



Programmable Terminal NB-series

Practices Guide New Functionalities for NB-Designer V1.50

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

A large rectangular box with a yellow-to-orange gradient background is positioned on the right side of the page. Inside the box, the words "Practices" and "Guide" are written in a white, sans-serif font, stacked vertically and centered.

Practices
Guide

■ Introduction

This guide describes reference information to create NB screens. It does not provide safety information.

Be sure to obtain the manuals for NB-series Programmable Terminals, read and understand the safety points and other information required for use, and test sufficiently before actual use of the equipment.

Terms and Conditions Agreements

Thank you for your usage of products of Omron Corporation (“Omron”). Without any special agreements, these terms and conditions shall apply to all transactions regardless of who sells.

● Definitions of Terms

Omron product(s): Omron’s factory automation system devices, general control devices, sensing devices, and electronic/mechanical components.

- Catalogs: Any and all catalogs (including “Best Components” and other catalogs), specifications, instructions and manuals relating to Omron products, including electronically provided data.
- Conditions: Use conditions, rating, performance, operating environment, handling procedure, precautions and/or prohibited use of Omron products described in the catalogs.
- User application(s): Application of Omron products by a customer, including but not limited to embedding/using Omron products into customer’s components, electronic circuit boards, devices, equipment or systems.
- Conformity: (a) conformity, (b) performance, (c) no infringement of intellectual property of third party, (d) compliance with laws and regulations, and (e) conformity to various standards of Omron products in user applications.

● Note about Descriptions

- Rating and performance is tested separately. Combined conditions are not warranted.
- Reference data is intended to be used just for reference. Omron does NOT guarantee that the Omron Product can work properly in the range of reference data.
- Examples are intended for reference. Omron does not warrant the conformity in usage of the examples.
- Omron may discontinue Omron products or change specifications of them because of improvements or other reasons.

● Note about Use

Adopt and use Omron products considering the following cautions.

- Use the product in conformance to the conditions, including rating and performance.
- Check the conformity and decide whether or not Omron products are able to be adopted. Omron makes no guarantees about the conformity.
- Make sure in advance that electricity is properly supplied to Omron products and they are set up rightly in your system for intended use.
- When you use Omron products, ensure the followings: (i) allowance in aspect of rating and performance, (ii) safety design which can minimize danger of the application when the product does not work properly, (iii) systematic safety measures to notify danger to users, and (iv) periodical maintenance of Omron products and the user application.
- Omron assumes no responsibility for any direct or indirect loss, damage and expense resulting from infection of our products, installed software, any computer devices, computer programs, network, and databases with the followings: DDoS attack (distributed

DoS attack); computer virus and other technically harmful program; and unauthorized access.

Please conduct the followings by yourself: (i) anti-virus software, (ii) data input/output, (iii) lost data recovery, (iv) protections against computer virus that contaminate Omron products or the installed software, and (v) measures to protect Omron products from unauthorized access.

- Omron products are designed and manufactured as commodity for general industrial products. For this reason, the usages (a) to (d) are to be unintended. Omron makes no guarantees on Omron products, if you use Omron products for those purposes. However, special applications that Omron expects or usages with especial agreement are excluded.
 - (a) Applications requiring high-level safety (e.g. nuclear control facilities, combustion facilities, aerospace and aviation facilities, railroad facilities, elevating facilities, amusement facilities, medical facilities, safety devices or other applications which has possibility to influence lives or bodies)
 - (b) Applications requiring high reliability (e.g. gas/water/electricity supply system, 24-hour operating system, applications handling with rights/property, such as payment system)
 - (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).
 - (d) Applications under conditions or environment which are not described in the catalogs
- Omron products in the catalogs are not intended to be used in automotive applications (including two-wheel vehicles). Please DO NOT use Omron products in automotive applications. Contact our sales personnel for automotive products.

● Warranty

Warranty of Omron products is subject to followings.

- Warranty Period: One year after your purchase.
However, except when there is a separate statement in the catalogs.
- Coverage: Omron will provide one of the services listed below, on the basis of Omron's decision.
 - (a) Free repairing of the malfunctioning Omron products (except electronic/mechanical components) at Omron maintenance service sites.
 - (b) Free replacement of the malfunctioning Omron products with the same number of substitutes.
- Exceptions: This warranty does not cover malfunctions caused by any of the followings.
 - (a) Usage in the manner other than its original purpose
 - (b) Usage out of the conditions
 - (c) Usage out of Note about Use in these conditions
 - (d) Remodeling/repairing by anyone except Omron
 - (e) Software program by anyone except Omron
 - (f) Causes which could not be foreseen by the level of science and technology at the time of shipment of the products.
 - (g) Causes outside Omron or Omron products, including force majeure such as disasters

- Limitation of Liability

The warranty described in this Terms and Conditions Agreements is a whole and sole liability for Omron products. There are no other warranties, expressed or implied.

Omron and its distributors are not liable for any damages arisen from or relating to Omron products.

- Export Control

Customers of Omron products shall comply with all applicable laws and regulations of other relevant countries regarding security export control, in exporting Omron products and/or technical documents or in providing such products and/or documents to a non-resident.

Omron products and/or technical documents may not be provided to customers if they violate the laws and regulations.

Table of Contents

Terms and Conditions Agreements	3
1 Related Manuals	7
2 Precautions	8
3 New Functionalities for NB-Designer V1.50	9
3-1 Overview.....	9
4 How to Use New Functionalities	10
4-1 Connection Destination Setting Change	10
4-1-1 Related System Memory	10
4-1-2 Creating Sample Screen and Setting Objects.....	11
4-2 Project Import and Export from NB-Designer Menu.....	13
4-2-1 Example (Export)	13
4-2-2 Example (Import)	14
4-3 Font Replacement	15
4-3-1 Sample Setting	15
Revision History	16

1 Related Manuals

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

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 customer's responsibility to check all laws, regulations, and standards that the system must comply with.
- (4) 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 document is current as of March 2020.
The information contained in this document is subject to change without notice due to improvements.

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 proper operation and performance.



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.

Copyrights and trademarks

- Sysmac is a trademark or registered trademark of Omron Corporation in Japan and other countries for Omron factory automation products.
- Microsoft, Windows, and Excel are the trademarks or registered trademarks of Microsoft Corporation in the USA, Japan and other countries.
- Other company names and product names in this document are the trademarks or registered trademarks of their respective companies.
- Screen shots are used with permission from Microsoft Corporation.
- Some product photos and drawings in this guide are for illustrative purposes. Actual products may vary.

3 New Functionalities for NB-Designer V1.50

3-1 Overview

This guide provides information about the following features newly added in NB-Designer V1.50:

1. Connection destination setting change
2. Project import and export from/to NB-Designer
3. Font replacement

4 How to Use New Functionalities

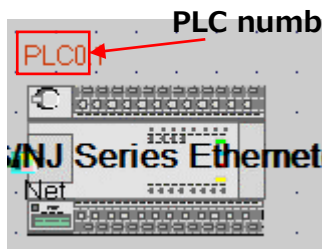
4-1 Connection Destination Setting Change

Configuration to communicate with an Omron Ethernet host is possible in a specific system memory. A screen for entering values into the system memory enables to change the setting without using NB-Designer.

You only can change the communication setting in the NB unit, not the setting of the connection destination unit itself.

4 - 1 - 1 Related System Memory

Address	Description
LW9685	Enter the number of PLC to connect. The number must start with 3 and ascending number, not a PLC number as it is. For example, If 3 is assigned to this address, the Ethernet host that has the lowest PLC number is selected. If 4 is assigned, the host whose PLC number is the second lowest is selected. After the PLC number is set to this address, the information about the target host, such as current IP address, is automatically set to LW9686 and higher address.
LW 9686 to 9689	Enter the IP address of connection destination. LW9686 is the most significant byte of the IP address. Ascending addresses represents the lower bytes in sequence. For example, IP address 192.168.250.0 is set as: 192 is LW9686, 168 is LW9687, 250 is LW9688, and 0 is LW9689.
LW9690	Enter the port number of connection destination.
LW9691	Set the node ID of connection destination. Enter the least significant byte of the IP address, i.e. the same value as LW9689.
LB9272	Change set values in the addresses above. To enable the settings, change this address to ON and then, reboot the NB unit.



PLC number (LW9685)

LW 9686 to 9689

LW9690

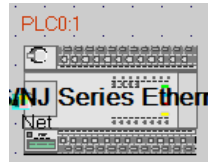
LW9691

Device Type:	<input type="radio"/> PT <input checked="" type="radio"/> PLC
Device No:	PLC0
IP Address:	192 . 168 . 250 . 1
Port No.	9600
Comm Protocol:	OMRON CJ/CS/NJ Ser
Node ID:	1

4-1-2 Creating Sample Screen and Setting Objects

This section provides an example to change communication settings of a project whose settings are as shown below.

Refer to “NB-series Programmable Terminals NB-Designer OPERATION MANUAL” (V106) for details about screen creation.



Device Type:	<input type="radio"/> PT <input checked="" type="radio"/> PLC
Device No.:	PLC0
IP Address:	192 . 168 . 250 . 1
Port No.:	9600
Comm Protocol:	OMRON C/J/CS/NJ Ser
Node ID:	1

1. Create a screen to rewrite the system memory with numerical entry objects and bit switches.

PLC No. (LW9685)	<input type="text" value="0"/>
IP address (LW9686-9689)	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
Port No. (LW9690)	<input type="text" value="0"/>
Node ID (LW9691)	<input type="text" value="0"/>
Enable Bit (LB9272)	<input type="checkbox"/>

2. Enter 3 for LW9685 to change the host whose PLC number is 0. As previously described, 3 is to be entered for the Ethernet host whose number is the lowest. PLC numbers 0 to 2 are reserved for serial communication hosts and not allowed to use.

Max: 65535 Min: 0	<input type="text" value="3"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
1	2	3	CLR	0	0
4	5	6	<-	0	
7	8	9	-	0	
0	.	ENTER			

3. After entering 3 for the PLC No.0 then confirming it, the IP address, port number, and node ID set to the host are displayed.

PLC No. (LW9685)	<input type="text" value="3"/>
IP address (LW9686-9689)	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="250"/> <input type="text" value="1"/>
Port No. (LW9690)	<input type="text" value="9600"/>
Node ID (LW9691)	<input type="text" value="1"/>
Enable Bit (LB9272)	<input type="checkbox"/>

4. Change values as you want. In this case, change the IP address from 192.168.250.1 to 192.168.250.5. When you change the least significant byte of the IP address, you must also change the node ID.

PLC No. (LW9685)	<input type="text" value="3"/>
IP address (LW9686-9689)	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="250"/> <input type="text" value="5"/>
Port No. (LW9690)	<input type="text" value="9600"/>
Node ID (LW9691)	<input type="text" value="5"/>
Enable Bit (LB9272)	<input type="checkbox"/>

5. Change the system memory LB9272, which updates values, to ON to save the setting after editing values. Reboot the NB unit to enable the saved setting.

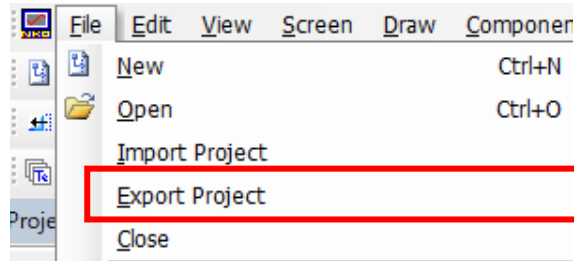
PLC No. (LW9685)	<input type="text" value="3"/>
IP address (LW9686-9689)	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="250"/> <input type="text" value="5"/>
Port No. (LW9690)	<input type="text" value="9600"/>
Node ID (LW9691)	<input type="text" value="5"/>
Enable Bit (LB9272)	<input checked="" type="checkbox"/>

4-2 Project Import and Export from NB-Designer Menu

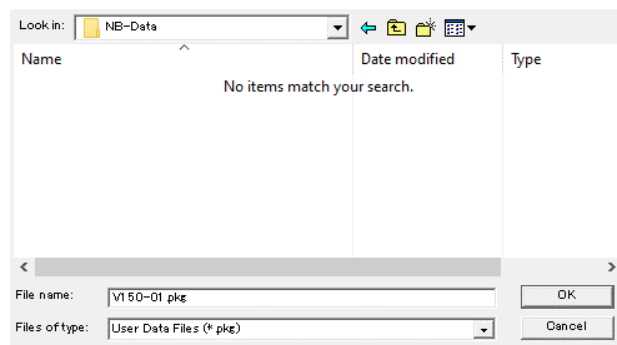
When you upload a project from the NB unit, a .pkg file is generated. It was necessary to decompile the .pkg file in NB-Manager to open the project. In versions of 1.50 or higher, the NB-Designer menu allow you to export or import a project to/from a .pkg file.

4 - 2 - 1 Example (Export)

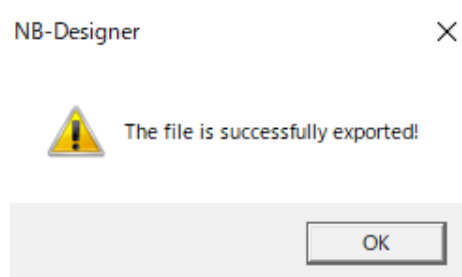
1. Start NB-Designer and select **File - Export Project**.



2. Select an export destination for a .pkg file.

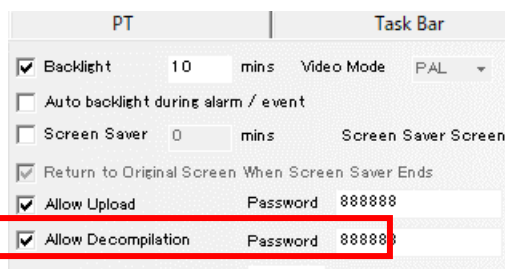


3. The export operation will succeed if the project is ready to be appropriately compiled.



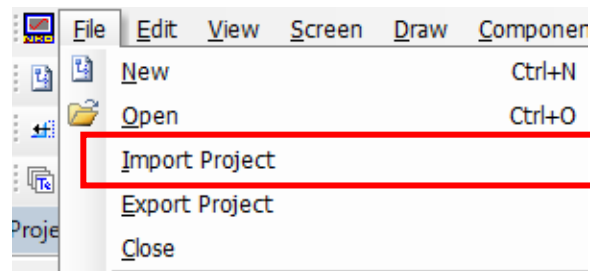
Additional Information

To perform a decompilation, click **PT Property** and open the **PT Extended Property** tab. Then check the **Allow Decompilation** box to enter a password.

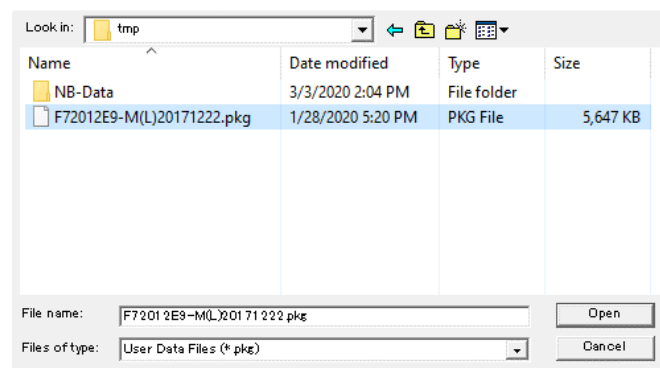


4 - 2 - 2 Example (Import)

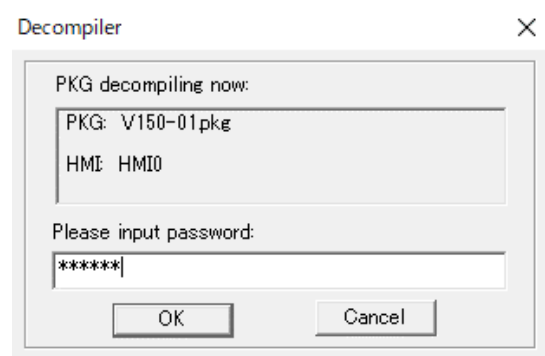
1. Start NB-Designer and select **File - Import Project**.



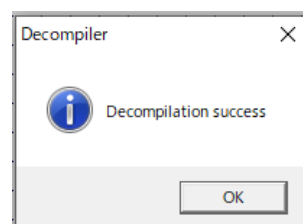
2. Select a .pkg file to import.



3. Enter the password for decompilation.



4. If the password is correct, the decompilation succeeds and then, a project will be unpacked.



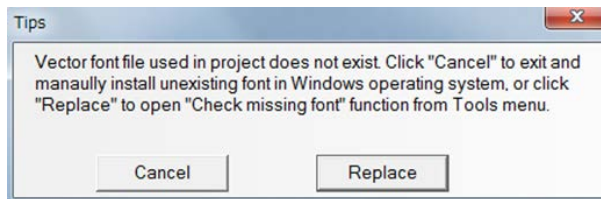
4-3 Font Replacement

When a project written with Windows fonts was opened on another PC, fonts not installed on the PC (missing fonts) were automatically replaced with default fonts.
In V1.50 or higher, you can replace missing fonts with any fonts.

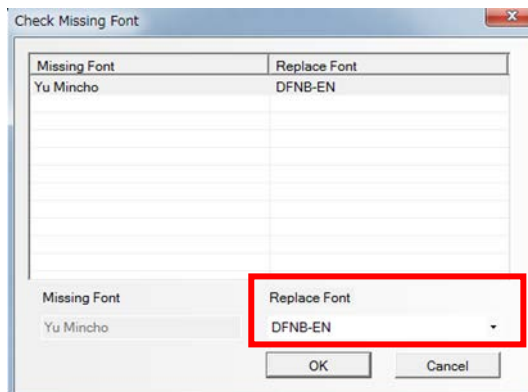
4-3-1 Sample Setting

The font replacement procedure is shown below.

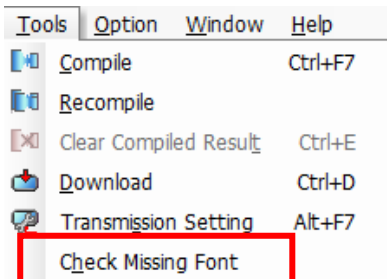
1. When you open a project including a missing font, the dialog that requires confirmation for replacing the font appears.



2. If you press **Replace** button in the dialog, the dialog that allow you to select a replacement candidate font is displayed. Select any font.
If you do not replace the font, press the **Cancel** button. The font is replaced with the default font.



3. You can display the dialog in Step 1 again after you have selected **Cancel**. Click **Tools - Check Missing Font**. After compilation, the font is replaced with the default font.



Additional Information

It is possible to prevent from replacement with the default font by installing the missing font in Windows.



Additional Information

If you do not replace the missing font, the missing font is replaced with the font that is on the top of the font list in the pull-down menu before compilation. After compilation, the font is replaced with the default font.

Revision History

Revision	Code	Date	Revision Description and Page
	01	March 2020	First edition

OMRON Corporation Industrial Automation Company
Kyoto, JAPAN

Contact: www.ia.omron.com

Regional Headquarters

OMRON EUROPE B.V.

Wegalaan 67-69, 2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ELECTRONICS LLC

2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A.
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD.

No. 438A Alexandra Road # 05-05/08 (Lobby 2),
Alexandra Technopark,
Singapore 119967
Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

Authorized Distributor:

© OMRON Corporation 2020 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Cat. No. V462-E1-01

0420(0420)