



Programmable Terminal NB Series

# Practice Guide

## Sysmac Studio Variable Table Import

NB3Q-TW01B  
NB5Q-TW01B  
NB7W-TW01B  
NB10W-TW01B

A large rectangular box with a yellow-to-orange gradient background and a thin orange border. The text "Practices Guide" is centered within the box in a white, sans-serif font.

Practices  
Guide

## ■ Introduction

This guide provides reference information when designing NB screens. It does not provide safety information. Be sure to obtain the NB series Programmable Terminal User's Manuals, read and understand the safety points and other information required for use, and test sufficiently before actually using the equipment.

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- (c) Applications in a harsh condition or environment (e.g. outdoor facilities, facilities with potential of chemical contamination or electromagnetic interference, facilities with vibration or impact, facilities on continual operation for a long period)
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  - (b) Usage out of the conditions
  - (c) Usage out of Note about Use in these conditions
  - (d) Remodeling/repairing by anyone except Omron
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# 1 Related Manuals

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Cat. No.	Model	Title
V106	NB□Q-TW01B NB□W-TW01B	NB series Programmable Terminals NB-Designer Operation Manual
V107	NB□Q-TW01B NB□W-TW01B	NB series Programmable Terminals Setup Manual
V108	NB□Q-TW01B NB□W-TW01B	NB series Programmable Terminals Host Connection Manual
V109	NB□Q-TW01B NB□W-TW01B	NB series Programmable Terminals Startup Guide Manual

# 2 Precautions

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- (1) (1) When building an actual system, check the specifications of the component devices of the system, use within the ratings and specified performance, and implement safety measures such as safety circuits to minimize the possibility of an accident.
- (2) For safe use of the system, obtain the manuals of the component devices of the system and check the information in each manual, including safety precautions, precautions for safe use.
- (3) It is the responsibility of the customer to check all laws, regulations, and standards that the system must comply with.
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- (5) The information in this guide is current as of June 2018.  
It is subject to change without notice because of product's update.

Special information in this document is classified as follows:



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### **Precautions for Safe Use**

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Describes precautions on what to do and what not to do to ensure safe usage of the product.

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### **Precautions for Correct Use**

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Describes precautions on what to do and what not to do to ensure proper operation and performance.

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### **Additional Information**

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Additional information to read as required.

This information is provided to increase understanding or make operation easier.

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# 3 Variable Table Import

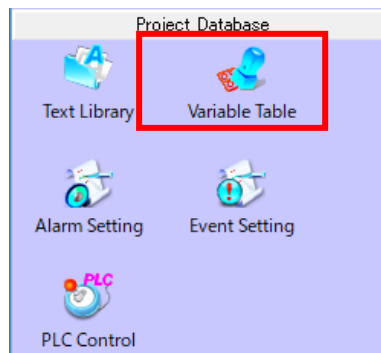
NB-Designer V1.471 adds the function to import a Sysmac Studio variable table into a NB-Designer variable table.

## 3-1 Variable Table of NB

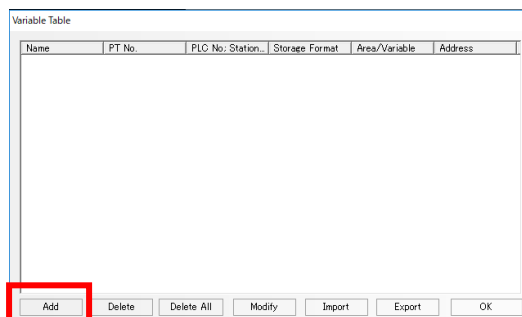
This function gives the variable name that used in NB-Designer to a PLC address. If you are using a variable on the PLC side, you can use the variable table function to assign the same variable name on the NB side as on the PLC side. It enables to create a screen without having to check the address and variable name. However, unlike the NS variable table, it does not support tag communication.

### 3-1-1 Variable Table Settings

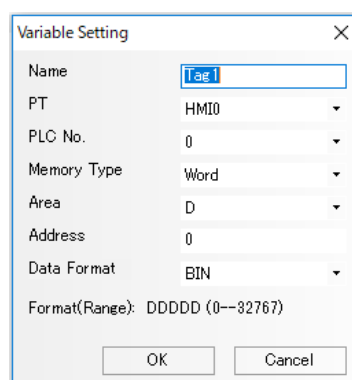
1. Click [Project Database]-[Variable Table].



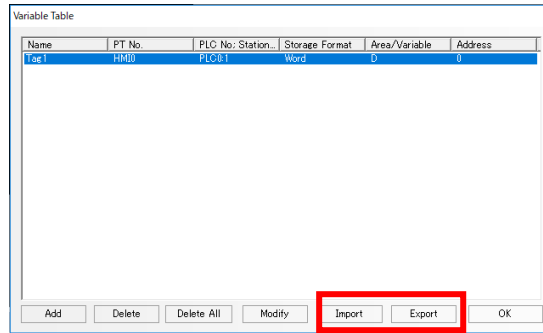
2. The variable table dialog box is displayed. Register the variable table here. Click [Add] at the bottom left.



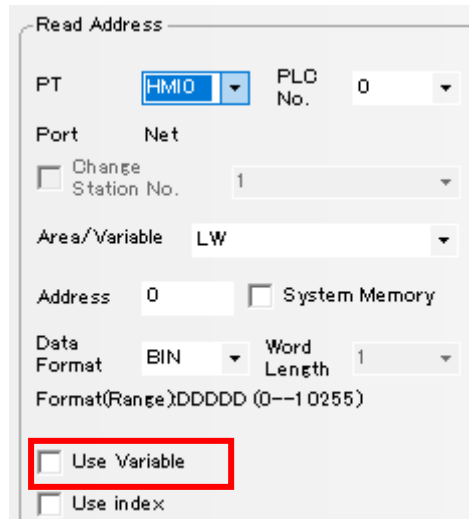
3. Variable Setting dialog box is displayed. Set a variable name, an address corresponding to the variable, memory type, and data format.



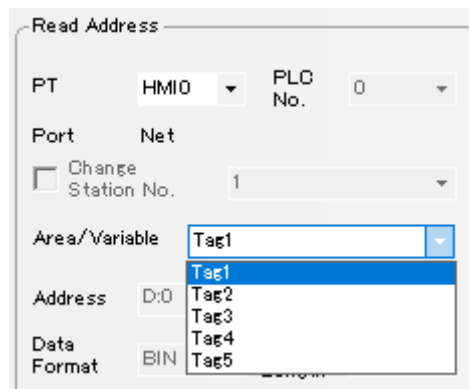
4. You can also import or export variables in CSV format.



5. To use variables that are registered in the variable table, check [Use Variable] in the properties of components (e.g. numeric values, buttons).



6. A list of variables registered in the pull-down menu in Area/Variable field appears. Choose any variable from the list.



## 3-2 Setting the Variable Table Import Function

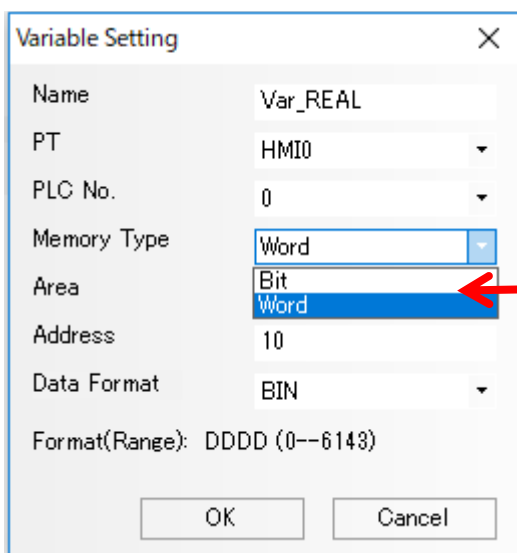
### 3-2-1 Import Specification

- (1) Variables to be imported are memory for CJ-series Units, such as DM and WR, when you create them in Sysmac Studio.
- (2) Variables that are set to any of Input/Output/Publish Only in Network Publish setting for Sysmac Studio variable tables can be imported.
- (3) This function can be used only when OMRON CJ /CS/ NJ Series Ethernet (UDP Slave) or OMRON NX1 Series Ethernet (UDP Slave) is set as a destination PLC. It is not available in serial connection or for connection only with PLC from other companies.
- (4) Data types that can be imported are limited.  
The data types and storage formats which to be imported are listed in the table below.

Sysmac Studio Data Type	NB-Designer Storage Format
BOOL	Bit
INT/UINT/WORD	Word
DINT/UDINT/DWORD/REAL	Dword
Others (including arrays, structures and unions)	Not imported

#### Precautions for Correct Use

Dword is not available as a new storage format with The NB-Designer variable table. If you open Variable Setting dialog box of the variable table and press [OK] for a variable whose storage format is imported as Dword, the storage format is changed to Bit or Word even if it is not edited. Be careful when you edit the data.



The Variable Setting dialog box is shown with the following fields:

- Name: Var\_REAL
- PT: HMIO
- PLC No.: 0
- Memory Type: Word
- Area: Bit (highlighted), Word
- Address: 10
- Data Format: BIN
- Format(Range): DDDD (0--6143)

Buttons: OK, Cancel

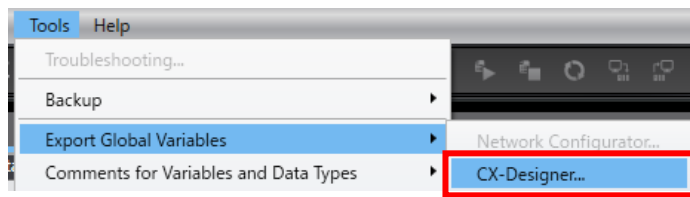
Only Bit or Word can be selected. Dword should be changed. Select OK to confirm the edit.

## 3-2-2 Import Procedure

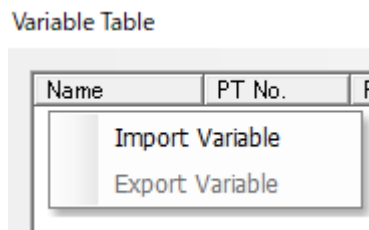
1. Create variables by Sysmac Studio.

Name	Data Type	Initial Val	AT	Retain	Constant	Network Publish	Comment
Var_Bool1	BOOL		%0.00	<input type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_SINT	SINT		%D0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_INT	INT		%D1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_DINT	DINT		%D2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_LINT	LINT		%D4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_UINT	UINT		%H1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_WORD	WORD		%H10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_DWORD	DWORD		%H11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_AryINT	ARRAY[0..9] OF INT		%D10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_REAL	REAL		%10	<input type="checkbox"/>	<input type="checkbox"/>	Publish Only	
Var_LREAL	LREAL		%20	<input type="checkbox"/>	<input type="checkbox"/>	Publish Only	

2. Click [Tools]-[Export Global Variables]-[CX-Designer] to export variable information. The exported data is not saved as a file such as CSV. It is just pasted on a clipboard.



3. Select [Import Variable] from a right-click menu on the NB-Designer variable table.



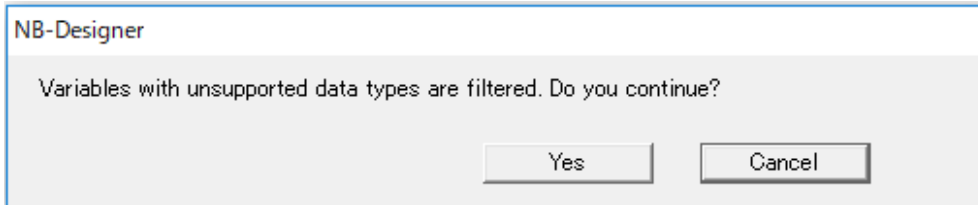
4. The Sysmac Studio variable information is imported into NB-Designer.

Name	PT No.	PLC No...	Storage Format	Area/Variable	Address
Var_Bool1	HMI0	PLC0:1	Bit	CIO_bit	0.00
Var_DINT	HMI0	PLC0:1	DWord	D	2
Var_DWORD	HMI0	PLC0:1	DWord	H	11
Var_INT	HMI0	PLC0:1	Word	D	1
Var_REAL	HMI0	PLC0:1	DWord	CIO	10
Var_UINT	HMI0	PLC0:1	Word	H	1
Var_WORD	HMI0	PLC0:1	Word	H	10

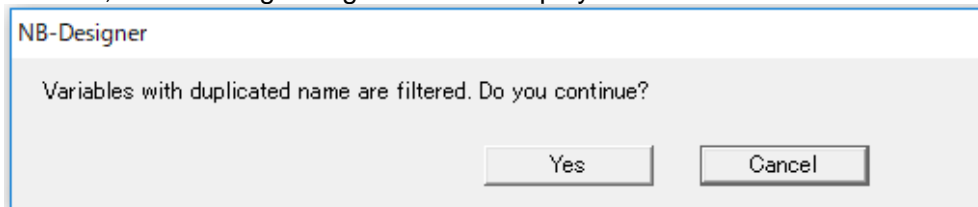
### 3-2-3 Dialog box for variables not qualified to be imported

If you import a variable that is not qualified to be imported, the following three dialog boxes are displayed for confirmation. You can choose whether to continue or suspend importing.

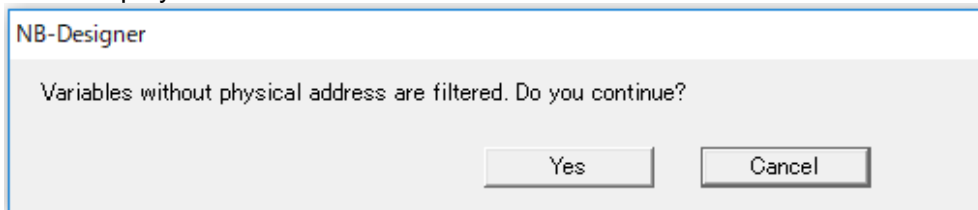
1. If there are unsupported data type variables, the following dialog box is displayed. See 3-2-1 Import Specification for available data types.



2. If there have already been variables with the same name and different settings, such as area and address, the following dialog box will be displayed.



3. When there is a variable that is not assigned to Sysmac Studio variables, the following dialogue box is displayed.



If you select [Yes] in the three dialog boxes above, only the variables that satisfy the import condition will be imported, ignoring the unqualified variables.

If you select [Cancel], all variables will not be imported and the procedure will be cancelled.

Each dialog box is displayed once in a single import operation.

E.g.: The same dialog box does not appear more than once even if there are several variables with an unsupported data type.

# Revision History

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Revision Code	Date	Revision Description
01	December 2018	Original production

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