NB-series

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

Programmable Terminals

Web Interface
Operating Instruction

OMRON

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NB3Q-TW01B
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NB7W-TW01B
NB10W-TW01B
Programmable Terminals
Web Interface Operating Instruction Manual

September 2013

Introduction

This instruction describes only the configuration and settings required to use NB Web Interface. Please be sure to read and fully understand related manuals including NB-series manual before using the NB series Programmable Terminal, and read this instruction when using NB Web Interface.

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Indicate the additional information on operation, descriptions or settings.

Contents

1 Overview

This section describes an overview of the functions of NB Web Interface. This also describes the Operating Environments for NB Web Interface.

1-1 What is NB Web Interface?

NB Web Interface is a function that monitors a screen that an NB-series HMI displays using a web browser on a personal computer connected via Ethernet to an NB-series HMI (Programmable Terminal called "the PT").

NB Web Interface has the following functions.

- Monitors a PT screen at the site using a web browser.
- Operates a PT screen at the site using a web browser.

1-2 What NB Web Interface Can Do

This section contains the usage examples of NB Web Interface.

- **Remote Monitoring**

NB Web Interface allows users to check error and alarm details displayed on the PT by accessing the end user's PT from a web browser. Also when users instruct an operator, users can check work done by the operator using a web browser.

- **Remote Operation**

User can access the PT using a web browser. From a web browser, it is possible to remote control the PT.

1-3 Operating Environments

The following shows the system configuration for connecting a PT on a network to a personal computer using NB Web Interface.

1-3-1 Necessary NB Series Configuration

● **NB-series PT Models**

Any of the following NB-series is required to use NB Web Interface.

NB Model	Lot No.
NB3Q-TW01B NB5Q-TW01B NB7W-TW01B NB10W-TW01B	09X13M or above

When the NB model above do not have web server function, please use NB-Manager version 1.30 or above to update the kernel and file system, for operation detail, please refer to *[4-4 System Operate]* of **NB series NB-Designer Operation Manual.**

● **NB Designer Version**

The following version of the system program must be installed in your NB-series in order to use the NB Web Interface.

NB Designer Version (including NB Manager)
Version 1.30 or later*

In the NB-Manager, if there is "*Web Interface Operation*" option on the left side, it means this NB-Manager supports web server function.

*For download the application programs, please access your local Omron website, If local site cannot be found, please access Omron IA global site "http://www.ia.omron.com/ "at first and select the area where you are.

1-3-2 Necessary Network Environments

Your NB-series must be able to be connected to a personal computer via one of the following Ethernet standard in order to use the NB Web Interface.

Standard
10Base-T or 100Base-TX

1-3-3 Necessary Web Browser

The following web browsers can show a PT screen on a personal computer.

Web browser
Microsoft Internet Explorer Ver.8
Microsoft Internet Explorer Ver.9
Safari (IOS.6x)

2 Using NB Web Interface

This section explains how to connect a PT to a web browser on a personal computer using NB Web Interface.

2-1 Connection Method

This section explains a PT how to connect to a web browser on a computer using NB Web Interface. This document uses Windows 8 and Microsoft Internet Explorer Ver.9 as an example. For details on the operating system, the setting of the web browser and operation methods, refer to manuals for each product.

2-1-1 PT Settings

To use NB Web Interface, the following settings must be made in the project of NB.

1. Use NB-Designer, open the project which will be download to the PT, add bit button component in the frame, set type to "Alternate" in the bit button property, and set the address to LB9175.
2. Compile and download the project to PT.
3. Click the bit button on the PT to switch ON of address LB9175.

2-1-2 Connecting a Web Browser to a PT

This section explains how to connect a Web Browser to a PT.

1. Start a web browser.
2. Input the following URL.

    http://(PT IP Address)/

For example, when the PT IP Address is "192.168.0.1":

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

To directly open each screen of NB Web Interface, specify the following URL. For details on each screen, refer to **3 The Functions of NB Web Interface**.

Screen	URL
Monitor Screen	http://(PT IP Address)/monitor.html
Operation Screen	http://(PT IP Address)/operation.html
Configuration Screen	http://(PT IP Address)/config.html
Menu Screen	http://(PT IP Address)/menu.html

3. The login screen will be displayed.

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Reference

The NB Web Interface login uses the Basic Authentication defined by the HTTP.

It is possible to set whether to use the user authentication login screen or not when displaying

Monitor Screen. Refer to *4 NB Web Interface Settings* for the settings.

4.   Enter the user name and password.

The factory settings for the user name and password are as follows.

User name	default
Password	default

Reference

●   The user name and password can be changed by NB-Manager, for details please refer to *5 Authentication settings*.

5.   Click **OK** Button. The menu screen will be displayed.
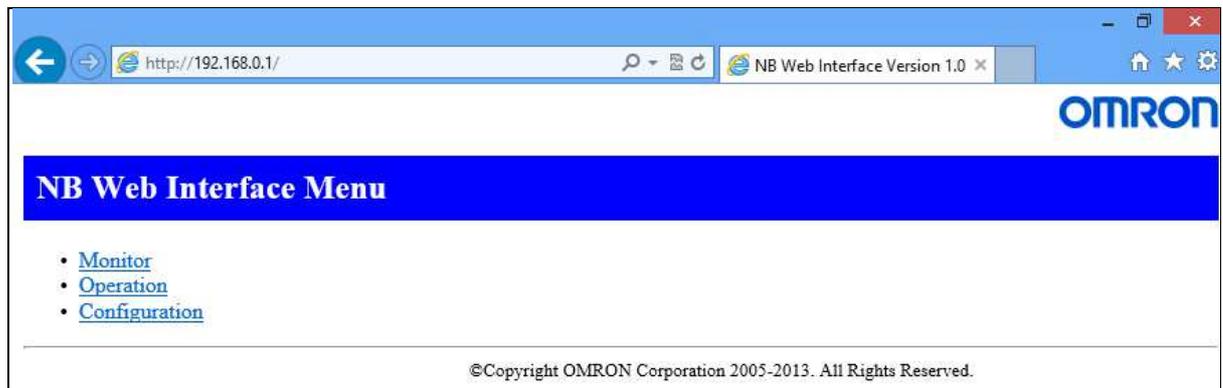
Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Item	Description
Monitor	Monitors the screen currently displayed on the PT.
Operation	Monitors the screen currently displayed on the PT. Operates the PT screen by mouse clicking the web browser.
Configuration	Make settings related to NB Web Interface.

Details on each screen are explained in *3 The Functions of NB Web Interface*.

Reference

●   The initial screen can be changed by setting. For details on the setting, refer to *4 NB Web Interface Settings*.

3 The Functions of NB Web Interface

This section explains the functions of NB Web Interface.

3-1 A List of the Functions of NB Web Interface

NB Web Interface has the following functions (screens).

Detail	Content
Menu screen	The menu screen of NB Web Interface.
Monitor screen	Monitors the screen currently displayed on the PT.
Operation screen	Monitors the screen currently displayed on the PT. Also operates the PT screen by mouse clicking the web browser.
Configuration screen	Make settings related to NB Web Interface.

Reference
● For Configuration screen, refer to *4 NB Web Interface Settings*.

3-2 Menu Screen

The Menu screen displays the following screen.
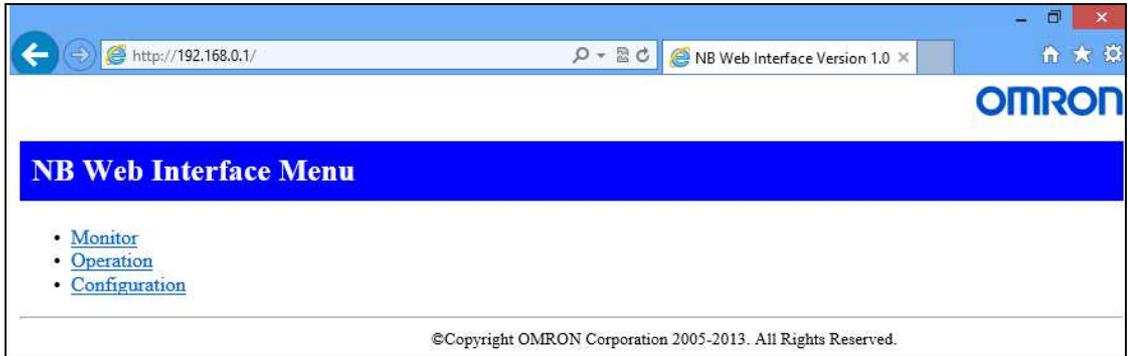
Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

Item	Description
Menu screen	Displays a list of the NB Web Interface screens. Clicking will jump to each screen.

3-3 Monitor Screen

3-3-1 Monitor Screen

The Monitor screen is used to display a PT screen.

It displays the screen as follow. (e.g.)

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

No.	Item	Description
1	Monitor Screen	Displays a PT screen.
2	Latest Captured	Displays the date and time when a PT screen was read.

Reference

● A PT screen cannot be operated with the Monitor screen.

● To operate a screen, please enter into the Operation screen.

● To hide the Latest Captured time, should be set in configuration page. For details on the setting, refer to *4 NB Web Interface Settings*.

3-3-2 Updating a Screen Display

The Monitor Screen periodically reads a screen displayed on the PT and updates the screen in a certain interval set in the Configuration screen. (Default: 15 seconds) For details on the setting, refer to *4 NB Web Interface Settings*.

3-3-3 Specifying the Display Image Format of the Monitor Screen

NB Web Interface displays a Windows BMP, JPEG or PNG format image of a PT screen on a web browser. To select one of the formats, make a setting in the Configuration screen.

Reference

● The display picture format settings in the Configuration screen will also be used for the Operation screen.

3-3-4 Not Using the User Authentication

It is possible to set whether or not to use the user authentication (Login screen display) when directly specifying a URL to open the Monitor screen. For details on the setting, refer to *4 NB Web Interface settings*.

3-4 Operation Screen

3-4-1 Operation Screen

The Operation screen is used to display the PT screen and operate the screen.

The Operation screen displays the following screen. (e.g.)

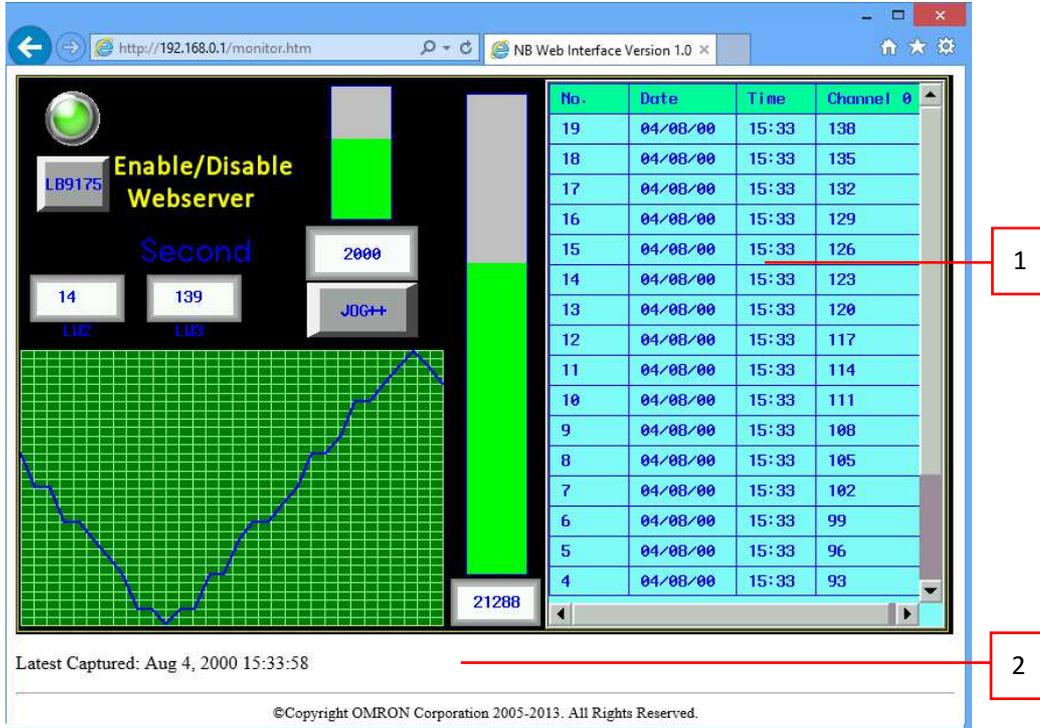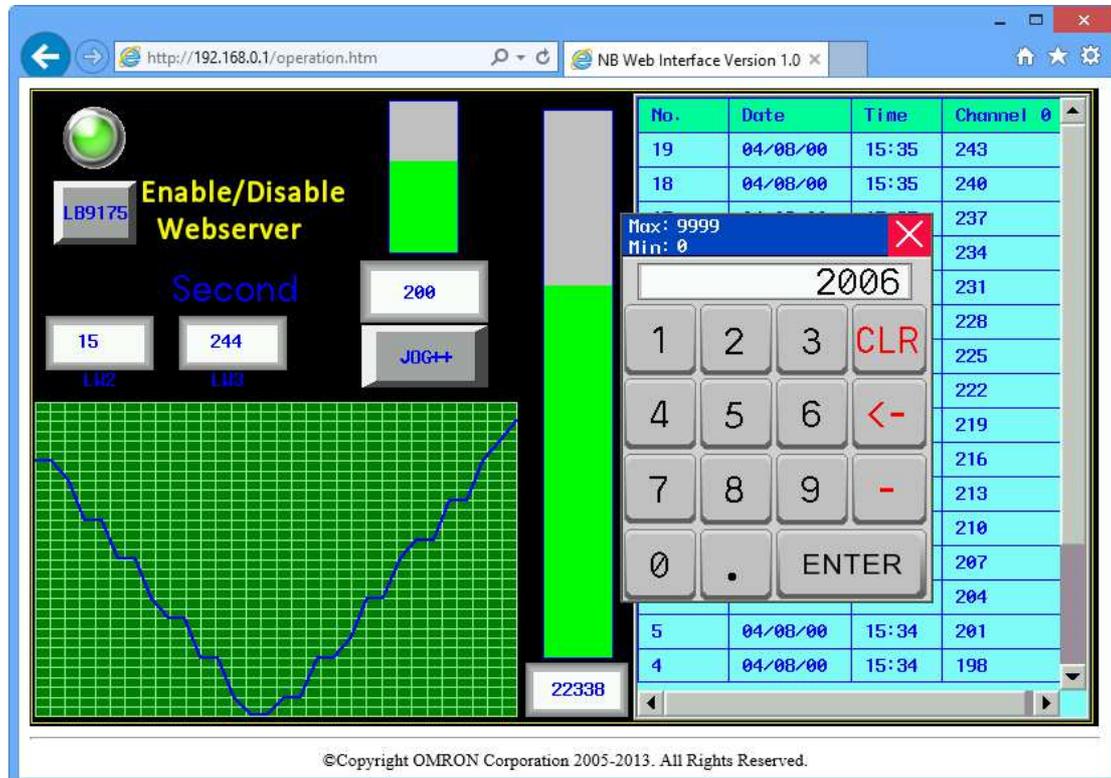*Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.*

Item	Description
Operation screen	Displays the PT screen. Allows the user to operate the PT screen by clicking the web browser.

Reference

● It is possible to prohibit operating the PT screen from the PT while operating the PT screen from the Operation screen. For details, refer to *4 NB Web Interface Settings*.

3-4-2 Reloading Screen Display

The Operation screen periodically reads a screen displayed on the PT and updates the display. The reload interval can be set in the Configuration screen (Default: 3 seconds).

It is also possible to set the time from when the user mouse clicks until the Operation screen reads a PT screen and updates the display. (Default: 1 second).

For details on the setting, refer to **4 NB Web Interface Settings**.

Reference

- The Reload Interval in the Monitor screen and Reload Interval in the Operation screen are independent from each other. Thus, they must be set separately.

4 NB Web Interface Settings

This section explains the NB Web Interface settings.

4-1 NB Web Interface Settings

4-1-1 Configuration Screen

The Configuration Screen is used to make settings for NB Web Interface.

1. Display the Configuration screen.

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

No.	Item	Description
1	Setting Items	Settings for NB Web Interface. For details on the settings, refer to **4-1-2 NB Web Interface Settings**.
2	apply	Reflects the setting changes in NB Web Interface.
3	save	Reflects the setting changes in NB Web Interface. Also saves those changes in the PT.
4	default	Returns all settings to the default settings.
5	reset	Cancels the setting changes currently being input, and returns to the settings before change.(return to the last valid settings)

2. Set each item, then click **apply** or **save** button.

3. A window stating of configuration done is displayed.

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

4. When three seconds elapsed after "Configuration Done" screen is displayed, the window automatically displays a screen set for *Initial Page*.

4-1-2 NB Web Interface Settings

Setting items in the Configuration screen are explained here.

Monitor Setting

Item	Description	Corresponding screen
Reload Interval	Set the time from when the Monitor screen reads a PT screen until when it next reads the NB screen. Between 2 and 99 seconds can be set. (Default: 15 seconds)	Monitor screen
Display Pic Format	Set which images format used when a PT screen is transferred. There are three formats can be select: BMP, JPEG and PNG. (Default: BMP) -Checked: Use -Unchecked: Not use When PNG images are used, user can set the compression level for PNG formats in the option "Compression Level".	Monitor screen, Operation screen
PNG Compression Level	Set the compression level for creating PNG data. Between 0(Compression non destructive) and 8(Highest compression rate) can be set. (Default: 3) Only enable when selected PNG format in "Display Pic Format".	Monitor screen, Operation screen
Display Date and Time	Set whether to display the date and time when the PT screen is captured on the bottom of Monitor screen. (Default: Selected) -Checked: Displayed -Unchecked: Not displayed	Monitor screen
Use Authentication	Set whether to use the user authentication or not when specifying a URL for Monitor screen. (Default: Unchecked) -Checked: User authentication used -Unchecked: User authentication not used	Monitor screen

Operation Setting

Item	Description	Corresponding screen
Reload Interval	Set the time from when Monitor screen reads an NB screen to when it reads the next NB screen. Between 2 and 99 seconds can be set. (Default: 3 seconds)	Operation screen
Delay After Click	Set the time from when mouse is clicked to when an NB screen is read. Between 0 and 99 seconds can be set. (Default: 1 second)	Operation screen
Disable Touch Panel	Set whether or not to accept inputs at the PT while the Operation screen is being shown. (Default: Unchecked) -Checked: Not accept touch inputs -Unchecked: Accept touch inputs	Operation screen refer :**note1**

note1: If user checked "Disable Touch Panel" option and entered the operation screen in browser then disconnect Ethernet cable, NB will waiting 5min for touch control restoration.

Server Setting

Item	Description	Corresponding screen
Page Title	Set the web page title of up to 64 characters. (Default: NB Web Interface name and its version) Only support ASCII.	All screens
Initial Page	Set a screen shown when "http://(PT IP address)/" is specified as a URL and when the Configuration screen is closed. (Default: Menu)	-
TCP Port	Specify the TCP port number that NB Web Interface uses. Port numbers 80, 8080, and between 49152 and 65535 can be input. (Default: 80) When this setting is changed, NB Web Interface will cut the connection, and wait to connect using the specified port number. Note: Safari browser cannot use 65535 for port number.	All screens
User JavaScript	Set whether to use JavaScript for screen reloading and screen operation. (Default: Checked) -Checked: Use -Unchecked: Not use	Monitor screen, Operation screen

Reference

● If an invalid value such as a value out of the range is inputted in any fields in the Configuration screen and the "*apply"* or "*save"* button is clicked, the value before change will be set in the corresponding fields. If the TCP Port setting is changed, NB Web Interface will cut the connection temporarily. Specify a port number and re-connect from a web browser.

For example, specify a URL as follows:

When the PT IP Address is 192.168.0.1 and the set port number is 8080. The URL should be input in browser is: http://192.168.0.1:8080/ (Input ":port number" after the IP address). If 80(default) is set as the port number, it don't needs to be specified.

5 Authentication settings

5-1 Change user name and password

1. Connect NB terminal to PC then open NB-Manager.
2. In NB-Manager select "Web Interface Operation" on the left side, the setting page will be displayed on the right side.
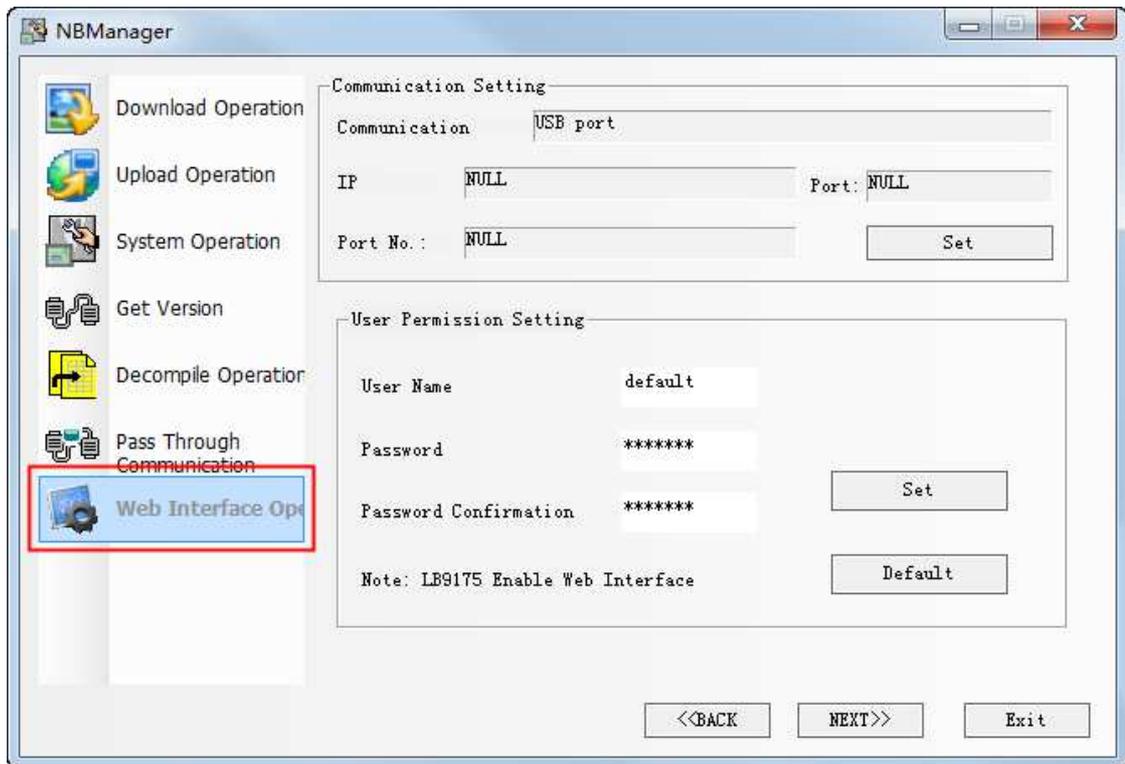
3. Input new user name, password, confirm password and click "Save Set", the new login data has been registered in NB.

Note: 1. Maximum length of user name and password is 32 char.

2. User name and password only support English letters and Arabic numerals.

Reference

● For connecting NB with PC, please refer to chapter *2-3 Connecting of NB-series with PC* of *NB series Setup Manual*.

5-2 Default user name and password Restoration

If user wants to restore the default user name and password just click "Default" button then click "Save Set" button.

Default login data:

User Name	**default**
Password	**default**

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6 Troubleshooting

This section explains the troubleshooting measures when errors occur in NB Web Interface.

6-1 Error Messages

This section describes error messages displayed during using NB Web Interface and their countermeasures.

Message	Cause	Countermeasure
401 Authorization Required	In the user authentication screen, an incorrect user name or password is entered.	Enter the correct user name and password.
404 Not Found	The specified URL is incorrect.	Specify the correct URL.
NB Image	Cannot properly transfer image data from the PT to a web browser. This occurs due to an excessive network load or with some browsers.	Click *Refresh* Button on the web browser.
Cannot find server or DNS error	An attempt was made to connect to a PT model that does not support the NB Web Interface.	Cannot connect to a model that does not support the NB Web Interface. For information on models that support the NB Web Interface, refer to *1-3-1 Necessary NB Series Configuration*.
	Not set bit register LB9175 to ON.	Set bit register LB9175 to ON.
	The specified IP address in a URL is incorrect.	Check the PT IP address. Then specify the correct IP address.
Other error messages	An excessive load is applied to the network or PT.	Wait a while and try again.

Revision History List

Rev	Date	Revision contents
1.00	2013-09-3	Original Production

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