Variable Mapping

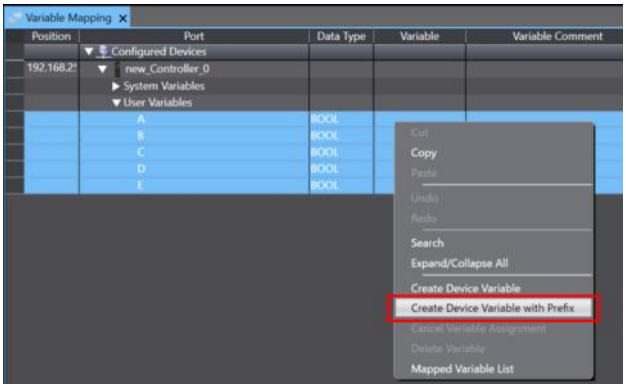
Description

Variable mapping: This refers to assigning the variables of the PLC connected to the HMI to the variables used in the HMI project.

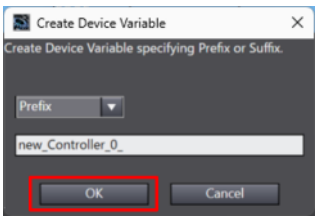
This page describes the functions and options related to variable mapping.
① Batch generation of device variables
② Correlation between PLC data types and HMI data types
③ Automatic generation of HMI variables when variables are added in PLC

Remarks

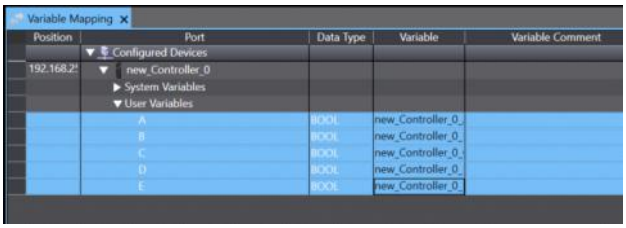
① Batch generation of device variables
Select the user variables for which you want to generate corresponding device variables (HMI-side variables), right-click and select [Create Device Variable with Prefix].



Set the prefix and click the [OK] button.



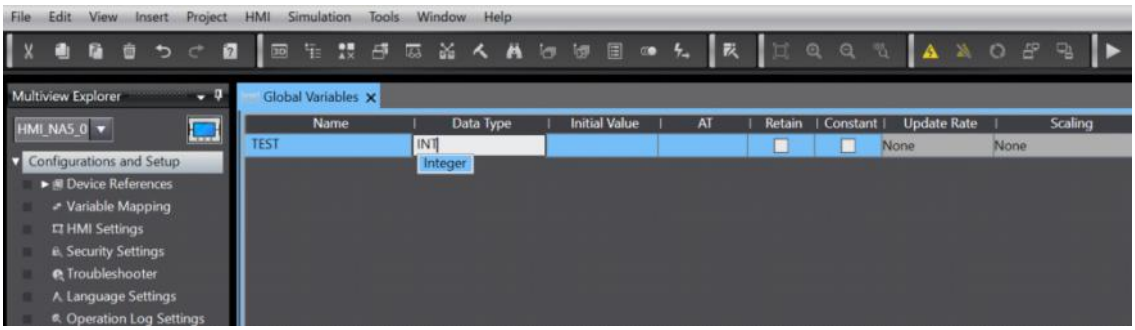
The HMI-side device variables are generated.



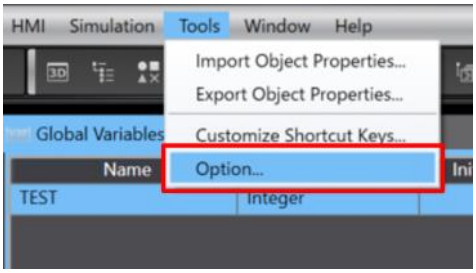
② Correlation between PLC data types and HMI data types
The correlation between PLC data types and HMI data types is shown in the table below.

Classification	Data type NJ	Data type NA	Scope	Initial Value
Bool	BOOL	Boolean	FALSE, TRUE	FALSE
Bit column	BYTE	Byte	BYTE#16#00～FF	BYTE#16#00
	WORD	UShort	WORD#16#0000～FFFF	WORD#16#0000
	DWORD	UInteger	DWORD#16#00000000～FFFFFFFF	DWORD#16#00000000
	LWORD	Ulong	LWORD#16#0000000000000000～FFFFFFFFFFFFFFFF	LWORD#16#0000000000000000
Integer	USINT	Byte	USINT#0～+255	USINT#0
	UINT	UShort	UINT#0～+65535	UINT#0
	UDINT	UInteger	UDINT#0～+4294967295	UDINT#0
	ULINT	ULong	ULINT#0～+18446744073709551615	ULINT#0
	SINT	SByte	SINT#-128～+127	SINT#0
	INT	Short	INT#-32768～+32767	INT#0
	DINT	Integer	DINT#-2147483648～+2147483647	DINT#0
	LINT	Long	LINT#-9223372036854775808～+9223372036854775807	LINT#0
Real number	REAL	Single	REAL#-3.402823e+38～-1.175495e-38 0 +2.22507385850721e-308～+1.79769313486231e+308 +∞/-∞	REAL#0
	LREAL	Double	LREAL#-1.79769313486231e+308～-2.22507385850721e-308 0 +2.22507385850721e-308～+1.79769313486231e+308 +∞/-∞	
Time Data String	TIME	TimeSpan	T#-922337203685４.775808ms (T#-106751d_23h_47m_16s_854.775808ms)～T#9223372036854.775807ms (T#+106751d_23h_47m_16s_854.775807ms)	T#0s
	DATE	Date	D#1970-01-01～D#2106-02-06 (1/1/1970～2/6/2106)	D#1970-01-01
	TIME_OF_DAY(TOD)	Date	TOD#00:00:00.000000000～TOD#23:59:59.999999999 (0time/0min/0sec～23time/59min/59.99999999sec)	TOD#00:00:00.000000000
	DAY_AND_TIME(DT)	Date	DT#1970-01-01-00:00:00.000000000～DT#2106-02-06-23:59:59.999999999 (1/1/1970/0time/0min/0sec～2/6/2106/23time/59min/59.99999999sec)	DT#1970-01-01-00:00:00.000000000
	STRNG	String	Character code : UTF-8 0～1986 byte (Half-width alphanumeric characters 0～1985chatacters + Final Null character)	

Additionally, when specifying the data type in generating variables within the HMI project, if you input the PLC-side data type, the HMI-side data type will be displayed as an input candidate as shown in the figure below.



③ Automatic generation of HMI variables when variables are added in PLC
Click [Tools] - [Option] from the menu bar.

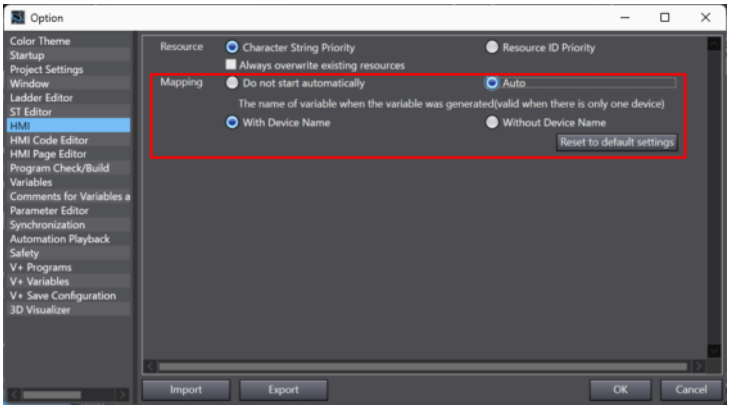


In the HMI options window, you can enable the following functions.

☐ Automatic generation of variable mapping
If you select “Auto” in the “Mapping” area shown in the figure below, HMI-side variables are automatically generated when global variables are created in the PLC and manual mapping is not required.

You can choose whether to add the prefix of "PLC name + _" depending on the setting.

* Be aware that variables that do not require mapping with the HMI will also be mapped if the above option is always set to ON, and this may result in heavier data on the HMI side.
We recommend using it only during modifications or when introducing test circuits, rather than during the design phase.


Option
Color Theme
Startup
Project Settings
Window
Ladder Editor
ST Editor
HMI
HMI Code Editor
HMI Page Editor
Program Check/Build
Variables
Comments for Variables a
Parameter Editor
Synchronization
Automation Playback
Safety
V+ Programs
V+ Variables
V+ Save Configuration
3D Visualizer
Resource
Character String Priority
Resource ID Priority
Always overwrite existing resources
Mapping
Do not start automatically
Auto
The name of variable when the variable was generated(valid when there is only one device)
With Device Name
Without Device Name
Reset to default settings
Import
Export
OK
Cancel