

Programmable Terminal NB Series

Practice Guide Sysmac Studio Variable Table Import

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

Practices Guide



V450-E1-01

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

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

2 Precautions

- (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.
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Special information in this document is classified as follows:



Precautions for Safe Use

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



Precautions for Correct Use

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



Additional Information

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]. | Project Database Image: Second stress Text Library Variable Table Image: Second stress Alarm Setting Image: Second stress PLC Control |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. | The variable table dialog box is displayed. Register the variable table here. Click [Add] at the bottom left. | Variable Table Name PT No. PLC No: Station. Storage Format Area/Variable Address Name PT No. PLC No: Station. Storage Format Area/Variable Address Add Delete Delete Alli Modify Import Export OK |
| 3. | Variable Setting dialog box is displayed. Set a variable name, an address corresponding to the variable, memory type, and data format. | Variable Setting × Name Immediate PT HMI0 PLC No. 0 Memory Type Word Area D Address 0 Data Format BIN Format(Range): DDDDD (032767) OK Cancel |

| 4. | You can also import or export variables in CSV format. | Variable Table Name PT No. PLO No: Station Storage Format Area/Variable Address Visit HM00 FLOB1 Word D 0 Variable Address D 0 0 |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. | To use variables that are registered in the variable table, check [Use Variable] in the properties of components (e.g. numeric values, buttons). | PT HMIO Port Net Ohange 1 Station No. 1 Area/Variable LW Address 0 System Memory Data BIN Format BIN Word 1 Format(Range)DDDDD (01 0255) |
| 6. | A list of variables registered in the pull-down menu in Area/Variable field appears. Choose any variable from the list. | Read Address PT HMI0 ▼ PLC 0 ▼ Port Net Change Station No. 1 ▼ Area/Variable Tag1 ▼ Address D:0 Tag2 Tag3 Tag4 Format ▼ |

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.

| Variable Setting | | × |
|------------------|--------------|------|
| Name | Var_REAL | |
| PT | HMI0 | - |
| PLC No. | 0 | - |
| Memory Type | Word | ~ |
| Area | Bit Word | - |
| Address | 10 | |
| Data Format | BIN | • |
| Format(Range): | DDDD (06143) | |
| | OK Car | |
| | | icei |

3-2-2 Import Procedure

| 1. | Create variables by Sysmac Studio. | 🔤 Global Vari | ables 🗙 | | | | | |
|----|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------|---------------------------------------------------------------|--------------------------------------------------|
| | | Name | Data Type | Initial Val | AT Reta | in Consta | nt Network Publish | Comment |
| | | Var_Bool1 | BOOL | %0.0 | | | Publish Only | |
| | | Var_SINT | SINT | %D0 | | | Publish Only | |
| | | Var_INT | INT | %D1 | | | Publish Only | |
| | | Var_DINT | DINT | %D2 | | | Publish Only | |
| | | Var_LINT | LINT | %D4 | | | Publish Only | |
| | | Var_UINT | UINT | %H1 | | | Publish Only | |
| | | Var_WORD | WORD | %H1 |) 🔽 | | Publish Only | |
| | | Var_DWORD | DWORD | %H1 | | | Publish Only | |
| | | Var_AryINT | ARRAY[09] OF INT | %D1 |) 🗹 | | Publish Only | |
| | | Var_REAL | REAL | %10 | | | Publish Only | |
| | | Var_LREAL | LREAL | %20 | | | Publish Only | |
| - | | | | | | | | |
| 2. | Click [Tools]-[Export Global | Tools H | Help | | _ | _ | _ | |
| | Variables]-[CX-Designer] to export | Trouble | eshooting | | | | is s c | |
| | variable information. | Backup + | | | | | | |
| | The exported data is not saved as a file such as CSV. It is just pasted on a clipboard. | Export Global Variables | | | | | | |
| | | | | | | | | |
| | | Comm | ents for Variable | s and Data I | /pes | • | CX-Designer. | |
| 3. | Select [Import Variable] from a right-click menu on the NB-Designer variable table. | Variable Name | Table Import Va Export Va | PT No. riable riable | P | | | |
| 4. | The Sysmac Studio variable information is imported into NB-Designer. | Variable Tat Name Var_Boo Var_DIN Var_DIN Var_INT Var_REA Var_LIN Var_WOF | PT No. HMI0 T HMI0 DRD HMI0 HMI0 HMI0 T HMI0 RD HMI0 RD HMI0 | PLC No: S PLC0:1 E PLC0:1 E PLC0:1 E PLC0:1 V PLC0:1 V PLC0:1 V PLC0:1 V | torage Fi lit Word Word /ord Word /ord /ord | ormat | Area/Variable CIO_bit D H D CIO H H H | Address 0.00 2 11 1 1 10 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.

| NB-Designer | |
|----------------------------------------------|---------------------------|
| Variables with unsupported data types are fi | iltered. Do you continue? |
| | |
| | Yes Cancel |

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.

| NB-Designer | | |
|----------------------------------------------|------------------|--------|
| Variables with duplicated name are filtered. | Do you continue? | |
| | Yes | Cancel |
| | | |

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

| NB-Designer | |
|-----------------------------------------------|-----------------------|
| Variables without physical address are filter | red. Do you continue? |
| | Vac Cancel |
| | |

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

| Revision Code | Date | Revision Description | |
|----------------------|---------------|----------------------|--|
| 01 | December 2018 | Original production | |