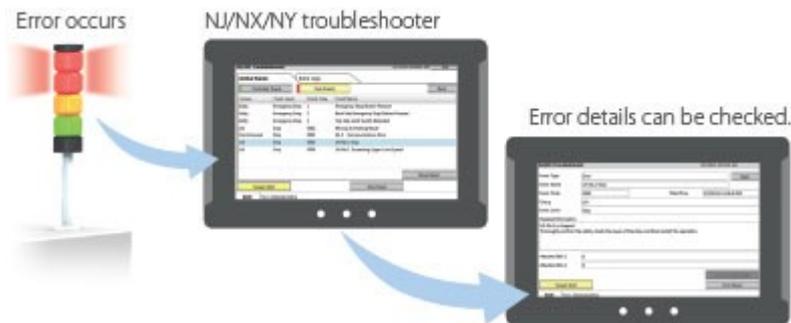
The troubleshooter allows you to monitor and release the NJ/NX/NY Controller errors/events as well as the user-defined errors/events.

Simple, but Flexible!

The NA Series gives the user the ability to design using IAGs (Intelligent Application Gadgets). IAGs simplify and accelerate the development process through structuring the project and enhancing reuse. From simple graphics to complex objects, you can make your own collections and share them between projects, like a Function Block.

Step 1: Machine Parts, the Visual

Using standard controls, or graphics from the machine parts collection, design your own IAG.
Add interface properties and methods to bring the object to life when reused.
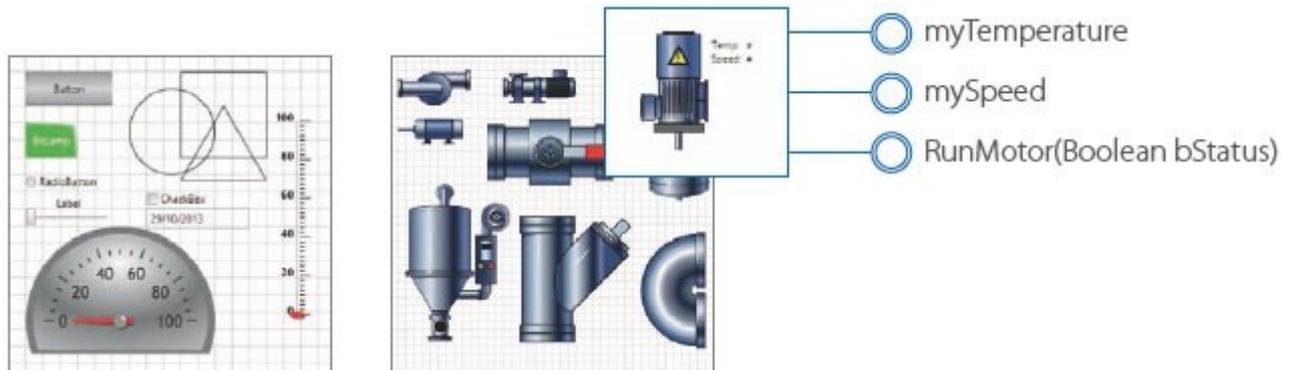
Step 2: Extensible with Visual Basic


```
'IAG Code behind - Add local subroutines for the IAG.

Public Function RunMotor(bStatus As Boolean) As Double
    'start motor at default speed
    mySpeed = 50
    'return current speed
    RunMotor = 50

End Function

Public Function IncreaseSpeed(nIncrement As Integer) As Double
    ' Increase speed by increment if < 1000
    If mySpeed + nIncrement  < 1000 Then
            mySpeed = mySpeed + nIncrement
        Else
            'Otherwise set to top speed
            mySpeed = 1000
        End If
        'Return new speed
        IncreaseSpeed = mySpeed
End Function
```

As well as many graphic IAGs, it is also possible to embed code within an IAG. The code can extend the
possibilities of the gadget such as providing special device communication. Thanks to Visual Basic the standard
functionality of the NA can be extended as required.

Step 3: Publish and Share
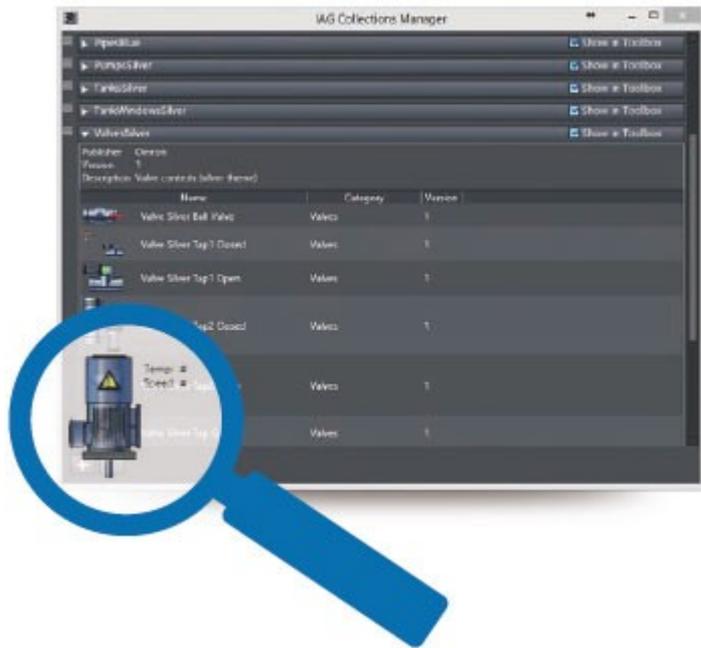
When the IAG is built and tested (using simulation) it can be published and the collection file distributed to be used again and again. Omron will release further IAG collections to extend the functionality of the NA Series.

A range of options that covers every need

Very stylish, very functional

All wide screen models: 7, 9, 12, 15 inch

Black and Silver

Edge to edge design

Sysmac cut-out design

RUN Indicator

Function keys
Programmable to execute specific actions

Resistive touch screen, single touch ...ideal for environments where operators wear gloves and water proof is needed
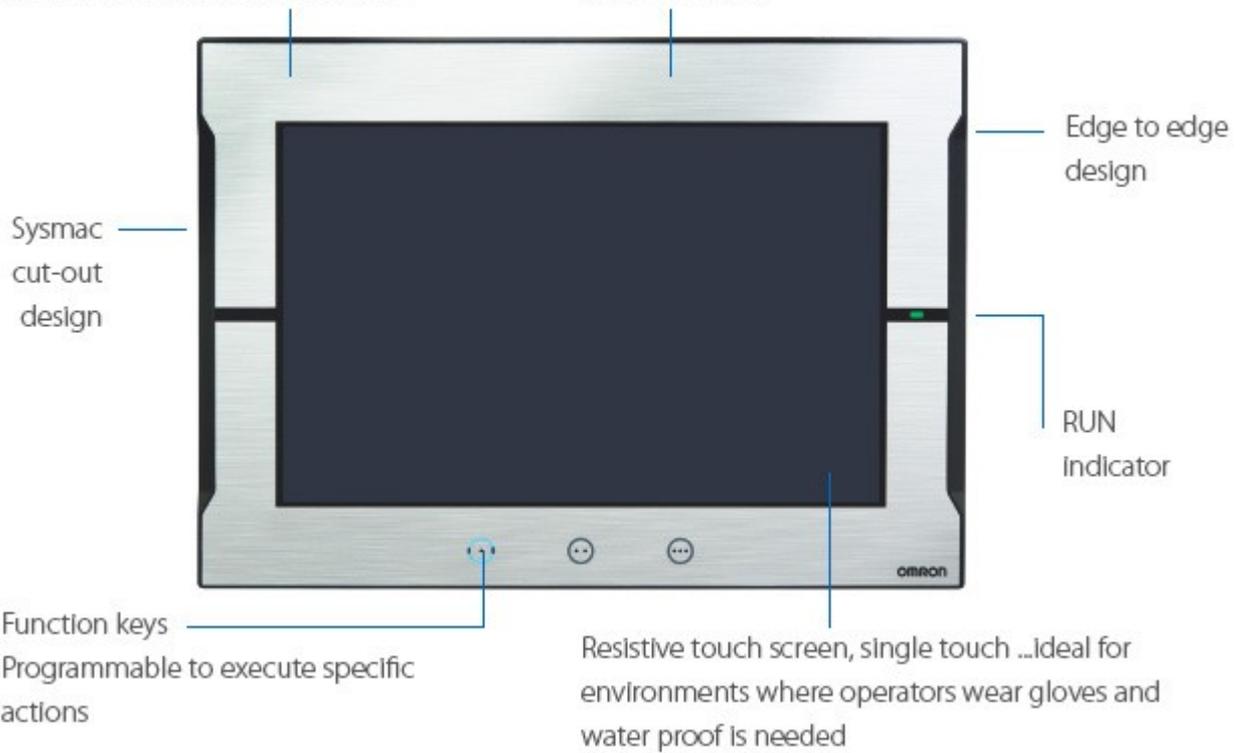
2 Ethernet ports and SD Card slot

Ethernet

(1) USB slave (Tool port)
(2) 2x USB
(3) 1 Serial *
(4) 2 Ethernet ports, one for factory one for office network
(5) SD Card slot
(6) 24V DC

* The serial port is for future expansion.

System configuration

• High speed communications network
• Broad choice of connection possibilities
• USB cable detachable without changing the hardware
• Water and dust proof design

SHOW your machine

Greater visualization

More than 16 million display colors (24-bit full color)

High-resolution bitmap graphics* and 67 different types of fonts can be used to create intuitive and good-looking screens. In addition, DXF files are supported to display CAD data. Even if the drawing is enlarged or reduced in size, it never loses quality.

Cool Objects

Various fonts

*Contact your Omron representative to obtain Cool Objects.

Indirect reference of text strings

A text string that is displayed on a label object (1 line) or a text box object (1 or more lines) can be switched by indirect reference. The machine operating status and alarm details can be easily displayed.

Register a new resource group.

Set a variable for the ID to switch the group in the properties.

When the ID is specified by the variable, the text string is displayed according to the ID.

Tab control

Touch

Tab Page1 is displayed.
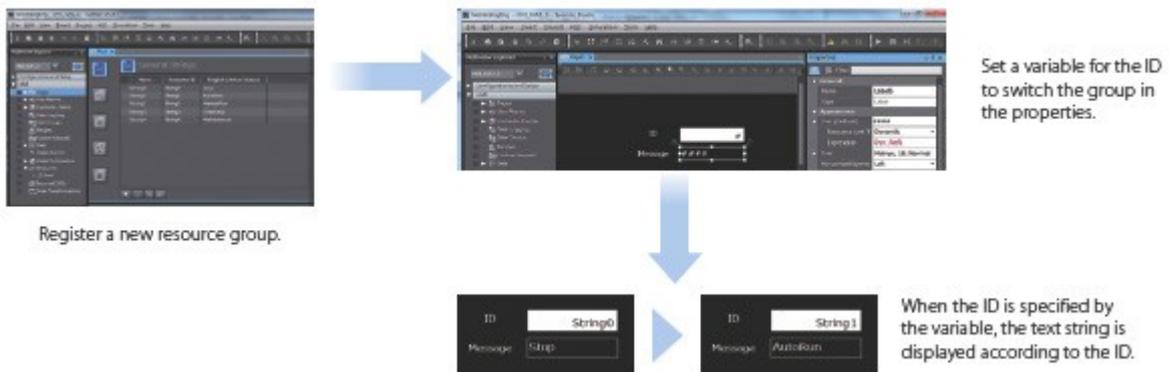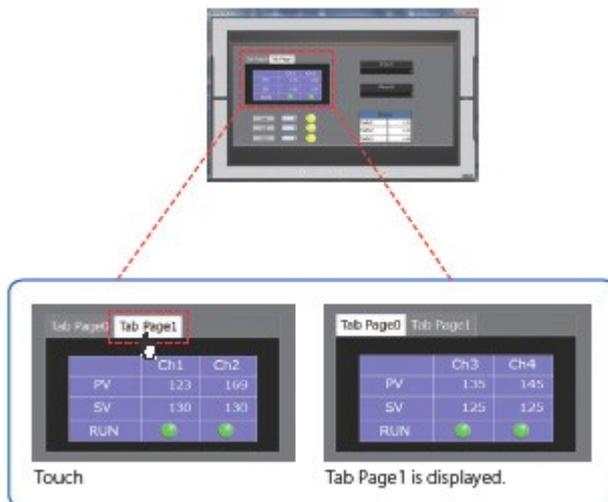
A part of the screen can be used like a notepad.

Up to 64 tab pages for a Tab Control object can be created, and up to 10 Tab Control objects can be placed on a

screen.
Change a tab page instead of a screen to monitor/change various data.

Setting, sorting, and filtering alarms

Alarms can be set easily, reducing time and effort required for creating alarm screens.

You can "sort" alarms by the preset item and "filter" by any keyword.
The error location can be quickly identified from a large number of alarms.

Scaling

Scaling can be set for Data Display/Data Edit objects and global variables.
Values of variables can be converted by specifying conversion expressions, which makes it easy to show data in the controller.

Broken-line graphs

Data of variables and multidimensional arrays in the controller can be displayed as broken-line graphs. Broken-line graphs can also be created from the data in the CSV files saved in the SD card inserted in the NJ/NX/NY Controller by using subroutines (Visual Basic). You can specify the display range of large array data, such as operation log, by setting the offset value.

Multidimensional array

The offset can be specified from the start of the display range.

Graph display range

Increases the compatibility with the controller.
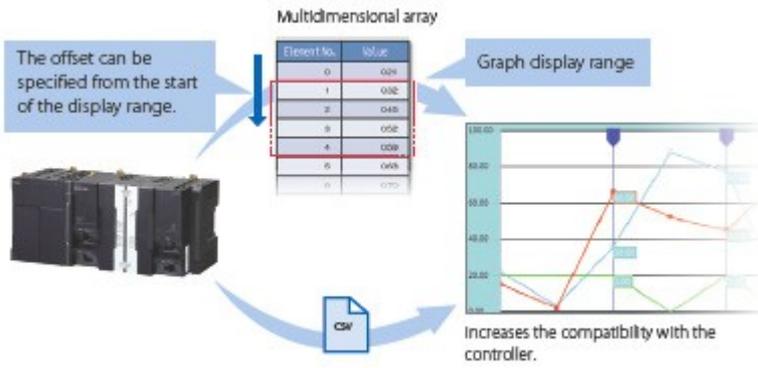
OPERATE your machine

Comfortable to use

Supporting Asian languages

An Asian language - Japanese, simplified Chinese, traditional Chinese, or Korean - can be selected to use in the keypad of the NA Series.
The keypad language changes automatically when the language is changed in the language settings.
Local languages can be used to input the names of products when new recipes of the food packaging machine are added.

Product Name

Korean
Simplified Chinese
Traditional Chinese
Japanese

The keypad is displayed in the language set in System Languages in the Sysmac Studio.
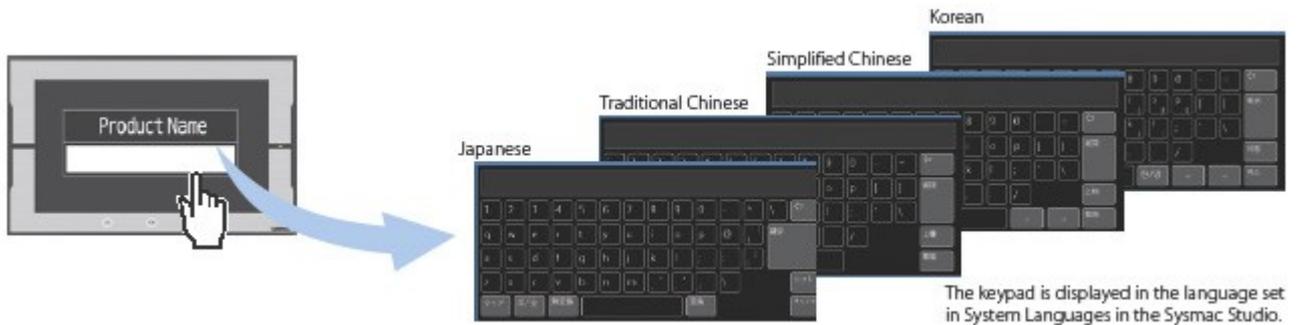
Executing a subroutine with multiple threads

Some subroutines require time due to repeated processing or waiting time.
Even such a subroutine can be executed during screen update, without affecting operability and visibility.

Subroutine XX
Dim I as Integer
Dim Val as Integer =0

For i=0 to 100000
Val=i
Next

This process is repeated 100,000 times.

For i=0 to 100000
Val=i
Next

For i=0 to 100000
Val=i
Next

The subroutine is executed in parts while the screen is updated.

The subroutine is executed in parts while the screen is updated.
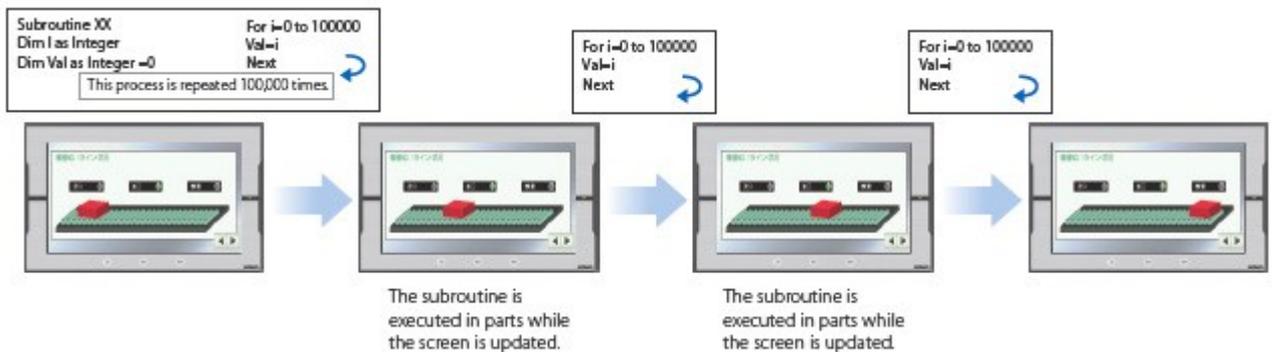
Page jump from user alarm

The page to switch can be specified in each alarm setting.
When an alarm occurs, you can check the troubleshooter screen by selecting the displayed alarm.

The page to switch can be specified in each alarm setting.

Select the alarm and then click the Page Jump Button.

The specified page is displayed.

Customizing keypads and resizing objects

You can change the keypad size, choose only the keys you need, and customize the keys to execute specified actions.
Create your own keypad suitable for your applications.
The size of the Check Box, Slider, and Radio Button objects can also be changed. You can greatly improve the usability of your machine by enlarging these objects in size.

Changing the keypad size
The size can be changed to suit the user's needs.

Creating user's own keypad
Only the keys the user needs can be chosen, and the keys to execute specified actions can be customized.

Resizing objects
The properties of the object size are added. You can resize the objects suitable for your application.

Dynamically changing upper/lower limit value

The upper and lower limit values can be dynamically changed by setting variables as maximum and minimum values of a Data Edit object. It is possible to restrict input according to the status of the machine.

Set variables as minimum and maximum values

You can easily restrict input on the HMI or from the PLC.
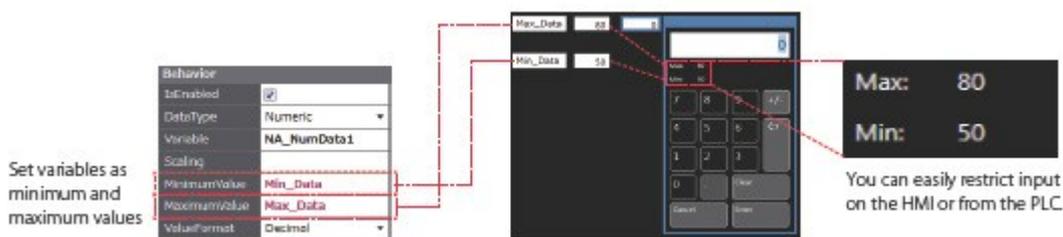
Specifying a page number

By assigning any number to the page, you can easily switch pages from the PLC.
The previously required subroutine is no longer needed for this operation. This feature is particularly helpful when you use the CJ PLC in which pages are frequently specified by number.*
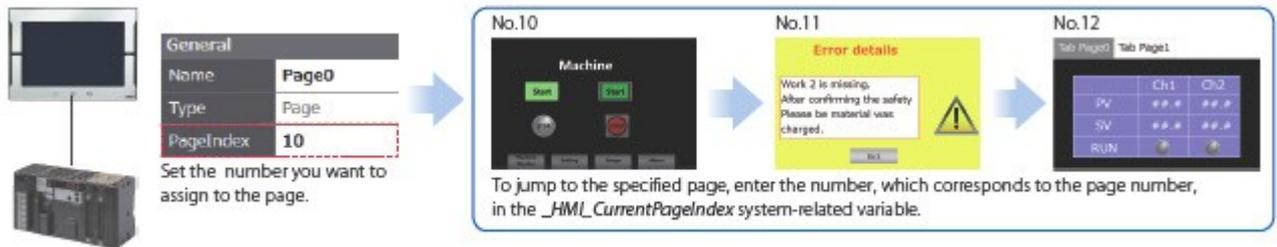
* This function is also supported in the NJ/NX/NY Series.

Usability: Design

Simple screen design

Integrated development environment

Sharing data between the NA Series and the NJ/NX/NY Series in real time on the Sysmac Studio increases design productivity.

Displaying editors on one screen

The NA HMI Editor and NJ/NX/NY Controller Editor can be displayed on one screen.
This eliminates the need to switch between screens, making the design easier and faster.
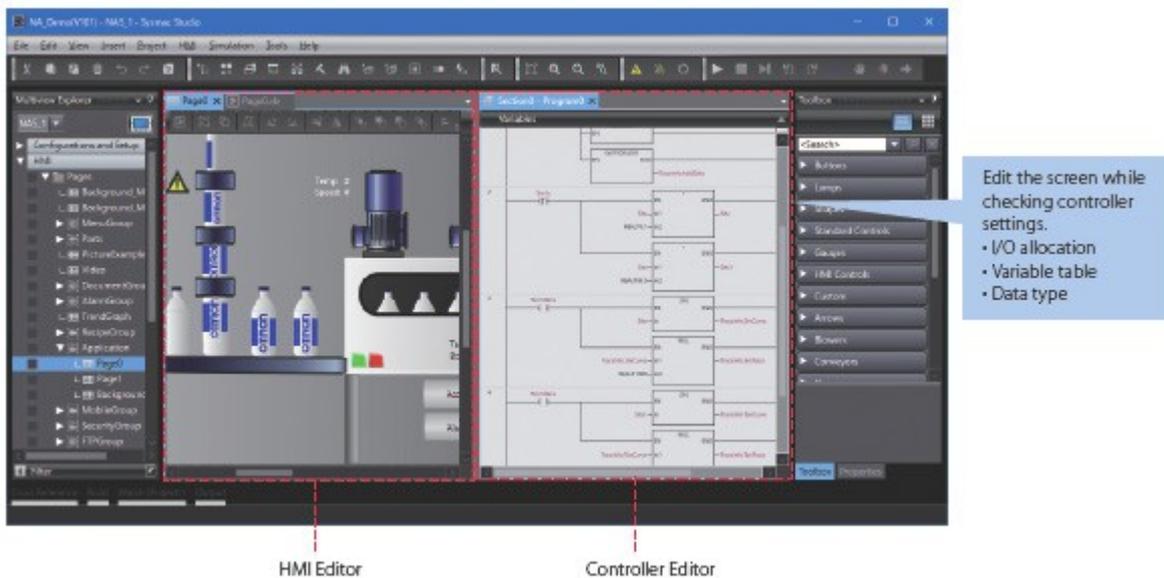
Concurrent development of ladder and HMI [NEW]

Device data of the NA Series can be imported from and exported to the project file.
When the controller designer and HMI designer develop a machine concurrently, the screen data can be merged with the controller project.
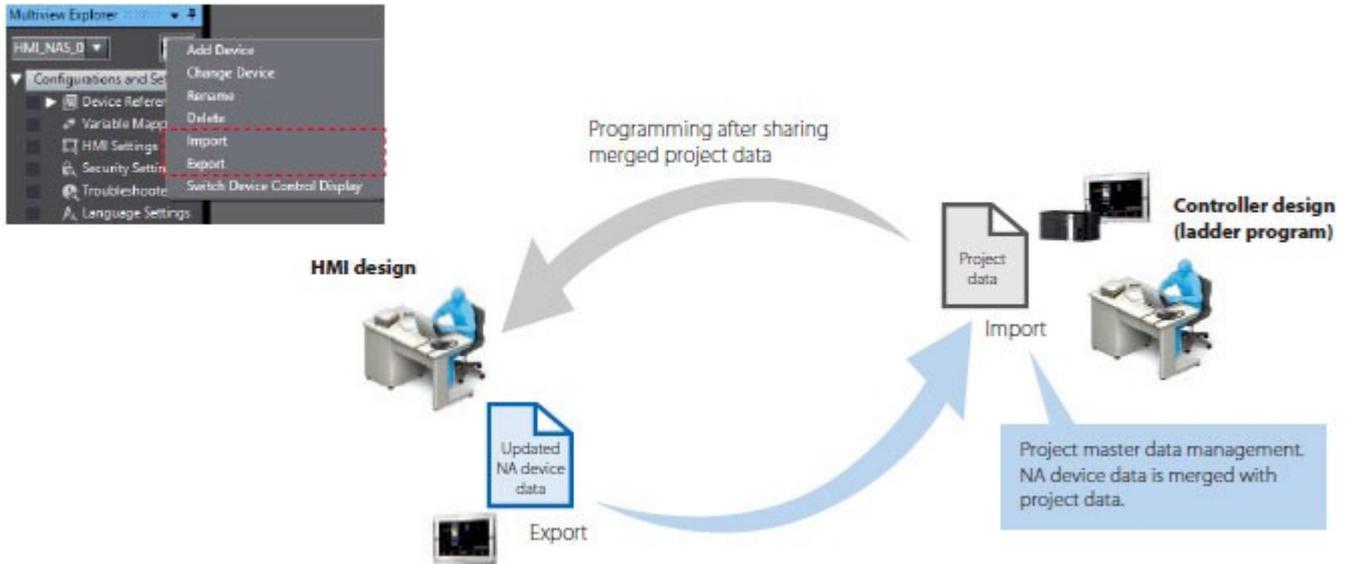
Adding an object by drag & drop

Just drag a variable from the Ladder Editor in the NA Page Editor to add an object. The variable is automatically set in the property of the added object.*
This eliminates the need to create and allocate HMI variables, which facilitates design work.
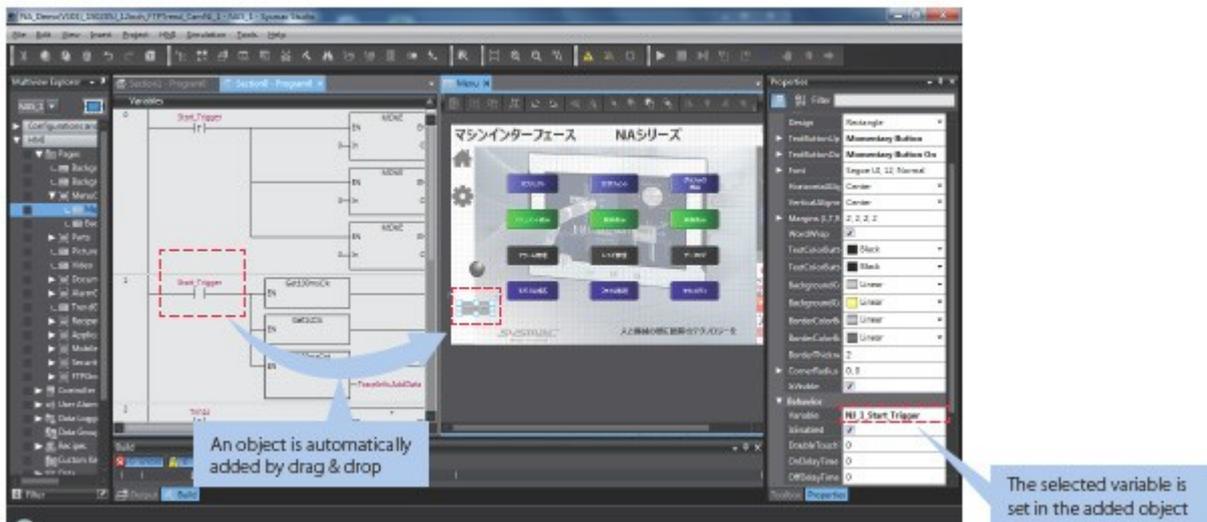
* When an input is selected, a Button object is added automatically.
  When an output is selected, a Lamp object is added automatically.

Improved mapping of controller variables to NA Series [NEW]

・ NJ/NX/NY Controller variables can be automatically mapped to the NA HMI.
  This improves design efficiency and ensures that all added variables are mapped.
・ The device name generation rule can be customized in manual mapping. Variables can be mapped according to your
  desired rule.

· Adding controller
· Adding global variable
· Adding HMI
Automatically mapped.

Device names can be customized in manual mapping.
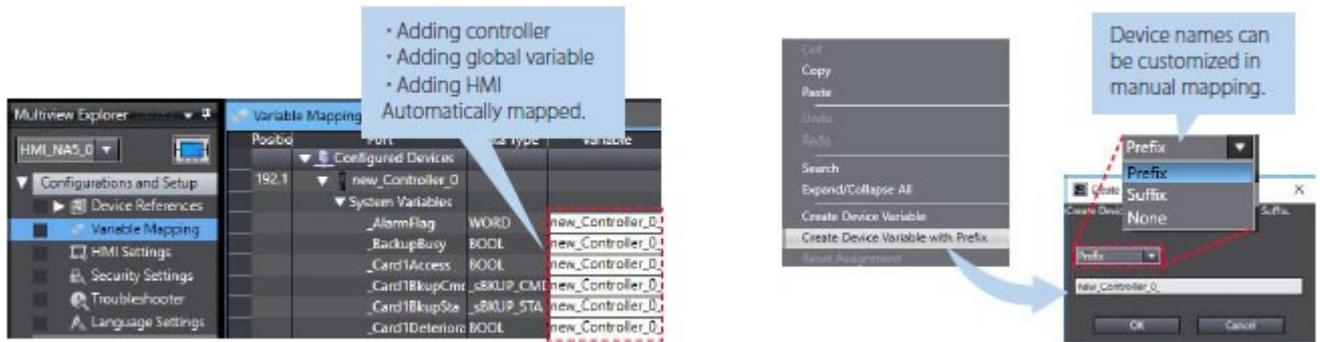
Easy to add NA variables to controller [NEW]

Variables added to the NA HMI can be registered and mapped to the controller variable table from the properties for objects or the NA global variable table.
Going back to the controller global variable table to add variables is no longer required, saving your design time.

From NA properties

From NA global variable table

Add to the controller global variable table
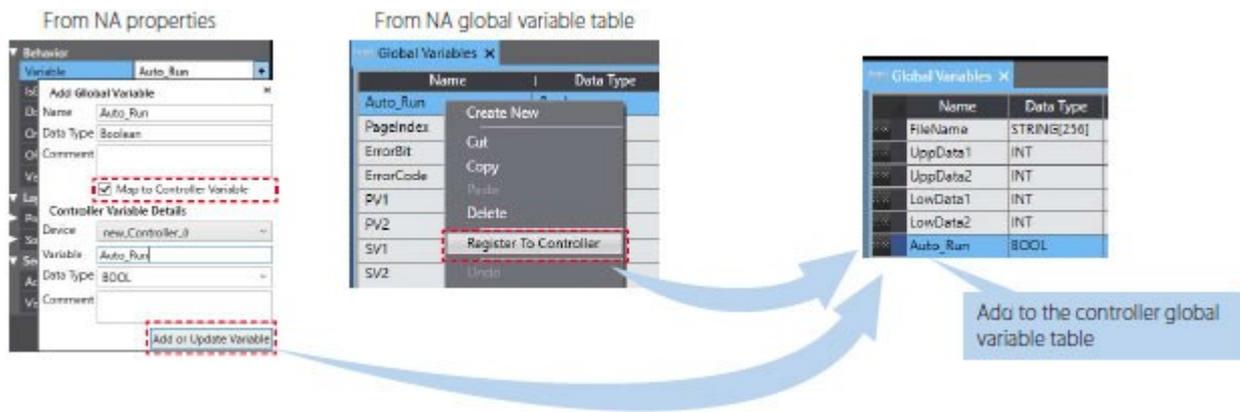
Resource management

Helps install your machines globally and modularize design.

Language Settings [NEW]

• Different fonts, sizes, and styles can be set for different languages. You can use your specified fonts or fonts suitable for
  local languages. Also the font of a specified object can be changed according to language.
• The default language can be changed. Properties and alarm groups, as well as screens, are displayed in local language,
  which makes design faster and easier.

Different fonts can be set for different languages.
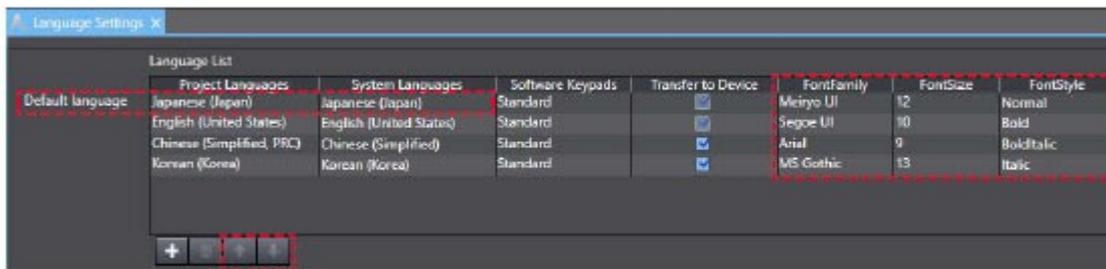
Select the default language by clicking the ↑ or ↓ Button.

The font of the specified object can be changed.
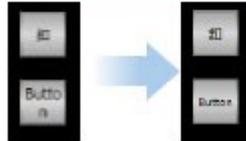
▼ Font Japanese (Japan)	Meiryo UI, 12, Normal	
Family	Meiryo UI	▾
Size	12	
Style	Normal	▾
▼ English (United States)	Segoe UI, 10, Normal	
Family	Segoe UI	▾
Size	10	
Style	Normal	▾
► Chinese (Simplified, PRC)	Arial, 9, BoldItalic	
► Korean (Korea)	MS Gothic, 13, Italic	

Improved user alarm editing [NEW]

• User alarms can be exported to and imported from Excel with the same layout as the user alarm table.
  The table can be sorted or filtered in Excel.
• Both the message and its details are exported to and imported from Excel. They are sorted according to the alarm ID,
  allowing you to edit text strings while you view all information.

The table with the same layout as the alarm table can be edited efficiently.

The list of all alarm information can be edited.

You can edit both the messages and details in all languages on the same sheet.

• Even if alarms are grouped, such as by machine module, all alarms can be imported and exported at once.

Improved resource editing [NEW]

• In addition to entering a text string directly in properties, you can assign an ID first and enter a text string later.
  This resource ID-based management enables you to standardize screens first and then enter all text strings edited in Excel
  to suit machine specifications.

Standardized screen master data

Screen data according to machine specifications

Enter only the ID in the properties.

Edit text strings in Excel during machine design

Import to change

Fixedness   Temporary input

• Even if resources are grouped, such as by machine module, all resources can be imported and exported at once.
• Object properties (e.g., variables and expressions of buttons and lamps, resource IDs, text strings) in all languages on the
  same page can be imported and exported.
  Multiple properties can be edited at once in Excel, making resource editing easier, faster, and more precise.

Standardized screen layout

Copy

Efficiently add pages of the same layout

Change multiple variables and resource IDs at once.

Change multiple text strings in different anguages at once.

Page Editor

Provides a simple GUI and a full suite of functionality to assist and streamline the design process.

Data input order

The data input order can be set.
When numeric values are entered consecutively, the focus automatically moves to the next Data Edit object by touching the Enter key.
Input errors and input time can be minimized.

Enable AutoNavigateKeypads in the properties of the page to enter data consecutively.

The data input order can be set in the property of the Data Edit object.

The focus automatically moves to the next object by touching the Enter key.

Changing type of button

The type of the Buttons including Set and Momentary can be changed easily in the properties whenever you want, even during or after designing the Button.

No need to recreate the button to change its type. The settings will be maintained even the type has been changed, reducing the amount of work required for screen creation.

Buttons with the lamp function

You can easily create Buttons with the lamp function.

■Types of Buttons with the lamp function

Setting	Condition for lightning lamps
Touch(Button)	Pressing Button
Variable(Button)	Variable
Feedback(Button)	Feedback Expression
Touch(Button) +Feedback(Button)	Pressing Button + Feedback Expression
Touch(Button) +Feedback(Indicator)	Button: Pressing Button Indicator: Feedback Expression
Variable(Button) +Feedback(Indicator)	Button: Variable Indicator: Feedback Expression

■Example

A lamp (indicator) can be set on a button.

■Conceptual figure for setting objects

One object that has both button and lamp functions can be created. This eliminates the need for creating multiple objects, helping create screens faster.

Creating duplicate objects

Based on one object, you can create multiple copies with the same appearance and settings by specifying an offset value for an array variable.
This makes screen creation faster and easier.

Right-click

Set the number of horizontal and vertical objects, and their spacing.
When an array variable is specified, you can duplicate the object by adding the specified offset value to the element number.
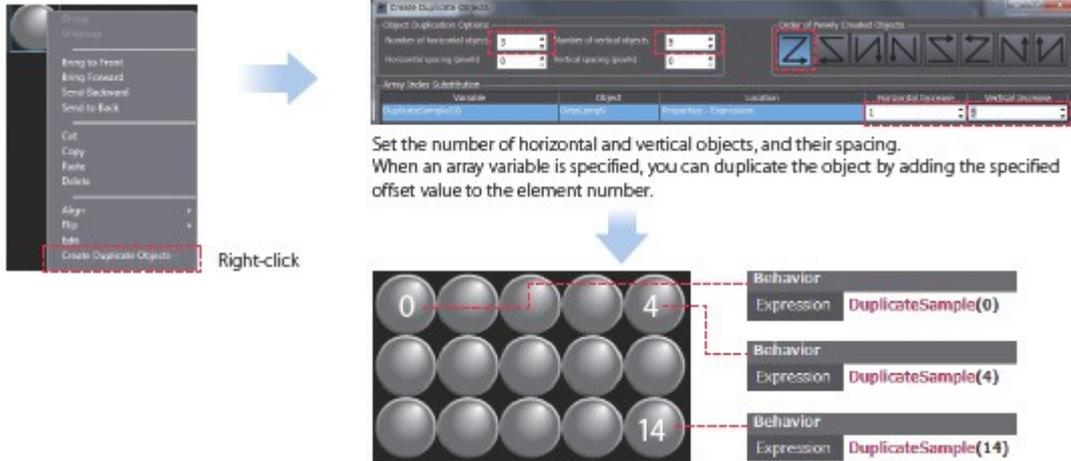
NA screen capture

The screens displayed on the NA Series can be captured and saved in the SD card inserted in the NA Series or the USB memory connected to the NA Series.
 • When a screen of the NA Series is required to create a machine operation manual
 • When the current screen is required to save as proof of a trouble
Supported format: PNG

The combination of VNC and FTP allows you to capture the NA screens from the connected PC.
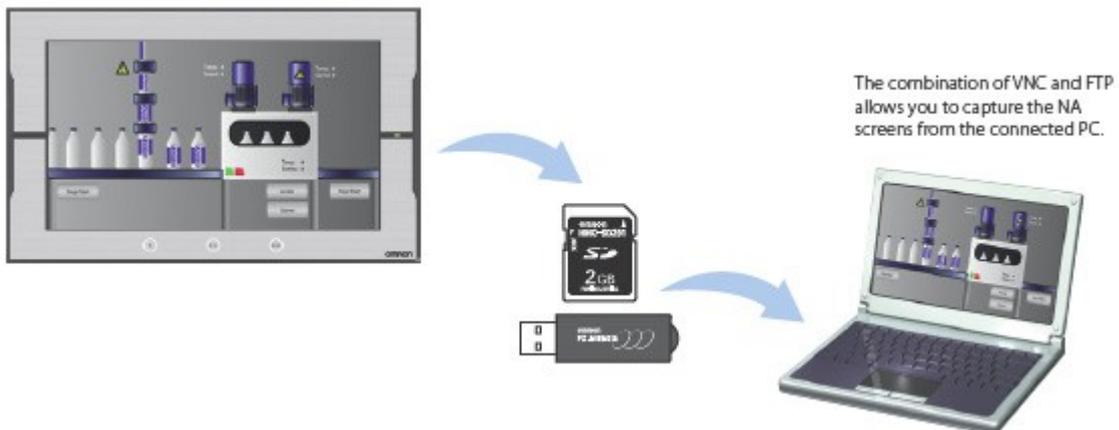
Usability: Debugging

Easy and fast debugging in integrated development environment

Integrated Simulator

The NJ/NX/NY Controller Simulator and NA HMI Simulator can be displayed on one screen. You can quickly debug the controller program and the HMI application at the same time.
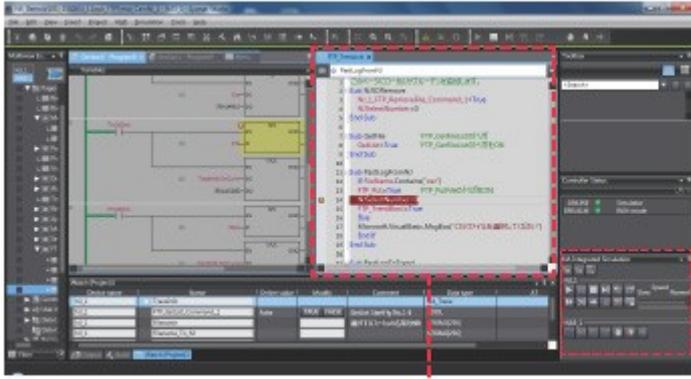
Operations, such as stop and step execution, can be performed for both HMI and controller simulations.

Switchable to the screen for desining.

[NEW]

• You can display the selected page and change properties without stopping the Simulator. Immediate debugging during
   simulation before building will prevent you from forgetting to correct errors and reduce the frequency of building.

Errors found during simulation can be corrected immediately.

Pages and languages can be changed anytime.

Watch Tab Page

The same GUI as the NJ/NX/NY Controller is used. Register the variable to monitor/change and then change its value on the Watch Tab Page to easily debug screens with the NA Simulator without the physical HMI.

Change to TRUE

Check the alarm with the Simulator

Cross references

The same GUI for the cross reference function as the NJ/NX/NY Controller can be used.
When a variable is clicked in the global variable table, a list of the locations where the variable is used is displayed in the Cross Reference Tab Page.
By clicking the location, you can access the object, subroutine, or ladder program where the variable is used across the entire project. This makes screen design and debugging quicker and easier.
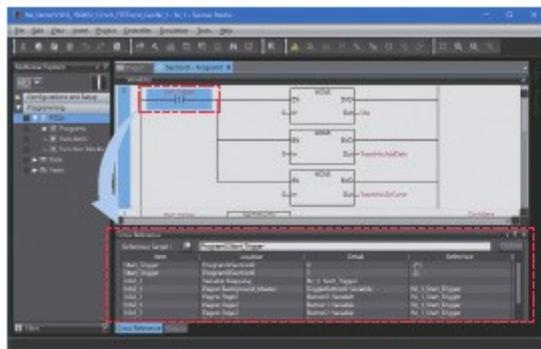
Click the variable in the global variable table to show a list of the locations where the variable is used in the Cross Reference Tab Page.
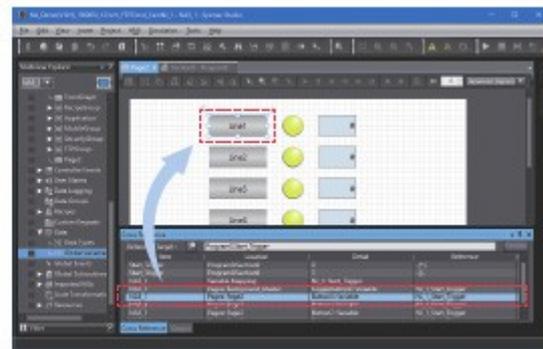
Click the location to access the object where the variables is used.

Search and Replace

You can search and replace text strings in all subroutines (Visual Basic), objects, and variables within a project.
It is quick and easy to edit and debug variable names and switch labels.

Display the object to search/replace

1) Enter a text string to search/replace

2) Start to search/replace

3) The results are displayed