

Programmable Terminal NB-series

Practices Guide


- Disable/Enable communication with PLCs in Run-time
- Print Screen image + Display Component information
- Project file management

NB3Q-TW01B

NB5Q-TW01B

NB7W-TW01B

NB10W-TW01B



Practices
Guide

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1. Related Manuals

The manuals related to this document are the following:

No.	Model	Title
V106-E1-17	NB[]Q-TW01B NB[]W-TW01B	Programmable Terminals NB-Designer Operation Manual
V107-E1-14	NB[]Q-TW01B NB[]W-TW01B	Programmable Terminals Setup Manual
V108-E1-17	NB[]Q-TW01B NB[]W-TW01B	Programmable Terminals Host Connection Manual
V109-E1-11	NB[]Q-TW01B NB[]W-TW01B	Programmable Terminals Start-up Guide Manual

2. Precautions

- (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 customer's responsibility to check all laws, regulations, and standards that the system must comply with.
- (4) All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of OMRON.
- (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:



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.

It contains helpful and reference information for the users.

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Windows is a registered trademark of Microsoft Corporation in the USA and other countries.

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3. Disable / Enable PLC communication in Run-Time

This function allows to disable or enable the PLC communication with the NB during Run-Time.

The communication via a port is stopped when a bit defined for each port is ON. This value is retained when the power is OFF (read/write).

The default value is OFF, therefore, the communication will be allowed in this case.

The different bits defined are:

9605.0: COM1 port.

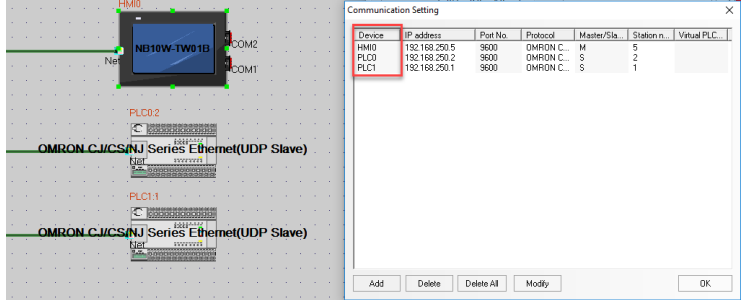
9605.1: Reserved.

9605.2: COM2 port.

9605.3 – 9606.A: An Ethernet host is allocated in ascending order of the station number (24 hosts).

9606.B and later: Reserved.

3.1. Configuration

<p>1 Configure the communication between the devices (NB10 and 2 CJ2M PLCs in this example).</p>	 <table border="1" data-bbox="1050 853 1441 1137"> <thead> <tr> <th>Device</th> <th>IP address</th> <th>Port No.</th> <th>Protocol</th> <th>Master/Slave</th> <th>Station n.</th> <th>Virtual PLC</th> </tr> </thead> <tbody> <tr> <td>HMI0</td> <td>192.168.250.5</td> <td>9600</td> <td>OMRON C.</td> <td>M</td> <td>5</td> <td></td> </tr> <tr> <td>PLC0</td> <td>192.168.250.2</td> <td>9600</td> <td>OMRON C.</td> <td>S</td> <td>2</td> <td></td> </tr> <tr> <td>PLC1</td> <td>192.168.250.1</td> <td>9600</td> <td>OMRON C.</td> <td>S</td> <td>1</td> <td></td> </tr> </tbody> </table>	Device	IP address	Port No.	Protocol	Master/Slave	Station n.	Virtual PLC	HMI0	192.168.250.5	9600	OMRON C.	M	5		PLC0	192.168.250.2	9600	OMRON C.	S	2		PLC1	192.168.250.1	9600	OMRON C.	S	1	
Device	IP address	Port No.	Protocol	Master/Slave	Station n.	Virtual PLC																							
HMI0	192.168.250.5	9600	OMRON C.	M	5																								
PLC0	192.168.250.2	9600	OMRON C.	S	2																								
PLC1	192.168.250.1	9600	OMRON C.	S	1																								
<p>2 Define a Bit Button to switch the bit 9605.3 and 9605.4 which correspond to PLC0 and PLC1, respectively.</p>																													
<p>3 Once communication is lost, bit related to PLC can be switch ON to disable the communication and the “PLC No Response” Error won’t be shown.</p>																													

4. Print Screen image + Display Component information

Print function has been included under File pull-down menu list. This function allows the designer/developer to create easily a project manual and documentation due to the possibility to print the Screen Image designed in NB-Designer.

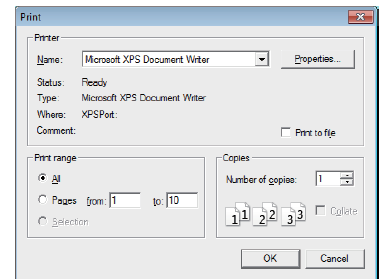
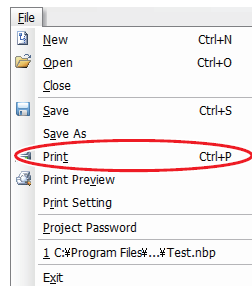
4.1. Print Screen functions

The different functions included are described as follows:

1 Print:

Select a project data and open a screen to enable this function. This functionality will allow the user to print screen images created and designed inside the current project.

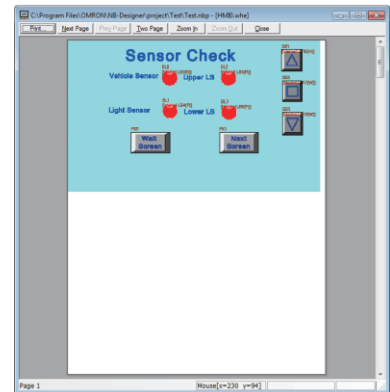
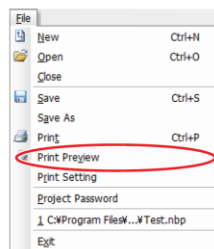
- Click [Print] under [File] pull-down menu to open print setup window.



2 Print Preview:

This function shows a previsualization of the print function.

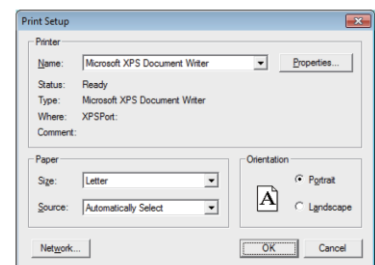
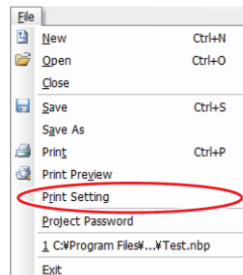
- Click [Print Preview] under [File] pull-down menu to open print preview window.



3 Print Setting:

This screen allows the user to configure the printing settings.

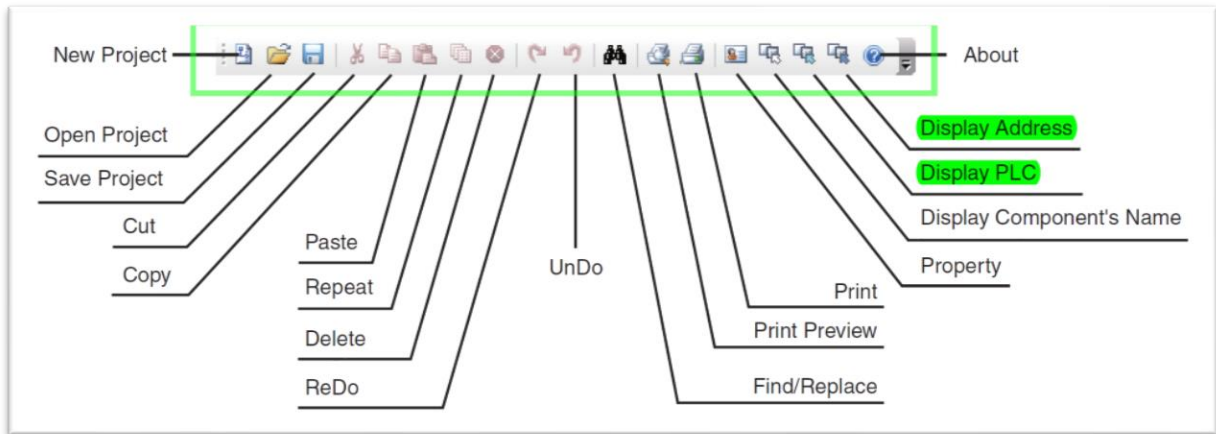
- Click [Print Setting] under [File] pull-down menu to open print configuration window.



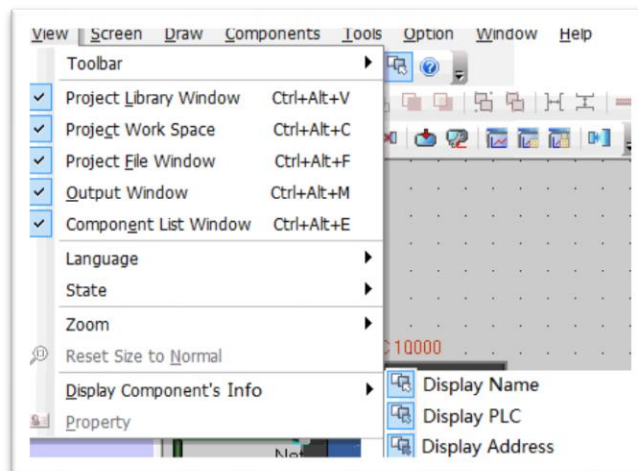
4.2. Display Component Address

Besides component name it is possible to display PLC name and Address for objects located in the Screen. These information will be shown in the document generated with the "Print" function defined in the previous section.

The Common Toolbar has been updated as follows:



Also, can be Enable/Disabled under pull-down menu [View] – [Display Component's Info]:



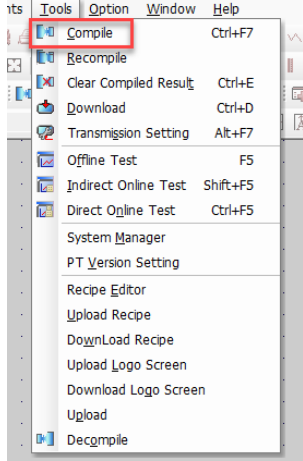
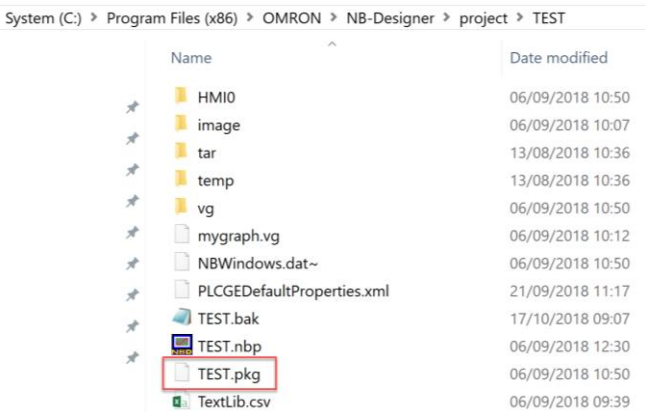
The different results/possibilities are described in the following picture:



5. Project file management

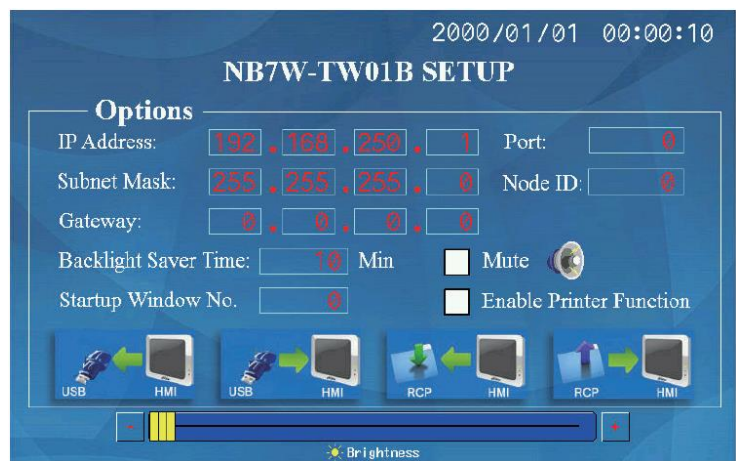
To send/receive the project between development and factory engineers, it is possible to follow the procedure described in this section. It allows you to manage just one binary file which contains the compiled project. It is not necessary to send the complete project folder but just one file.

5.1. Procedure example

<p>1 Compile the project developed in NB-Designer:</p> <ul style="list-style-type: none"> ➤ Pull-down menu [Tools] – [Compile]. 																															
<p>2 Copy the project compiled file with “.pkg” extension located inside the project folder.</p> <p>- <u>Note:</u> When multiple PTs are registered in a project, all the PKG files of PTs registered in the project are necessary to be managed.</p>																															
<p>3 The binary can be sent by email (or other similar method) and stored in an USB stick.</p>																															
<p>4 Plug in the USB stick in your NB and turn it on in System Setting Mode (SW1 and SW2 to ON position).</p>	<p>● DIP Switch</p> <p>NB5Q/NB7W only has 2 switches SW1 and SW2, while for the NB3Q and NB10W, there are totally 4 DIP switches, and for all models, SW1 and SW2 feature the same functions. The settings and corresponding operating modes are as follows:</p> <table border="1" data-bbox="826 1659 1198 1749"> <thead> <tr> <th>SW1</th> <th>SW2</th> <th>Operating modes</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>ON</td> <td>System Setting Mode</td> </tr> <tr> <td>OFF</td> <td>ON</td> <td>Calibrate Mode</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>Downloader Mode</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td>User Project Mode</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • System Setting Mode: The PT will be launched into a built-in system setup screen, and is subject to the user for the settings of brightness, system time, buzzer and Pictbridge printing function. • Calibrate Mode: When the user touches the panel, a symbol “+” will pop up on the screen, with which the touch control precision level can be calibrated. • Downloader Mode: This is used for updating Kernel and root file system. • User Project Mode: This is used to display the downloaded user projects. <p>As mentioned above, the settings and corresponding operating modes of the switches SW1 and SW2 of NB3Q and NB10W are the same as those of NB5Q/NB7W (see the table above), and the functions of SW3 and SW4 of NB3Q and NB10W are stated as below:</p> <table border="1" data-bbox="826 1899 1299 1995"> <thead> <tr> <th>Switch No. (corresponding model(s))</th> <th>Status</th> <th>Descriptions of Function</th> </tr> </thead> <tbody> <tr> <td>SW3 (NB3Q)</td> <td>ON</td> <td>Terminal resistance ON</td> </tr> <tr> <td>SW3 (NB10W)</td> <td>OFF</td> <td>Terminal resistance OFF</td> </tr> <tr> <td>SW3 (NB10W)</td> <td>Reserved</td> <td></td> </tr> <tr> <td>SW4 (NB3Q/NB10W)</td> <td>Reserved</td> <td></td> </tr> </tbody> </table>	SW1	SW2	Operating modes	ON	ON	System Setting Mode	OFF	ON	Calibrate Mode	ON	OFF	Downloader Mode	OFF	OFF	User Project Mode	Switch No. (corresponding model(s))	Status	Descriptions of Function	SW3 (NB3Q)	ON	Terminal resistance ON	SW3 (NB10W)	OFF	Terminal resistance OFF	SW3 (NB10W)	Reserved		SW4 (NB3Q/NB10W)	Reserved	
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SW3 (NB10W)	Reserved																														
SW4 (NB3Q/NB10W)	Reserved																														

5 Download the project from the USB stick to the PT:

- Under System Setting Window select [USB → HMI] – search your file inside the USB stick – Click [OK] – Download process will start.



6. Revision History

Revision Code	Date	Revised Content
01	October 2018	Original production