



Operation Manual

PRODUCT NAME

I/O Configurator (NFC version)

MODEL / Series / Product Number

EX600-WEN# (Wireless Base)

EX600-WPN# (Wireless Base)

EX600-WSV# (Wireless Remote)

SMC Corporation

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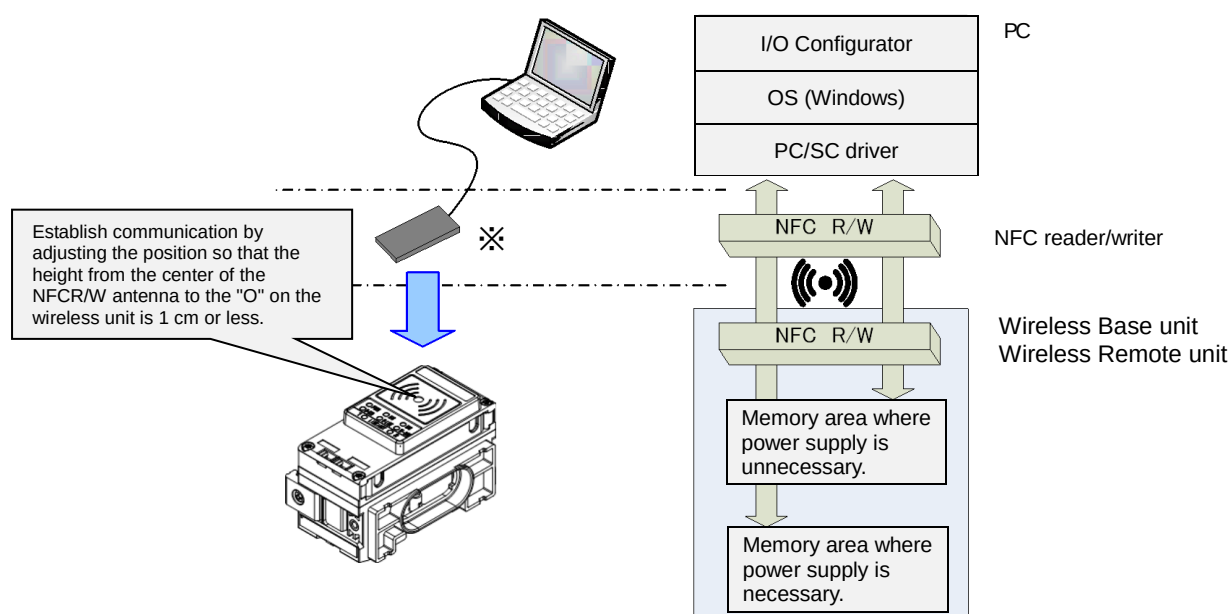
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1. Introduction

This operation manual describes the installation, construction of screens and operation method of the I/O configurator for NFC. The SMC wireless system I/O Configurator for NFC can be used to check the parameter setting of the wireless unit and the contents and status of the constructed wireless system, using an NFC reader/writer and a PC.

There are two types of settable parameters with the I/O Configurator: the parameters which can be read or written **when no power is supplied to the product** and the parameters which can be read or written **only when the power is supplied to the product**.

The connection details of the I/O Configurator for NFC and the wireless unit is shown in the below figure.



※One PC will recognize one NFC reader / writer per application setting.

Do not connect multiple NFC readers / writers to a PC.

Connection details of the I/O Configurator for NFC and the wireless unit

Before the wireless system can be used, it is necessary to pair each Remote with its Base using the I/O configurator for NFC.

The following sections of this document should be read before using the I/O configurator for NFC;

2. Preparation before use (page 7), which describes installation of drivers and the I/O configurator software
- 3.1.1. Login as administrator (page 13)
5. Pairing of wireless unit (page 70)
6. Wireless system configuration example (page 76)

*: About the communication timing

The NFC communication is not accessed all the time. Therefore, it is necessary to update the contents displayed on the screen by clicking the "Refresh button" when reading the parameters. The parameters changed are valid after re-supplying the power supply or by pressing the reset button in the I/O Configurator screen. As the parameter setting requires time for settlement, do not turn off the power supply for 2 seconds.

*: Establishing communication after changing units

As the settings between the Wireless Base unit and the Wireless Remote unit are different, it is necessary to update the displayed parameter by clicking the "Refresh button" on the screen of the I/O Configurator for NFC after changing the unit in which the parameter is set.

*: Operation already checked. NFC reader/writer

SONY Corporation	RC-S380/S
Advanced Card Systems Ltd.	ACR1251U (FW212 or later), ACR1252U (FW104.6 or later)

*: I/O Configurator (Web version)

This operation manual explains the outline of the setting using the I/O Configurator (NFC). I/O Configurator (Web) is used to set the module parameters for the "Wireless Base" and parameters for the "I/O devices". Refer to the operation manual for the I/O Configurator (Web version).

*: The product is available in Japanese, English, and Chinese by setting the language in the Windows OS.

1.1. Definition and terminology

	Term	Definition
A	Administrator mode	Administrator mode allows the user to configure the wireless units.
B	Broken line detection	A broken wire to the input or output equipment has been detected by the diagnostic function.
D	DHCP	A protocol that automatically allocates information, necessary to be registered to use the network, such as an IP address, to individual devices connected to the TCP/IP network.
	Dummy Remote	A Dummy Remote can be used to reserve a dummy area within the I/O map. A Wireless Remote can then be registered to the dummy area at a later time, without having to change the I/O map
E	Export	Function to save the configured values of a wireless unit by exporting them to a PC.
F	Fieldbus	Network protocol to establish digital communication between an automated industrial system such as a measurement tool or manipulation tool and a PLC.
	Full duplex	Communication system that can send and receive data at the same time bi-directionally.
H	Half-duplex	Communication method that can send and receive data reciprocally in bi-directional communication.
I	Import	Function to reconfigure a wireless unit by importing values stored on a PC.
	I/O Configurator (NFC version)	Application used to directly set and monitor the wireless unit parameters via an NFC reader/writer.
	I/O Map	Memory area reserved for the I/O data and diagnostic information of the wireless system
	IP address	A 32 bit digit sequence which is assigned to identify devices which are connected to the network.
M	MAC address	A unique number inherent to all devices connected to an Ethernet network.
	Manifold	Aggregate.
	Module	A Module consists of a Wireless Base or a Wireless Remote combined with I/O units and a valve manifold.
	Monitor mode	Monitor mode allows the user to monitor the configuration of the wireless units but not make setting changes.
N	NFC	Abbreviation of Near Field Communication. A Non-contact short distance wireless communication used for configuration of the Wireless units
	Number of outputs	Number of points which can operate output equipment such as a valve, lamp or motor starter.

	Term	Definition
O	Occupied points for the module input/output	Number of I/O points that can be controlled by a module.
P	Paring	Registration of the PID (Product ID) of the Wireless Remote unit to be connected to the Wireless Base unit. Registration occurs at the initial setting, then wireless system will activate.
	PID	Abbreviation of Product ID. A 32 bit digit sequence which is assigned to identify the wireless unit (Base/Remote unit).
	PLC	Abbreviation of Programmable Logic Controller. A digital computer used for automation of electromechanical processes.
S	Short circuit detection	Diagnostic function which detects generation of over current due to a short circuit between the output and the positive power supply line or the ground line.
	Short circuit protection	Function which avoids damage to the internal circuit when over current is generated due to short circuit between the output and the positive power supply line or the ground line.
R	Refresh button	Button to display the latest configuration of the wireless units, as set by the I/O configurator for NFC.
	Reset button	Button to update the wireless units with the latest configuration set by the I/O configurator for NFC. Note: Restarting the wireless unit will also activate the latest configuration.
	Remote Control	The mode to respond to the commands of BOOTP/DHCP Server provided by Rockwell Automation. It is possible to set parameters for arbitrary Gateway address and Subnet Mask.
W	Wireless channel	Identification number of the Wireless Remote unit connected to the Wireless Base unit.
	Wireless Base	A unit which establishes wireless communication of input or output data to the Wireless Remote. It is connected to a PLC to establish communication of input or output data.
	Wireless Remote	A unit which establishes wireless communication of input or output data to the Wireless Base.
	Wireless unit	A unit which establishes wireless communication. This is a generic name of the Wireless Base and Remote units.

2. Preparation before use

2.1. Software Installation

Driver: The following drivers should be installed before using this software.

When the SONY Corporation RC-S380/S NFC reader is used

(1): Microsoft. Net Framework 4.0 or higher

<https://www.microsoft.com/en-US/download/details.aspx?id=17718>

(2): NFC reader, writer connection driver NFC port software

(Ver 5.6.0.2 / Approx.40 MB / July.25.2017)

<https://www.sony.net/Products/felica/business/products/RC-S380.html>

When the Advanced Card Systems Ltd. ACR1251U/ACR1252U NFC reader is used.

(1): PC/SC Driver

(Ver 4.2.8.0 / 2018.3.20)

<https://www.acs.com.hk/en/products/342/acr1252u-usb-nfc-reader-iii-nfc-forum-certified-reader/>

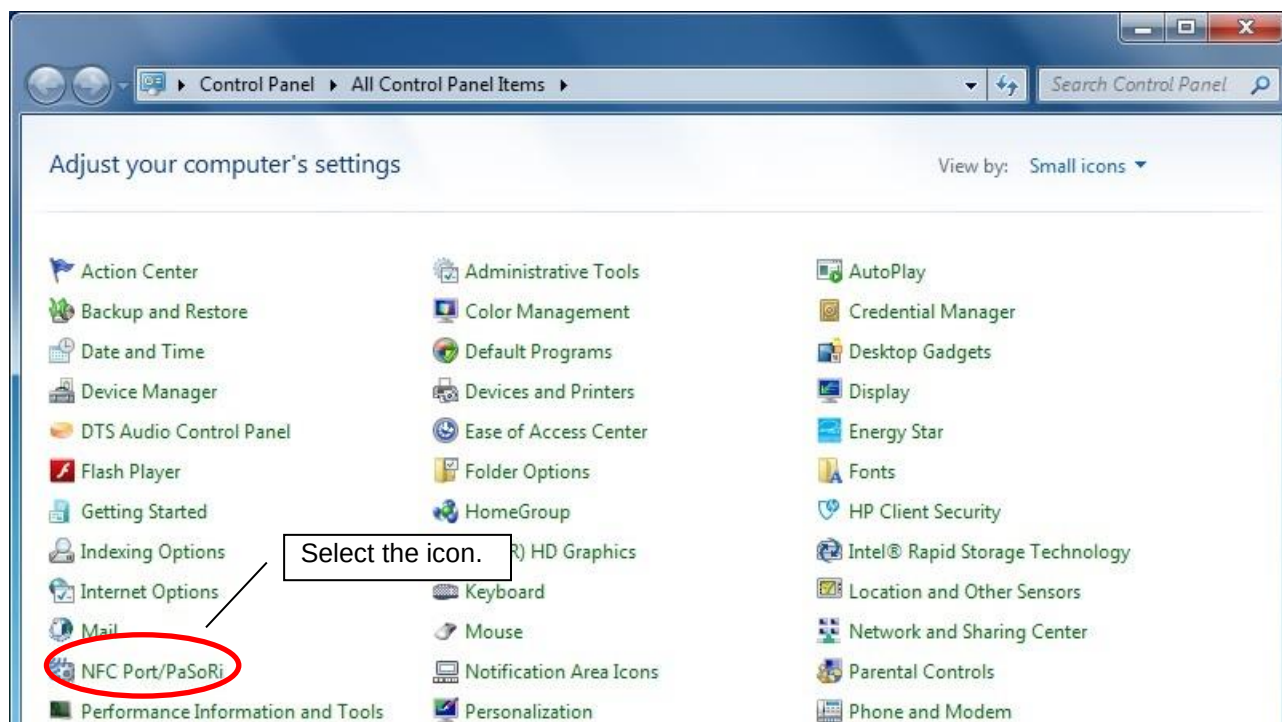
When the NFC reader / writer is held over the product, an error message may appear, such as "Device driver software was not successfully installed" or "Smart card was not identified" depending on the version of Windows OS. The reader / writer can be continuously used.

Refer to the Microsoft website (<https://support.microsoft.com/kb/976832/>).

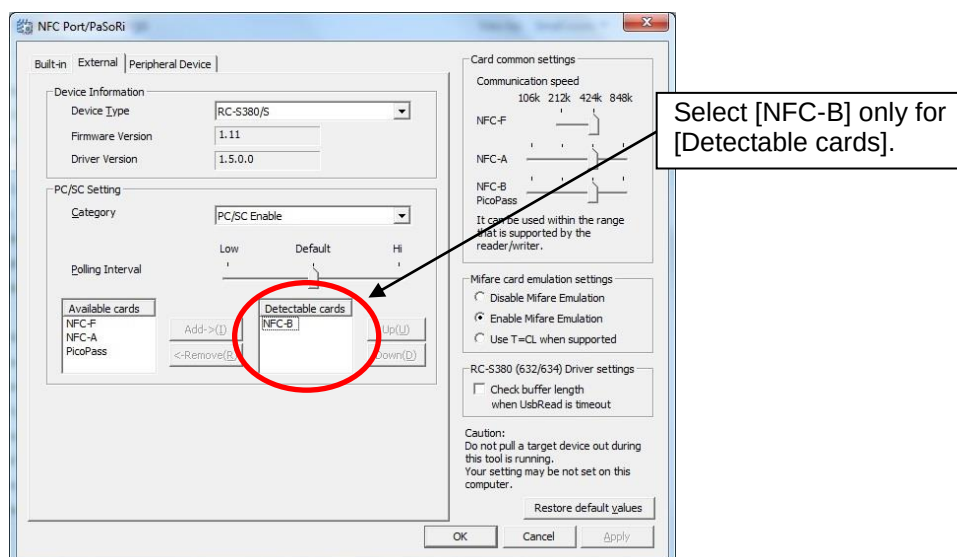
2.2. Before starting the software

When the SONY Corporation RC-S380 NFC reader is used, set up the NFC port following the procedure below. When the Advanced Card Systems Ltd. ACR1251U/ACR1252U NFC reader is used, the following setting procedure is not necessary.

- (1) Double-click the [NFC port/PaSoRi] icon on the control panel to display the setting window.



(Windows7 is used in this Operation Manual)

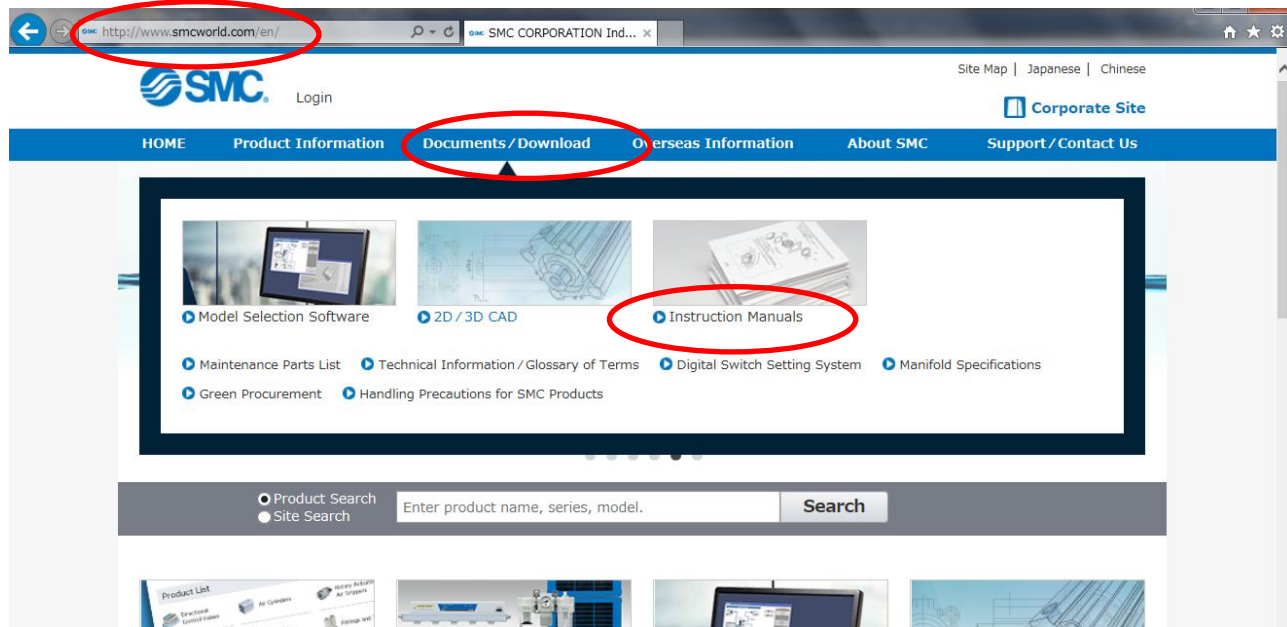


(Windows7 is used in this Operation Manual)

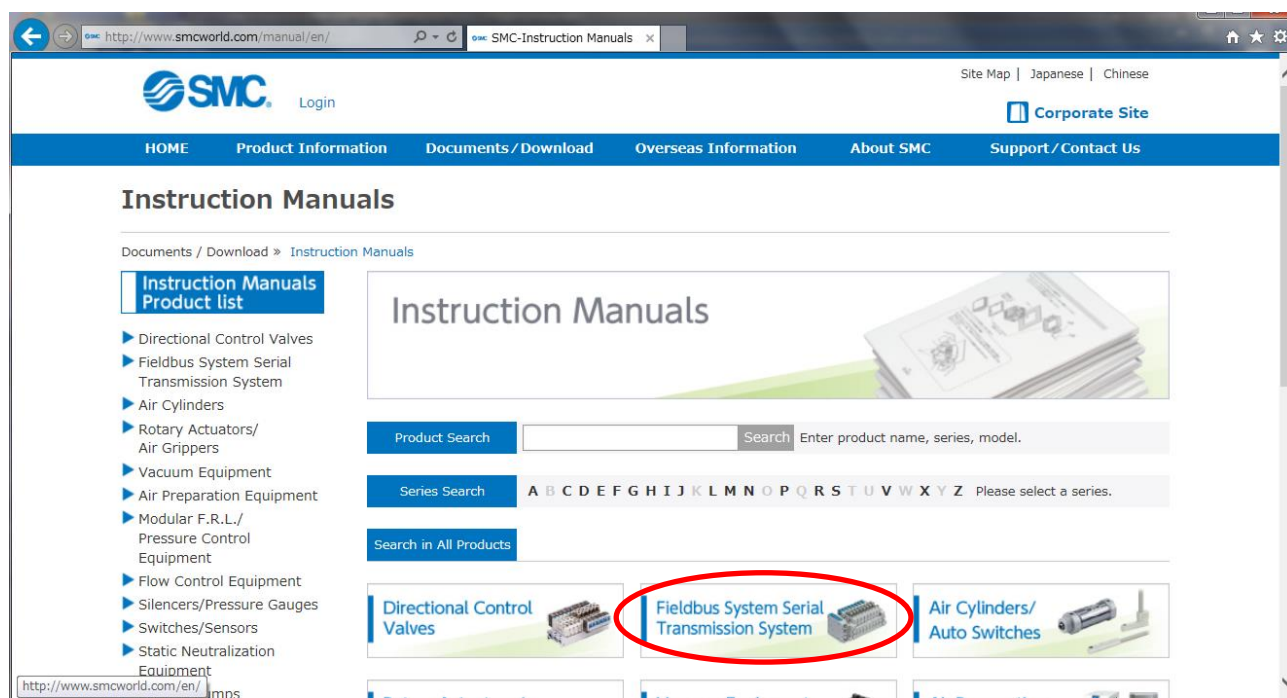
- (2) When the setting window is displayed, move [NFC-F], [NFC-A] and [PicoPass] from the card information indicated on the [Detectable cards] to the [Available cards] selection box.

2.3. Download the I/O Configurator (NFC version)

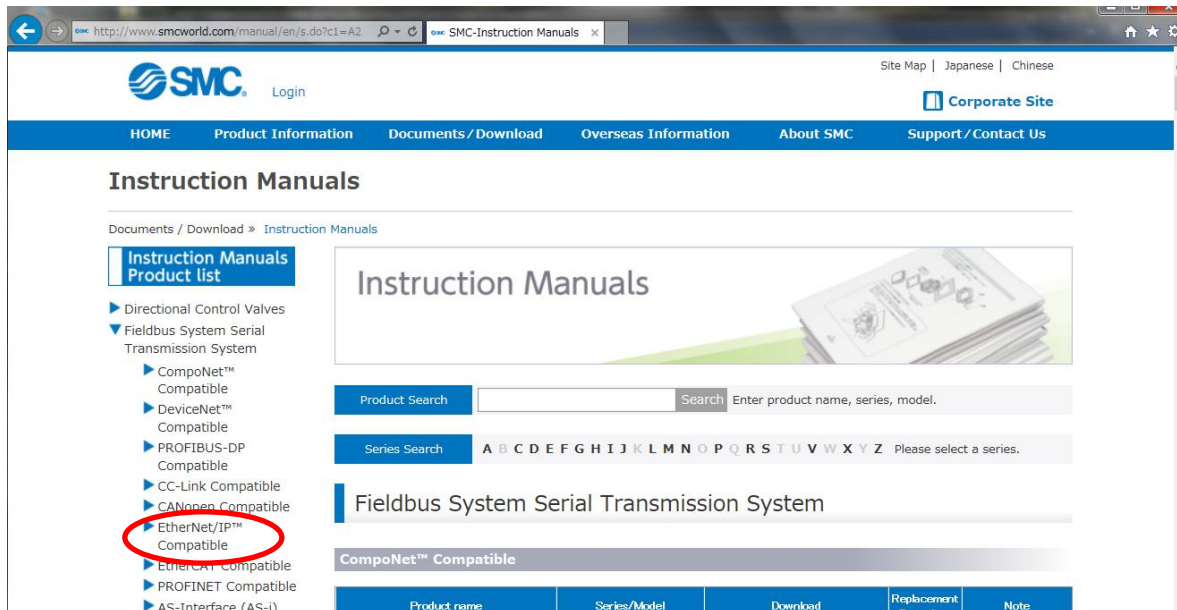
(1) On the SMC website (<https://www.smcworld.com/>), select the Documents/Download and select the Instruction Manuals.



(2) Select the Fieldbus System Serial Transmission System.



(3) Select the protocol that the product supports. (Example: EtherNet/IP™ compatible)



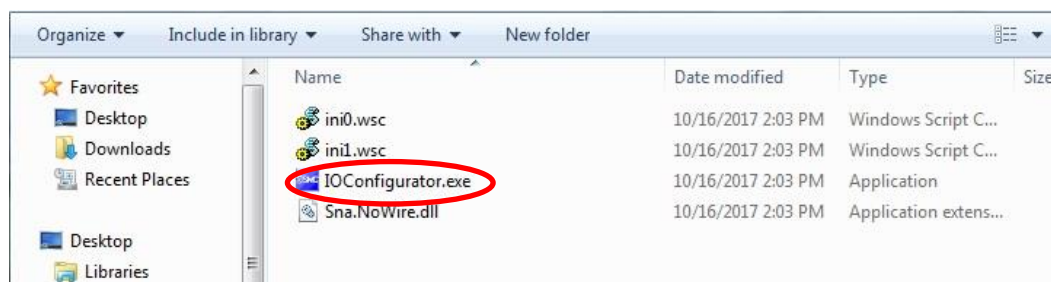
(4) Scroll down the page of the Fieldbus System Serial Transmission System and select the Configuration File of I/O configurator for NFC. Downloading will begin.

▶ Electric Actuators ▶ Pneumatic Instrumentation Equipment Information on Addition/Updates	EtherNet/IP™ Compatible				
	SI Unit (Compatible input and output) EtherNet/IP™ Compatible	EX600-SEN4	English Quick Guide Configuration File		
	GW Unit EtherNet/IP™ Compatible Compatible version : 1.0	EX500-GEN1	English Quick Guide Configuration File		Updating of the setup file
	GW Unit EtherNet/IP™ Compatible	EX500-GEN2	English Quick Guide Configuration File		
	SMC Wireless System EtherNet/IP™ Compatible	EX600-WEN/EX600- WSV	English Quick Guide Configuration File		
	I/O Configurator for NFC (SMC Wireless System EX600- WEN/SV)	EX600-WEN/EX600- WSV Initial setting application	Configuration File		

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2.4. Start the I/O Configurator (NFC version)



Open the downloaded file and double click the IOConfigurator.exe to start the I/O configurator for NFC. If the IOConfigurator.exe is moved to the desk top, move the folder of the configurator or create the short cut of the I/O configurator.exe for further use.

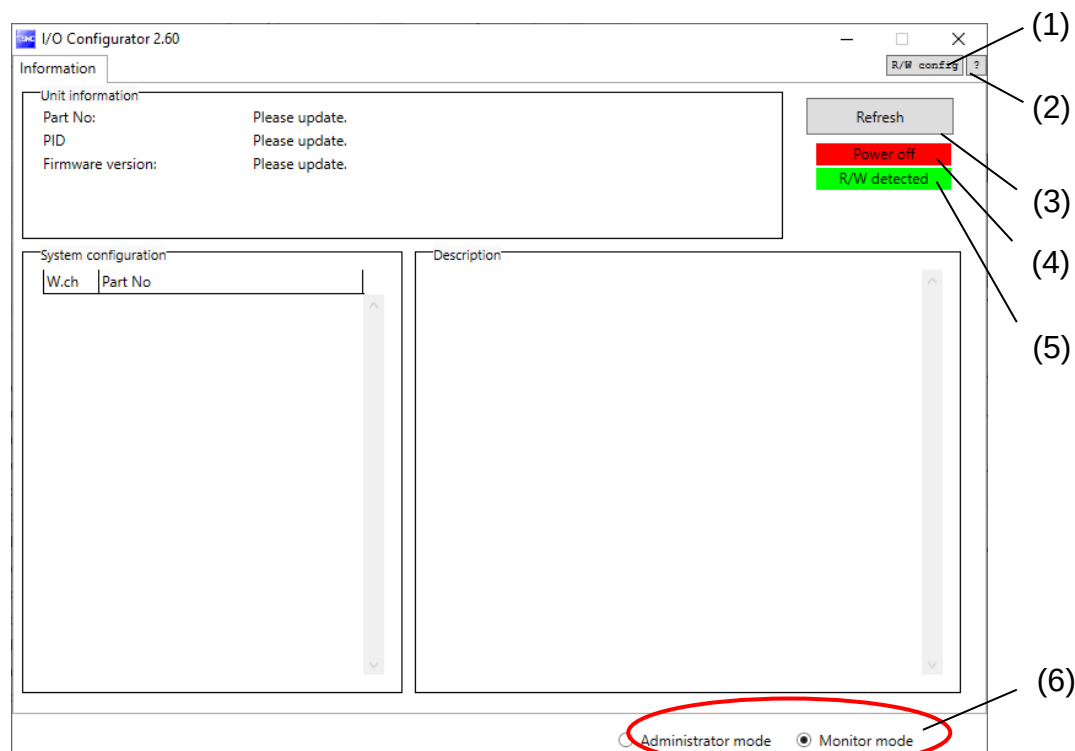
3. Window of I/O Configurator (NFC version)

In this chapter, the screen display in I/O Configurator (NFC version) in Wireless Base/Remote will be explained.

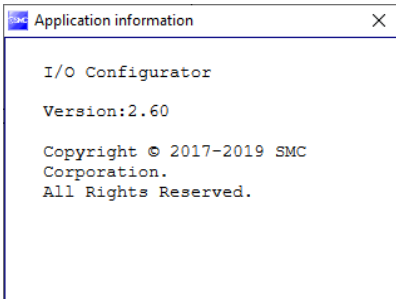
3.1. Basic characteristics

The window below is displayed when the I/O configurator for NFC starts. Place the NFC reader/writer within 1 cm of the centre of the wireless symbol on the wireless unit to display the Wireless Base/Remote information and change the parameter setting.

Here, basic functions of the I/O configurator for NFC are given.



•Basic characteristics

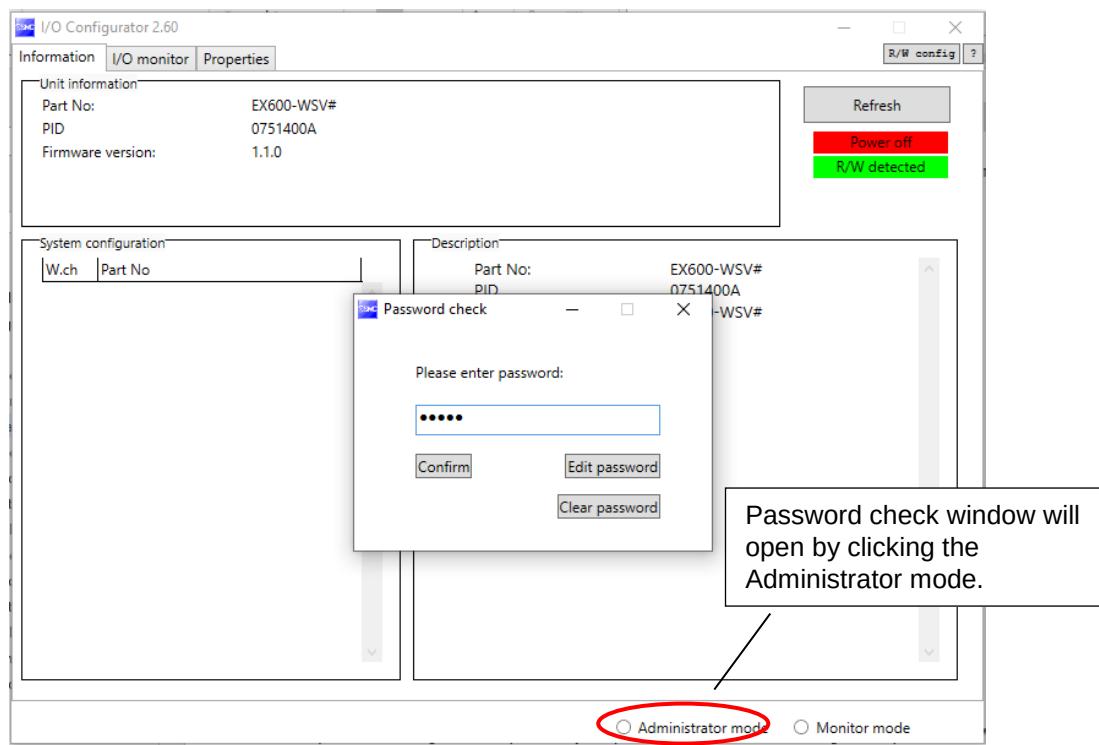
No.	Item	Explanation
1	NFC setting button	When the SONY Corporation RC-S380/S NFC reader is used. When the NFC setting button is clicked, "NFC port/PaSoRi" is displayed on the setting screen. (Refer to 2.2 Before starting the software. (page 8))
2	Version information button	The I/O configurator for NFC software version appears by clicking the question mark. 
3	Refresh button	The Refresh button updates the information displayed on the application window. The information on the window is not updated unless the button is clicked. Always click this button when moving the tab or after parameter setting. The Refresh button is displayed on all screens.
4	Power supply status	LED display to indicate the wireless unit power supply status. Power ON is displayed when power for the Wireless Base/Remote is supplied. Power OFF is displayed when power is not supplied.
5	R/W connection status	Indicates the connection status of the PC-NFC reader/writer. When the SONY Corporation RC-S380/S NFC reader is used. No driver: NFC reader/writer driver is not installed. *: Refer to Preparation before use (2. Preparation before use (page 7)). R/W undetected: NFC reader/writer driver is installed. NFC reader/ writer is not identified or USB is not connected. R/W detected: NFC communication with the wireless unit is available. When the Advanced Card Systems Ltd. ACR1251U/ACR1252U is used. No driver: NFC reader/writer is not identified or USB is not connected. ※ This is displayed when the Advanced Card Systems Ltd. driver software is installed. R/W detected: NFC communication with the wireless unit is available.
6	Access control button	These radio buttons switch the mode between Monitor mode and Administrator mode (button on the lower right of the I/O configurator for NFC window). Monitor mode: Wireless unit information or I/O map and parameter setting can be read. Parameters cannot be set. Forced output function cannot be used. Administrator mode: All functions are available after confirming the password is valid. *: The mode is automatically changed to monitor mode unless a mouse operation is performed within 300 seconds in Administrator mode.

3.1.1. Login to administrator mode

Password is necessary to login to the Administrator mode. In administrator mode It is possible to change the password using "Edit password".

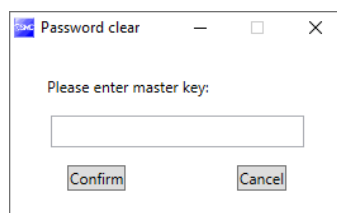
For security, change the password for the first time of access.

Default password: admin



If the password is forgotten, the previously set password can be deleted using "Clear password". When the [Clear password] button is clicked, the password clear window will appear. By entering the master key in the password box, the password is cleared and the next step can be accessed without password.

Master key: ADMIN

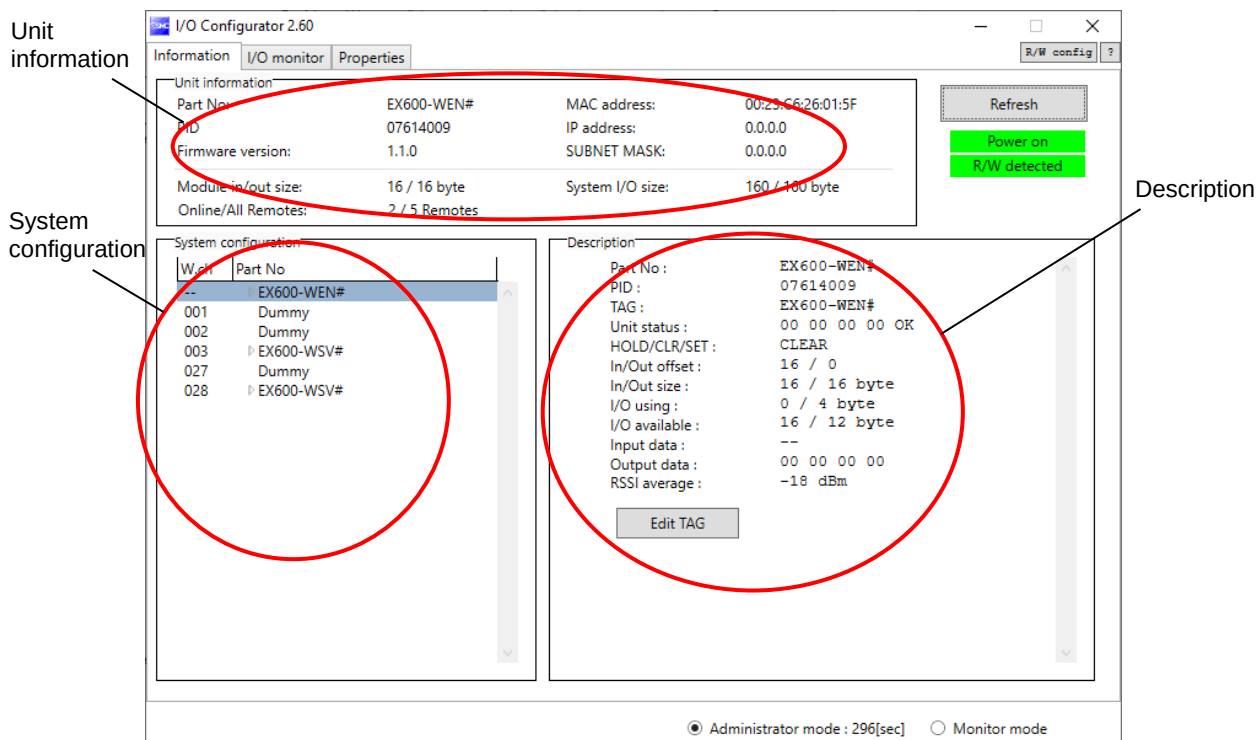


3.2. Display for Wireless Base

The tabs available on the upper left of the I/O configurator for NFC consists of the Information (page 14), I/O monitor (page 16) and Properties (page 20).

3.2.1. Information tab

The Information tab consists of Unit information, System Configuration and Description.



3.2.1.1 Unit information area

The Unit information area indicates the unit information.

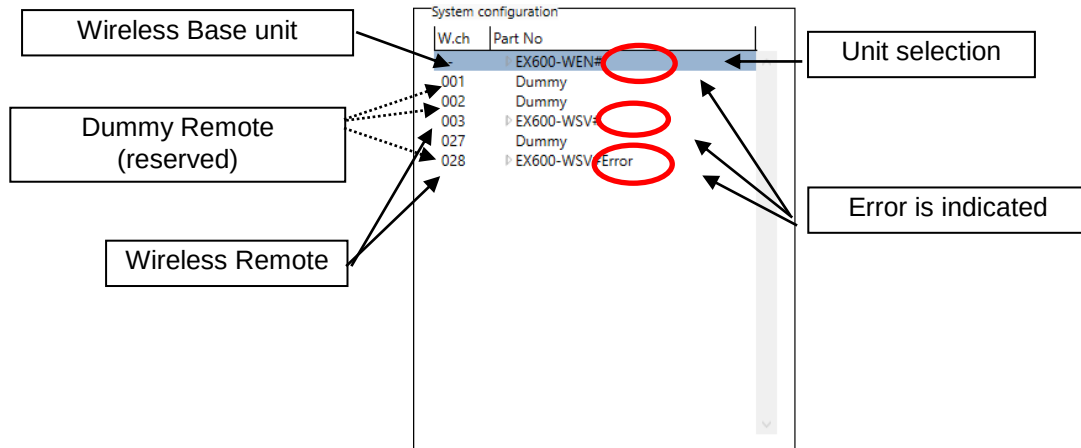
Unit information			
Part No.	EX600-WEN#	MAC address:	00:23:C6:26:01:5F
PID	07614009	IP address:	0.0.0.0
Firmware version:	1.1.0	SUBNET MASK:	0.0.0.0
Module in/out size:	16 / 16 byte	System I/O size:	160 / 160 byte
Online/All Remotes:	2 / 5 Remotes		

•Module information

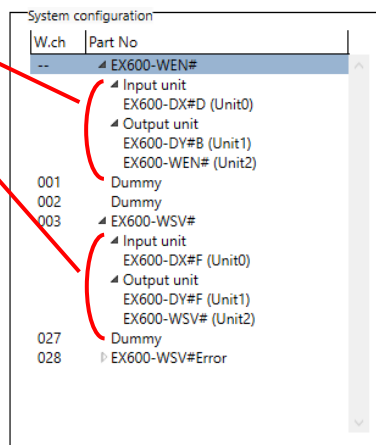
Description	Content	NFC access	
		Power on	Power off
Part No.	Wireless unit product number	Available	Available
PID	Wireless Base unit PID	Available	Available
Firmware version	Displays software version of the Wireless Base unit.	Available	Available
MAC address	MAC address of the Wireless Base unit	Available	Available
IP address	IP address of the Wireless Base unit	Available	Not available
Subnet mask	Subnet mask of Wireless Base unit	Available	Not available
Module in/out size	Number of occupied points for the control input and output of the Wireless Base unit.	Available	Not available
Online/All Remotes	Indicates the number of online Remotes/registered Remotes.	Available	Not available
System I/O size	Number of Input and output points in the wireless system	Available	Not available

3.2.1.2 System Configuration

System configuration shows the configuration information of the Wireless Base/Remote module.

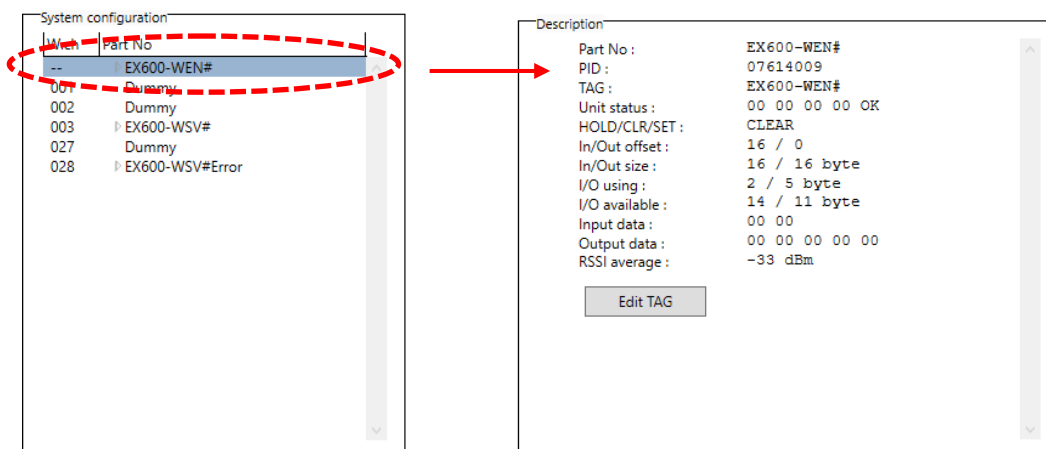


In System configuration, connected I/O units can be checked by clicking on the displayed wireless unit.



3.2.1.3 Description

Description about the unit selected in the System configuration. The Description is displayed by clicking on the wireless unit or I/O unit in the System configuration.



*: Description varies depending on the unit type. Refer to 3.4 Detailed information of units (page 41) for details.

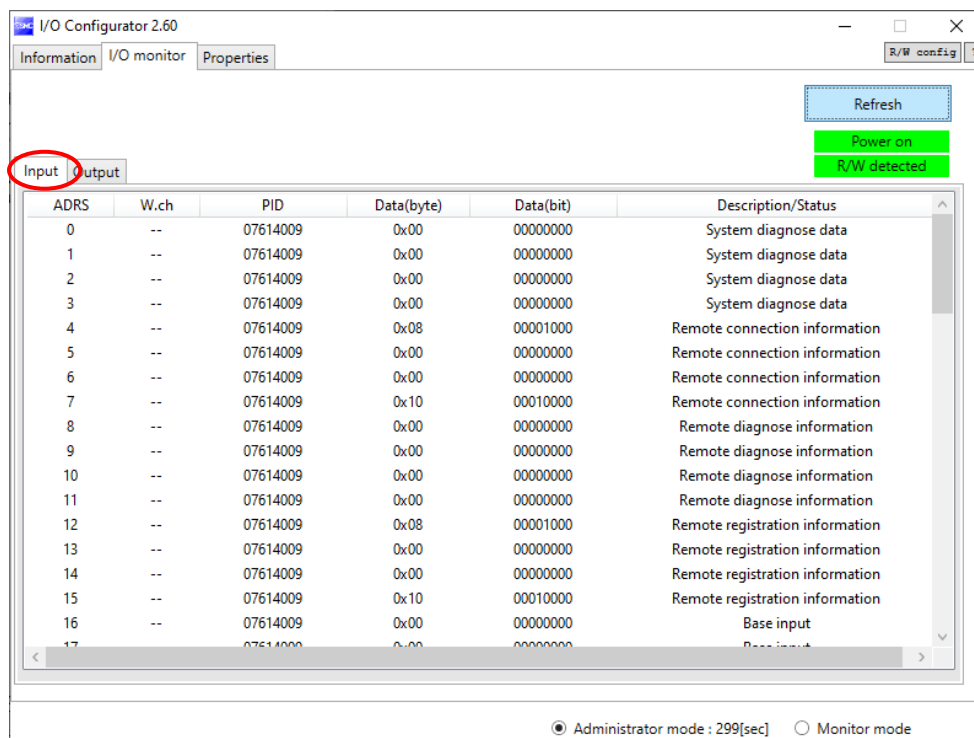
3.2.2. Input/Output monitor tab

In the I/O monitor tab, the wireless unit I/O map data can be monitored. Diagnosis information or details of input/output can be checked by double clicking each line in the display.

Forced output mode (4.3. Forced output (page 60)) can be selected within the Output tab.

3.2.2.1. Input tab

Input tab shows the input map information of the wireless unit.

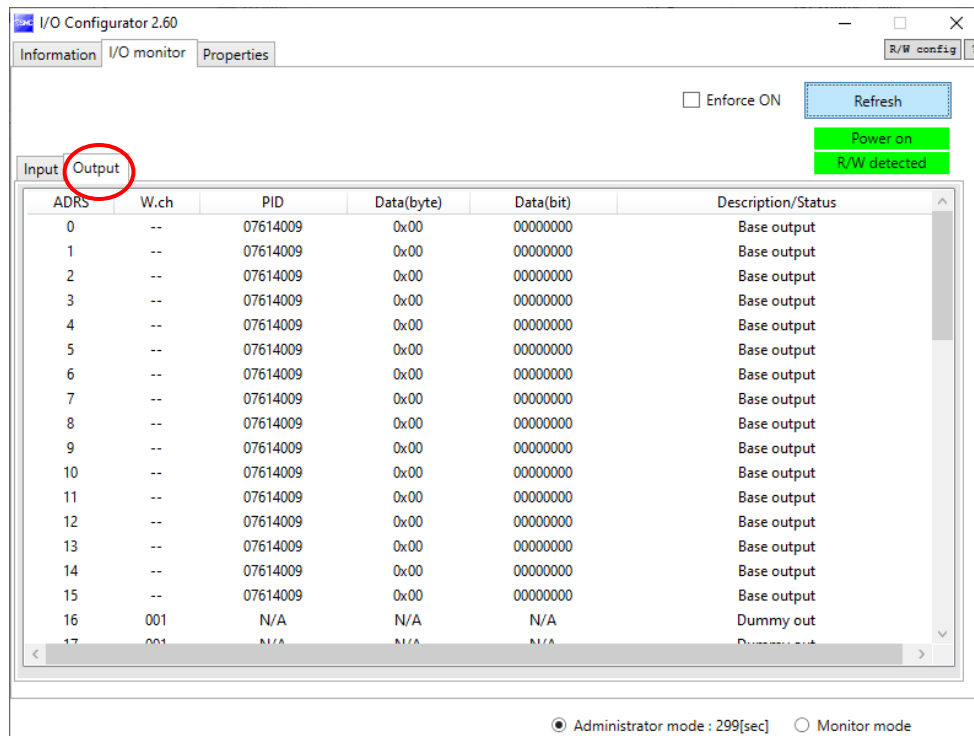


•Input display

Display	Content	Displayed items
ADRS	Displays the input map address.	0 to 159
W.ch	Wireless unit channel. (Wireless channel of the Wireless Base is displayed as [- -].)	--, ch001 to 127
PID	Wireless unit PID	Individual per unit.
Data (byte)	Input data is displayed in byte.	0x00 to 0xFF, no information
Data (bit)	Input data is displayed in bit.	00000000 to 11111111, no information
Description / Status	Details of input data.	•System diagnosis data •Remote connection information •Remote diagnostic information •Remote registration information •Base input •Remote input •Reserve input •Connection error

3.2.2.2. Output tab

Output tab shows the output map information of the wireless unit.

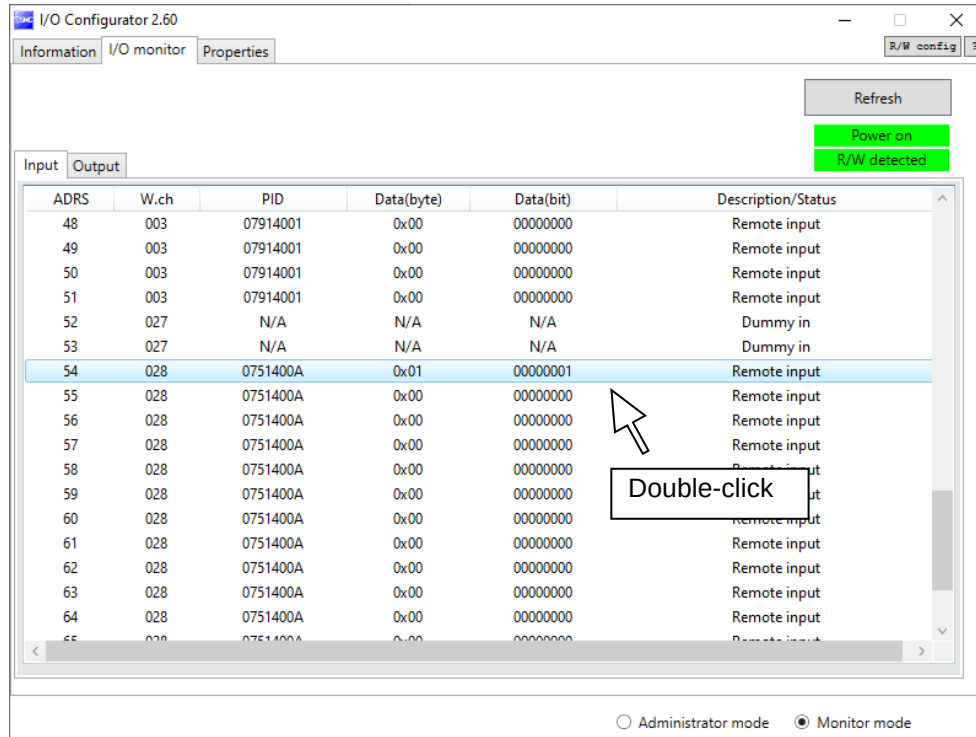


•Output display

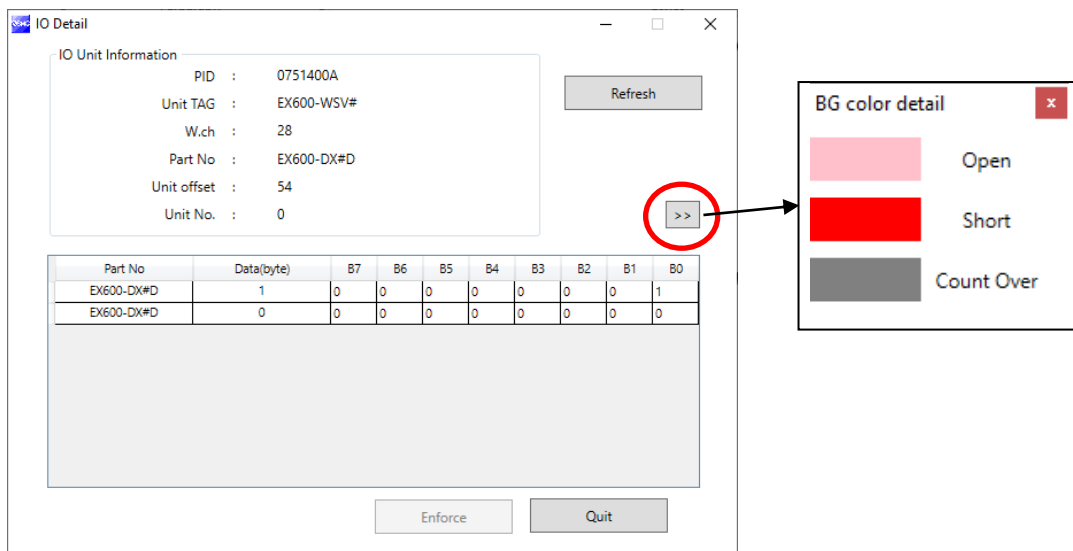
Description	Content	Displayed items
Enforce ON	Forced output mode can be selected by clicking Enforce ON. *: Refer to 4.3 Forced output (page 60) for the operation.	Checked : Enforce ON Unchecked : Enforce OFF
ADRS	Displays the input map address.	0 to 159
W.ch	Wireless unit channel. (Wireless channel of the Wireless Base is displayed as [- -].)	--, ch001 to 127
PID	Wireless unit PID	Individual per unit.
Data (byte)	Output data is displayed in byte.	0x00 to 0xFF, no information
Data (bit)	Output data is displayed in bit.	00000000 to 11111111, no information
Description / Status	Details of output data.	•Base output •Remote output •Reserve output •Connection error

3.2.2.3. I/O Detail

I/O Detail will open by double clicking the line of the desired address of I/O unit which is connected to the wireless unit.



IO unit information, IO data & diagnostics can all be checked in the IO Detail window. Diagnostic error type is represented by different background colours. The meaning of background colour can be checked by clicking [>>].



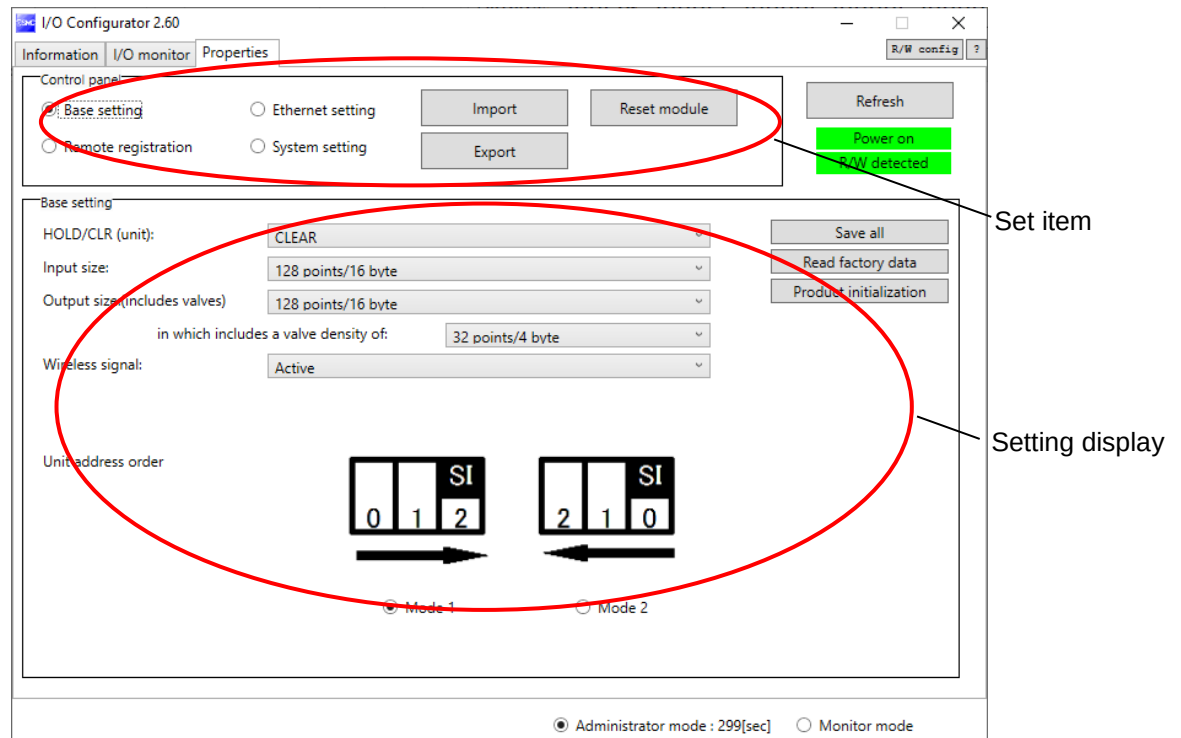
•Background colour

Background colour	Error	Description
	Open	Detection of unconnected load *: Invalid in initial state. Enable the function from the I/O configurator (WEB version).
	Short	Short circuit detection
	Count Over	Contact frequency upper limit detection *: Invalid in initial state. Enable the function from the I/O configurator (WEB version).

*: Description varies depending on the unit type. Refer to 3.4 Detailed information of units (page 41) for details.

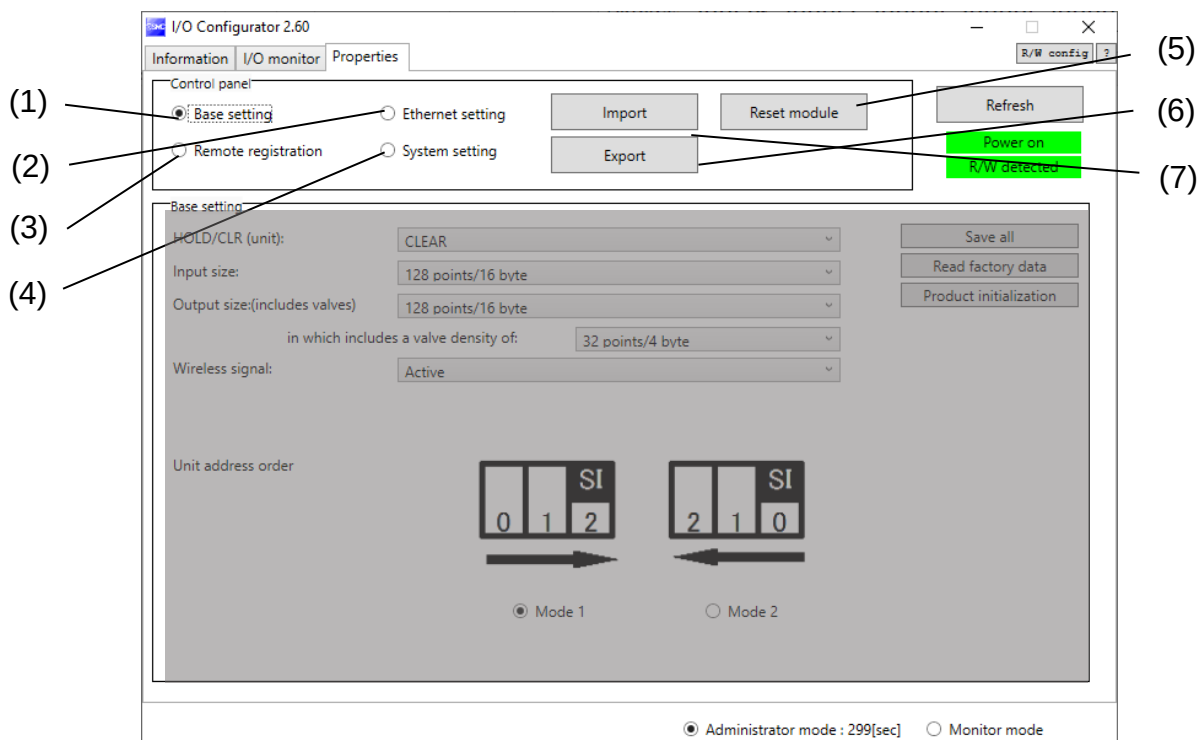
3.2.3. Setting tab

The configuration of the connected unit can be changed using the setting tab. It consists of setting items (page 21) and the setting display (page 22) (Base setting, Ethernet setting, Remote registration and System setting).



3.2.3.1. Setting items area

Control panel for setting consists of 4 radio buttons and 3 buttons.



•Radio buttons for selecting the required setting window.

No.	Description	Function
1	Base setting	Switch to the Base unit setting window. Occupied points for the module input/output can be set.
2	Ethernet setting	Switch to Ethernet setting window. Performing the IP address setting.
3	Remote registration	Switch to the Remote unit registration window. Wireless Remote or dummy Remote can be registered in the Wireless Base.
4	System setting	Switch to system setting display. The number of system input/output points can be set.

•Buttons for Setting

No.	Description	Functions
5	Reset module	Set parameters are returned to the time of power supply to the wireless unit. Click Reset module in order to reflect the parameter setting while power is supplied.
6	Export	Button to export the configuration of the wireless unit to a PC (saved as file type ".smc"). Refer to 4.4. Export Settings (page 64).
7	Import	Button to import the saved configuration of the wireless unit from a PC (imported from file type ".smc"). Refer to 4.5. Import Settings (page 66).

*: When the Reset module button is used, the wireless unit restarts and Ethernet communication or wireless communication is temporarily interrupted.

3.2.3.2. Setting display

(1) Base setting

The Base setting window.

The screenshot shows the 'I/O Configurator 2.60' software window. The 'Information' tab is selected, and the 'Base setting' section is active. The 'Control panel' has radio buttons for 'Base setting' (selected), 'Ethernet setting', 'Remote registration', and 'System setting'. There are buttons for 'Import', 'Export', 'Reset module', 'Refresh', 'Power on', and 'R/W detected'. The 'Base setting' section includes dropdown menus for 'HOLD/CLR (unit): CLEAR', 'Input size: 128 points/16 byte', 'Output size:(includes valves) 128 points/16 byte', 'in which includes a valve density of: 32 points/4 byte', and 'Wireless signal: Active'. There are buttons for 'Save all', 'Read factory data', and 'Product initialization'. The 'Unit address order' section shows two diagrams: 'Mode 1' with a right-pointing arrow and 'Mode 2' with a left-pointing arrow. The status bar at the bottom indicates 'Administrator mode : 294[sec]' and 'Monitor mode'.

I/O Configurator 2.60

Information | I/O monitor | Properties

R/W config 2

Control panel

☒ Base setting ☐ Ethernet setting ☐ Remote registration ☐ System setting

Import Export Reset module

Refresh

Power on R/W detected

Base setting

HOLD/CLR (unit): CLEAR

Input size: 128 points/16 byte

Output size:(includes valves) 128 points/16 byte

in which includes a valve density of: 32 points/4 byte

Wireless signal: Active

Save all Read factory data Product initialization

Unit address order

Mode 1 Mode 2

Administrator mode : 294[sec] Monitor mode

•Base setting items

Description	Explanation
Hold/Clear (unit)	Define all settings in the output operation status when the Fieldbus communication is disconnected. CLEAR: Clear the output. HOLD: Fix the output at the current value. Software control: Clear, Hold or Set for individual points can be set by software bit. *: For details of the Software Control. (Refer to 4.2 Software Control (page 57) for setting in I/O configurator for NFC)
Input size (Occupied points for the module input)	Set the number of inputs which can be controlled by the Wireless Base unit. Setting range: 0 to 128 points (0 to 16 bytes). Increase or decrease by 16 points.
Output size (Occupied points for the module output)	Set the number of outputs which can be controlled by the Wireless Base unit. Setting range: 0 to 128 points (0 to 16 bytes). Increase or decrease by 16 points. The module output point includes the number of points of the valve manifold output.
Valve density of ... (Occupied points for the valve manifold output)	Set the number of outputs to be allocated to the valve manifold output from the number of points set in the module output size. As the valve manifold output point is included in the module output point, the number of effective points are limited within the setting range of the module output point. Setting range: 0 to 32 points (0 to 4 bytes). Increase or decrease by 8 points.
Wireless signal	Define the operation status of wireless communication. *: Wireless communication is updated in real time. Turning off and on again of the power supply or reset is not necessary. Active: Wireless communication is available. Idle: Disconnect the wireless communication.
Unit address order	Define the address assignment direction of the EX600 I/O units connected to the Wireless Base unit. The address assignment direction is changed by mode 1/mode 2. Be careful about the I/O map. (Refer to the Unit address order of Wireless Base/Remote Module of the Operation Manual for details) Mode 1: Assignment to the right from the end plate. Mode 2: Assignment to the left from the wireless unit.

•Base setting button

No.	Description	Functions
1	Save all	Changed setting is stored in the equipment. Perform reset to reflect the setting.
2	Read factory data	Button to read the default value of the window being displayed. Refer to 4.6. Reading of the initial value (page 67) for use.
3	Product initialization	Initialize the unit to the default condition. Refer to 4.7. Initialize (page 68) for use.

(2) Ethernet setting

Ethernet setting display. (EX600-WEN# only)

•Ethernet setting items.

Description	Explanation
MAC address	MAC address of the product is displayed.
IP address type	Select the IP address setting mode. Select the mode suitable for your network environment. Manual : The IP address is set by inputting it directly. DHCP : The IP address is set automatically via the DHCP server. Obtained IP address etc. is lost when the power supply is cut. Remote Control*1 : The mode to respond to the commands*2 of BOOTP/DHCP Server provided by Rockwell Automation.
IP address	Sets the IP address. (The IP address is valid only when "Manual" mode is selected.)
Auto MDI/MDI-X	Select settings for straight cable or crossed cable. Select the settings suitable for your environment. Setting range: Auto/MDIX/MDI
Duplex	Set Duplex. Select the communication speed suitable for your environment. When the communication speed is set to automatic mode, it is set automatically regardless of the Duplex setting. Setting range: Full Duplex/Half Duplex
Speed	Set the communication speed. Select the communication speed suitable for your environment. Setting range: Auto/100 Mbps/10 Mbps

*1 : Firmware version 1.1.0 or later is required. Refer to 3.2.1. Information tab (page 30) for Firmware version.

*2 : Enable DHCP : IP address etc. can be obtained from BOOTP/DHCP Server.

If the power is supplied again in this state, information including IP address is obtained again.

Disable DHCP : IP address etc. cannot be obtained from BOOTP/DHCP Server.

If the power is supplied again with this condition, previous setting can be held.

(3) System setting

System setting display.

The screenshot displays the 'I/O Configurator 2.60' application window. The 'I/O monitor' tab is selected, and the 'System setting' radio button is active. The interface includes a 'Control panel' section with buttons for 'Import', 'Export', 'Reset module', 'Refresh', 'Power on', and 'R/W detected'. The 'System setting' section contains several dropdown menus for configuration: 'I/O mapping' (Manual), 'System input size' (1280 points/160 byte), 'System output size' (1280 points/160 byte), 'Diagnostic allocation' (Advanced), 'Max. Remote units' (15 Remotes), and 'DA refresh time(sec)' (1s). Buttons for 'Save all' and 'Read factory data' are also present. At the bottom, the status bar indicates 'Administrator mode : 298[sec]' and 'Monitor mode'.

Control panel
☐ Base setting
☐ Ethernet setting
☒ System setting
☐ Remote registration

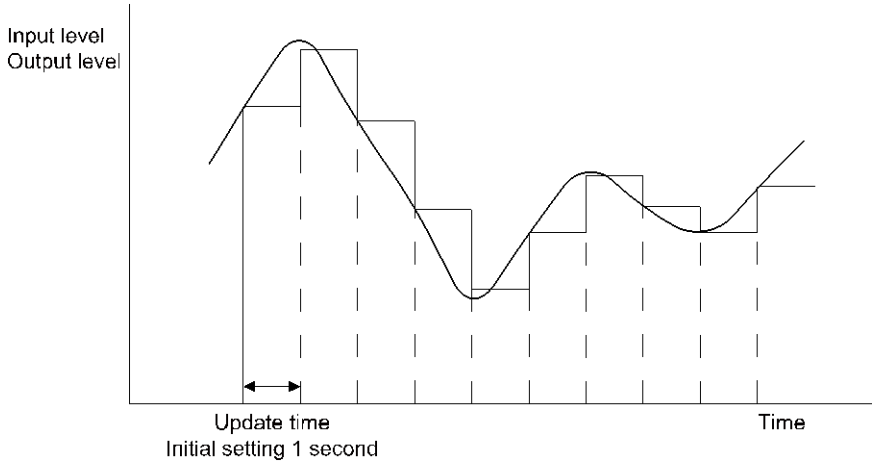
Buttons: Import, Export, Reset module, Refresh, Power on, R/W detected

System setting	
I/O mapping:	Manual
System input size	1280 points/160 byte
System output size	1280 points/160 byte
Diagnostic allocation:	Advanced
Max. Remote units:	15 Remotes
DA refresh time(sec)	1s

Buttons: Save all, Read factory data

Status bar: Administrator mode : 298[sec] Monitor mode

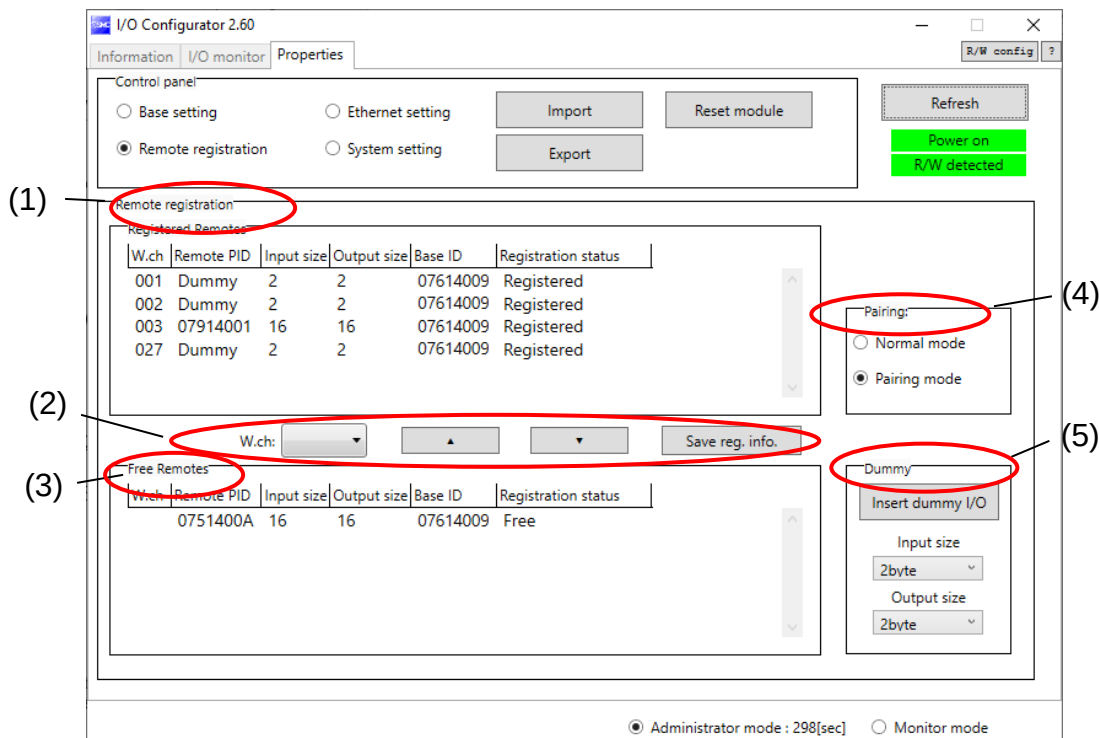
•System setting items

Description	Explanation
I/O mapping	Define the I/O assignment of the entire wireless system including the Wireless Remote unit registered to the Wireless Base unit. Auto assignment: All I/O points mapped to the Wireless Base unit and Wireless Remote unit are identified and mapped automatically. (The total number of connected I/O points is the total number of I/O points set by the diagnostic information, Wireless Base and registered Remote unit.) Fixed assignment: Fixed at the number of I/O points set in the System input size and System output size. ※"Auto assignment" is fixed for EX600-WPN※
System input size	Set the number of inputs which can be controlled by the entire wireless system. Setting range: 16, 128 to 1280 points (2 to 160 bytes). Increase or decrease by 128 points. *: Number can only be set when Fixed mapping is used for IO mapping.
System output size	Set the number of outputs which can be controlled by the entire wireless system. Setting range: 16, 128 to 1280 points (2 to 160 bytes). Increase or decrease by 128 points. *: Number can only be set when Fixed mapping is used for IO mapping.
Diagnostic allocation	Set the diagnostic information allocated to the I/O map. Refer to the "Diagnostic allocation" section in the Operation Manual for details. None: No diagnostic data Simple: System diagnosis Detailed: System diagnosis + Wireless Remote connection/diagnosis/registration information
Max. Remote units	Set the number of Wireless Remote units which are registered to the Wireless Base unit. Wireless channels for the number of the set units are valid. Setting range EX600-WEN# : 0/15/31/63/127 pcs. EX600-WPN# : 0/15/31 pcs.
DA refresh time	Set the data update time of the analogue output unit connected to the Wireless Remote. Setting range: 0.1/0.2/0.5/1/2/5/10/30/60 s (Initial value 1 s) *: The analogue input update time can also be set for every Wireless Remote unit. Refer to "Remote setting" (page 38). 

(4) Remote registration

Registration for wireless communication between the Wireless Base unit and the Wireless Remote unit. For this wireless system, it is necessary to register the PID for each product to establish communication without interference from another network. The window for Remote registration consists of Registered Remotes, Save reg. info., Free Remotes, Pairing and Dummy.

*: Registration of Remotes needs to be performed with the power supplied. Refer to 5. Pairing of wireless unit (Page 70) for the registration procedure.



(4-1) Registered Remote

Details of the registered Remote.

Registered Remotes					
W.ch	Remote PID	Input size	Output size	Base ID	Registration status
001	Dummy	2	2	07614009	Registered
002	Dummy	2	2	07614009	Registered
003	07914001	16	16	07614009	Registered
027	Dummy	2	2	07614009	Registered
028	0751400A	16	16	07614009	Registered Failed

•Details of the registered Remote

Description	Content
W.ch	Wireless channel at which the Wireless Remote was registered
Remote PID	Wireless Remote PID
Input size	Wireless Remote input size
Output size	Wireless Remote output size
Base ID	PID of the registered Wireless Base
Registration status	Current registration status (Registered information is saved ⇒ "Registered", registered information is not saved ⇒ Registered Wait, registration is not successful ⇒ Registered Failed) *: When the registration is not successful, "Registered Failed" is displayed. Start the registration again.

(4-2) Save registration buttons

Buttons used for Remote registration. Remote registration buttons are only available when wireless units are in pairing mode.

W.ch:

•Remote registration buttons

Description	Content
W.ch	Select the wireless channel used to register the Remote to the Wireless Base. (Only channels available for registration will be displayed)
[▲]	Button to move the Wireless Remote from Free Remotes to Registered Remotes. (Specify the wireless channel before moving)
[▼]	Button to move the Wireless Remote from Registered Remotes to Free Remotes (The Wireless Remote will now be displayed in the Free Remotes area)
Save the registered information "Save reg. info".	Button to register the Remotes shown in "Registered Remotes" with the status "Registered Wait" ("Registered" will be displayed when the Remote is successfully registered to the Wireless Base)

(4-3) Free Remotes

Details of the Free Remotes.

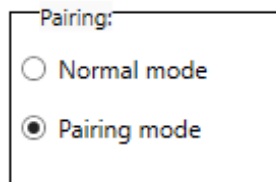
Free Remotes					
W.ch	Remote PID	Input size	Output size	Base ID	Registration status
	0751400A	16	16	07614009	Free

•Details of Free Remote

Description	Content
W.ch	No information to display
Remote PID	Wireless Remote PID
Input size	Wireless Remote input size
Output size	Wireless Remote output size
Base PID	Previously registered Base PID.
Registration status	Display the status "free".

(4-4) Pairing

Details of Pairing. The radio buttons used for pairing are only available in Administrator mode. They can only be set when power is not supplied.



Pairing:

☐ Normal mode

☒ Pairing mode

•Details of pairing radio button

Description	Explanation
Normal mode	Button to change to Normal (non-pairing) mode. Indicates that the current status is Normal (pairing disabled) mode.
Pairing mode	Button to change to Pairing mode. Indicates that the current status is Pairing mode.

(4-5) Dummy Remote

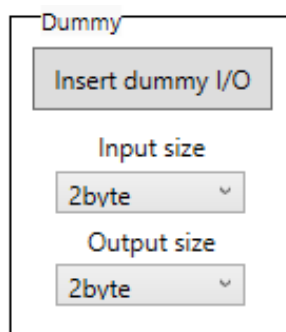
The dummy Remote can register a "Dummy area" in the I/O map. A Wireless Remote unit can be added without changing the I/O map by registering the Wireless Remote unit to the "Dummy area" even after system construction.

The Wireless Remote unit allocation order to the I/O map is from smallest channel to largest channel registered by the wireless channel which has been set during Remote unit registration.

At the time, the wireless channel in which no Wireless Remote unit is registered will be ignored.

When adding new Wireless Remote unit, it may be required to change the I/O map depending on the wireless channel number.

The dummy Remote can be registered only with the Wireless Base unit.



Dummy

Insert dummy I/O

Input size

2byte

Output size

2byte

•Details of dummy Remote radio button

Description	Explanation
Insert dummy I/O	Button to move the dummy Remote to Registered Remotes.
Input size	Set the input size for the dummy Remote (0 to 16 byte).
Output size	Set the output size for the dummy Remote (0 to 16 byte).

*: Refer to 5.2 Registration of dummy Remote (page 75) for details and registration of dummy Remotes.



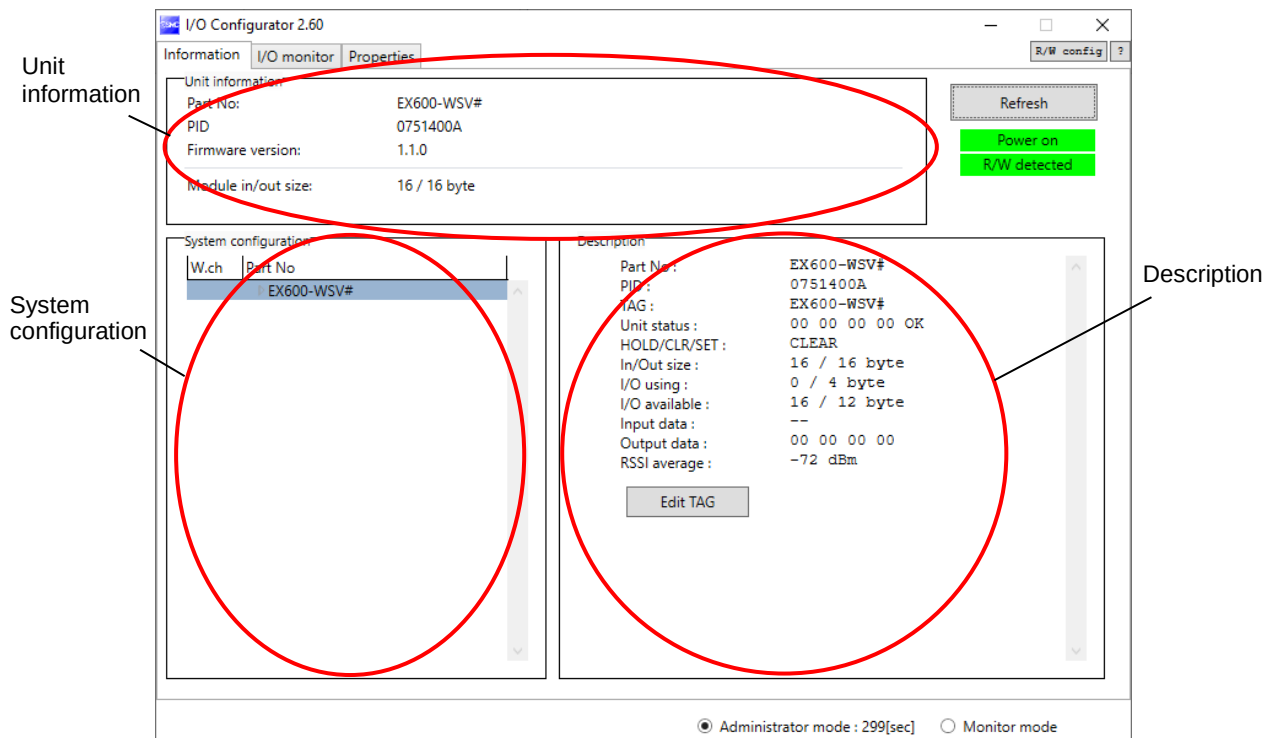
- To reserve the dummy Remote registration, it is necessary to set the number of inputs/outputs. If a Remote unit with inputs/outputs which are different from the set numbers is registered, the I/O map should be changed.

3.3. Display for Wireless Remote

The tabs available at the upper left of the I/O configurator for NFC window consists of the Information (page 30), Input/Output monitor (page 32) and setting (page 36).

3.3.1. Information tab

The tab for Information consists of Unit information, System configuration and Description.



3.3.1.1. Unit information area

The unit information area indicates the unit information.

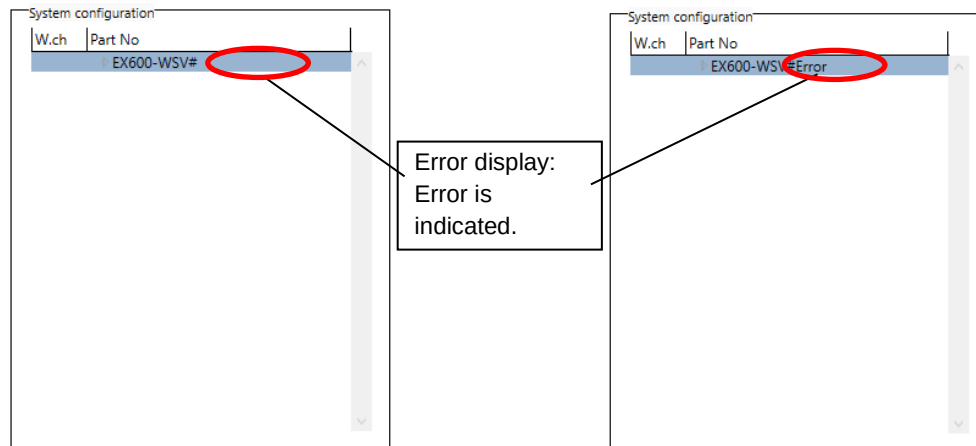
Unit information	
Part No:	EX600-WSV#
PID	0751400A
Firmware version:	1.1.0
Module in/out size:	16 / 16 byte

•Wireless Remote unit information

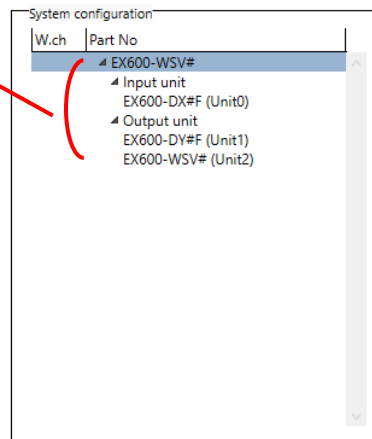
Description	Content	NFC access	
		Power on	Power off
Part No.	Product number of the Wireless Remote unit	Available	Available
PID	Wireless Remote unit PID	Available	Available
Firmware version	Displays software version of the Wireless Remote unit.	Available	Available
Module in/out size	Occupied points for the input and output size of the Wireless Remote unit.	Available	Not available

3.3.1.2. System Configuration area

System configuration shows the configuration information of the Wireless Remote module.

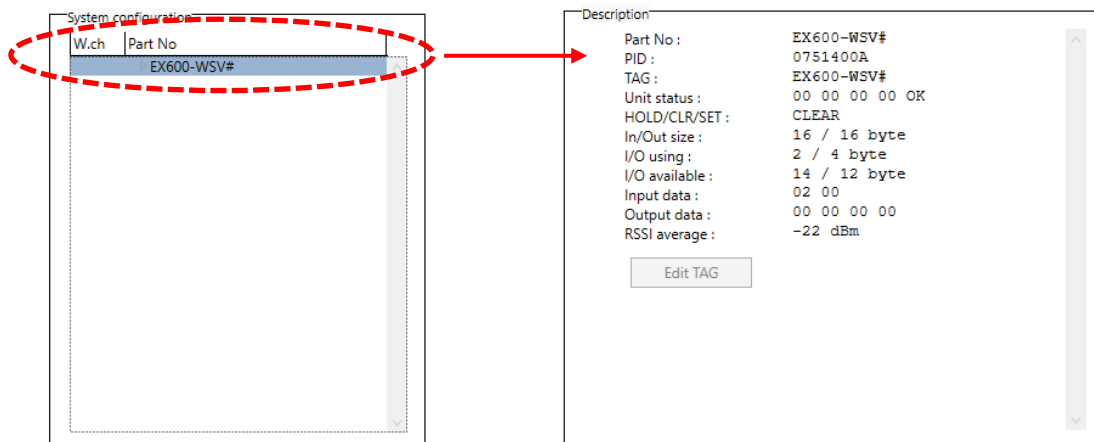


In System configuration, connected I/O units can be checked by clicking the Wireless Remote unit.



3.3.1.3. Description area

Description of the unit selected in the System configuration area is displayed.



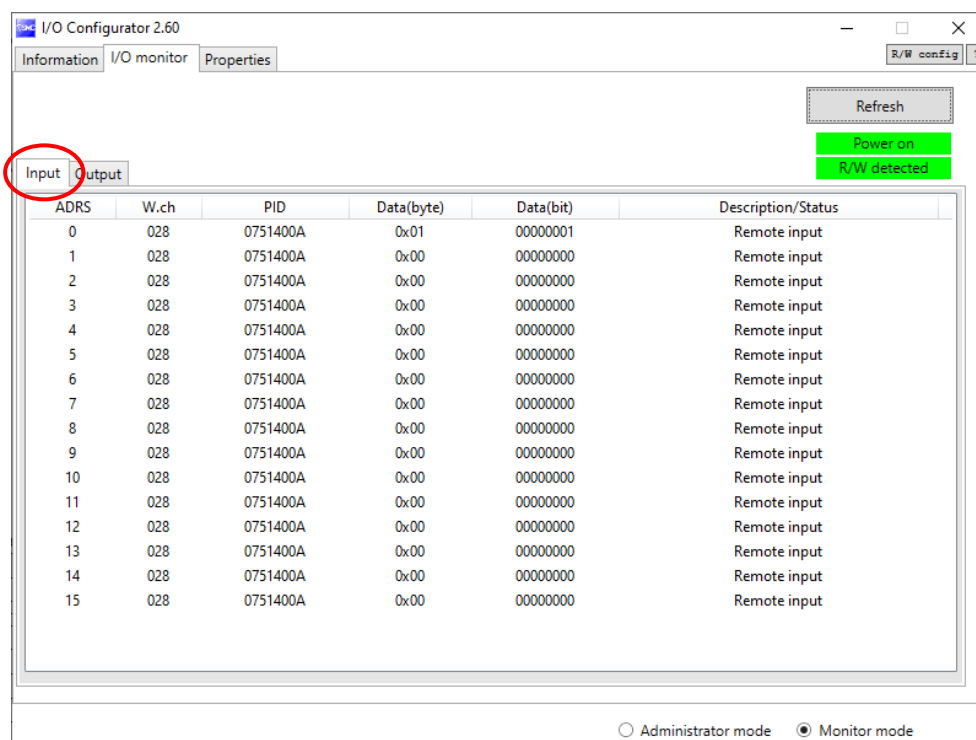
*: Description varies depending on the unit type. Refer to 3.4 Detailed information of units (page 41) for details.

3.3.2. Input/Output monitor tab

In the I/O monitor tab, the wireless unit I/O map data can be monitored. Diagnostic information or details of input/output can be checked by double clicking the line in the display. It is possible to switch between input map and output map using the tabs shown. Forced output mode (4.3 Forced output) (page 60) can be selected in the Output tab.

3.3.2.1. Input tab

Input tab shows the input map information of the Wireless Remote unit.

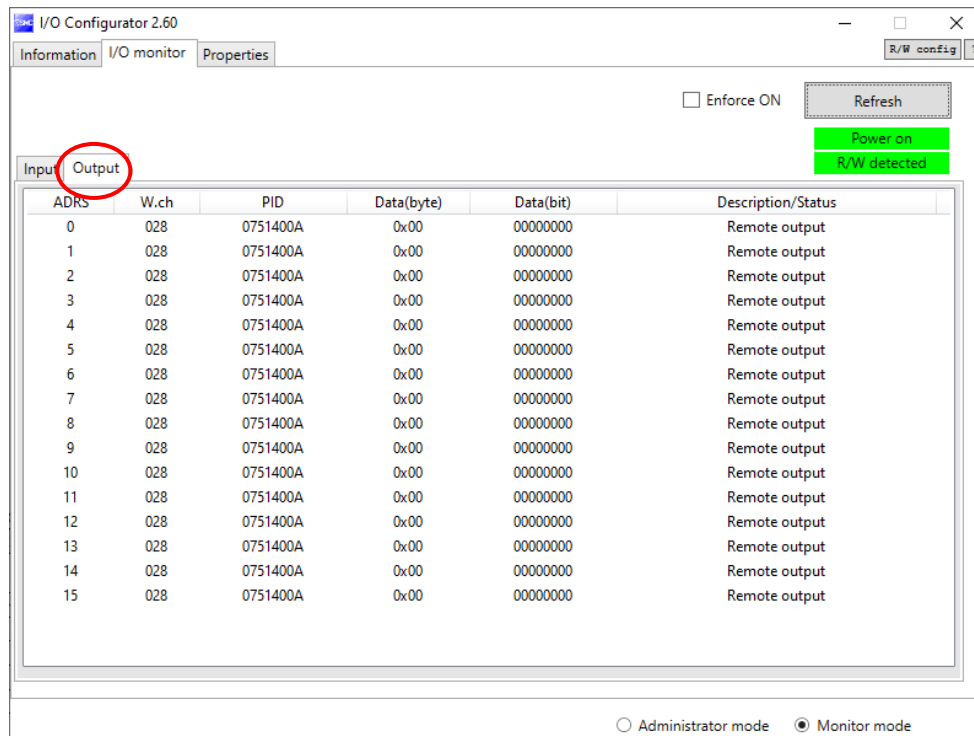


•Input display

Display	Content	Displayed items
Address	Displays the input map address of the Wireless Remote.	0 to 15
W.ch	Wireless unit channel.	--, ch001 to 127
PID	Wireless unit PID	Individual per unit.
Data (byte)	Input data is displayed in byte.	0x00 to 0xFF, no information
Data (bit)	Input data is displayed in bit.	00000000 to 11111111, no information
Description /Status	Details of input data.	Remote input

3.3.2.2. Output tab

Output tab shows the output map information of the wireless unit.

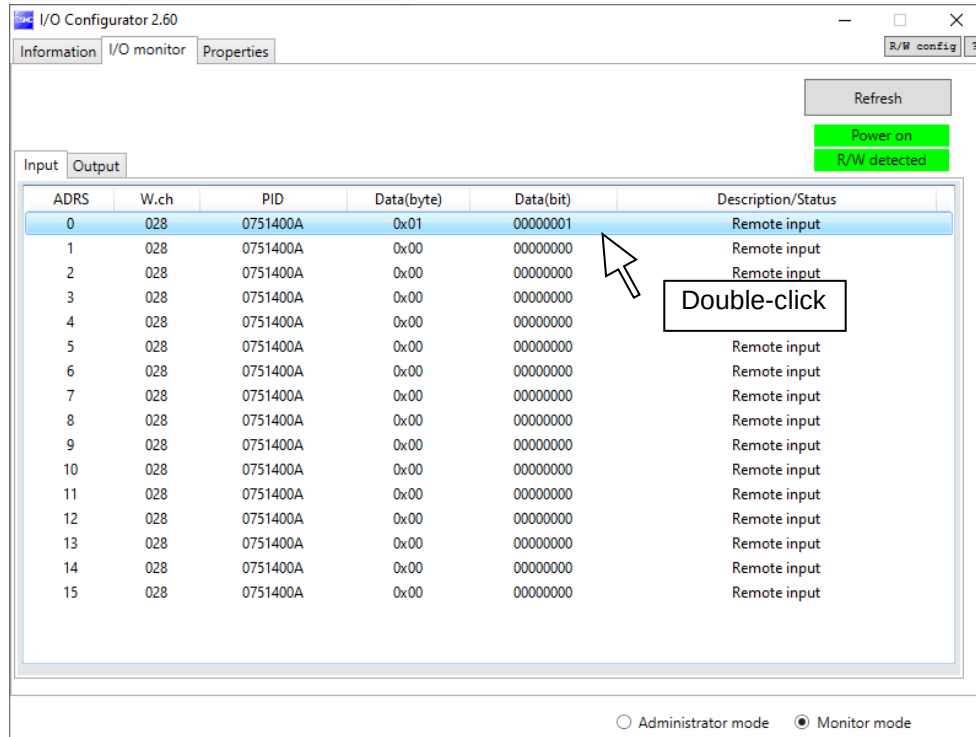


•Output display

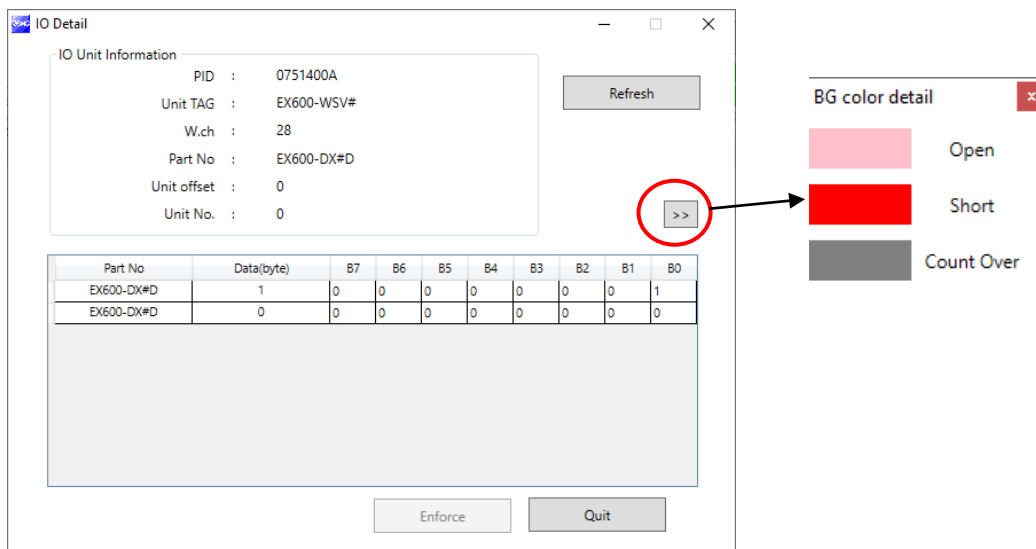
Description	Content	Displayed items
Enforce ON	Forced output mode can be selected by clicking Enforce ON. *: Refer to 4.3 Forced output (page 60) for the operation.	Checked : Enforce ON Unchecked : Enforce OFF
Address	Displays the output map address of the Wireless Remote.	0 to 15
W.ch	Wireless unit channel.	--, ch001 to 127
PID	Wireless unit PID	Individual per unit.
Data (byte)	Output data is displayed in byte.	0x00 to 0xFF, no information
Data (bit)	Output data is displayed in bit.	00000000 to 11111111, no information
Description /Status	Details of output data.	Remote output

3.3.2.3. IO Detail

IO Detail will open by double clicking the line of the required address of the IO unit which is connected to the wireless unit.



IO unit information or IO data & diagnostics can be checked in the IO Detail window. The Diagnostic error type is represented by different background colours. The meaning of background colour can be checked by clicking [>>].



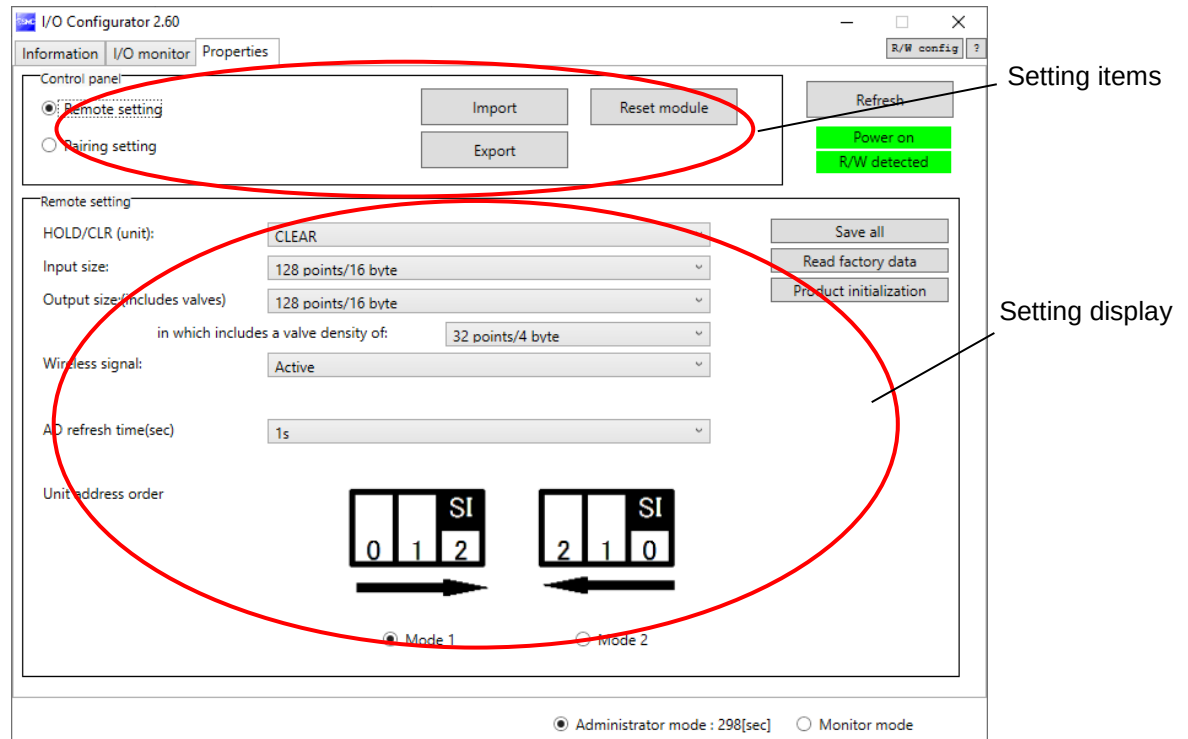
•Background colour

Background colour	Description	Description
	Open	Detection of unconnected load *: Invalid in initial state. Enable the function from the I/O configurator (WEB version).
	Short	Short circuit detection
	Count Over	Contact frequency upper limit detection *: Invalid in initial state. Enable the function from the I/O configurator (WEB version).

*: Description varies depending on the unit type Refer to 3.4 Detailed information of units (page 41) for details.

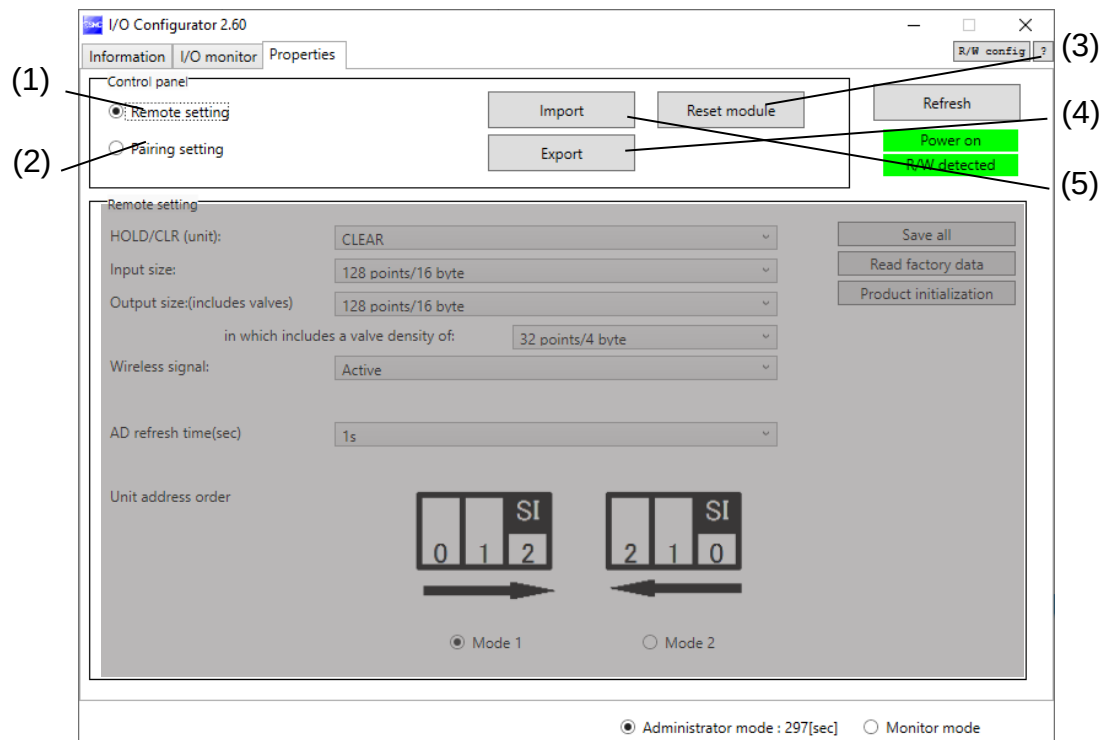
3.3.3. Setting tab

The configuration of the connected unit can be changed using the setting tab. It consists of setting items area (page 37) and setting display (page 38) (Remote setting and Pairing setting).



3.3.3.1. Setting items area

Control panel for setting consists of 2 radio buttons and 3 buttons.



•Radio buttons for selecting the setting window.

No.	Description	Function
1	Remote setting	Switch to the Remote setting display. Occupied points for the module input/output can be set.
2	Pairing setting	Switch to the pairing setting display. Switch to Pairing mode.

•Buttons for setting

No.	Description	Functions
3	Reset module	Set parameters are returned to the time of power supplied to the wireless unit. Click Reset module in order to reflect the parameter setting while power is supplied.
4	Export	Button to export the configuration of the wireless unit to a PC (saved as file type ".smc"). Refer to 4.4. Export settings for use (page 64).
5	Import	Button to import the saved configuration of the wireless unit from a PC (imported from file type ".smc"). Refer to 4.5. Import settings for use (Page 66).

*: When the Reset module button is used, the wireless unit restarts and Ethernet communication or wireless communication is temporarily interrupted.

3.3.3.2. Setting window

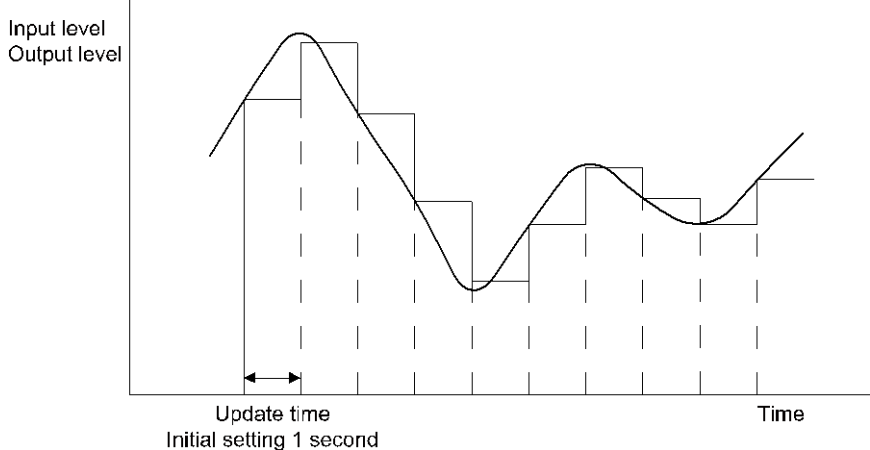
(1) Remote setting

Window for setting Wireless Remote

The screenshot shows the 'I/O Configurator 2.60' window with the 'Remote setting' tab selected. The window is divided into several sections:

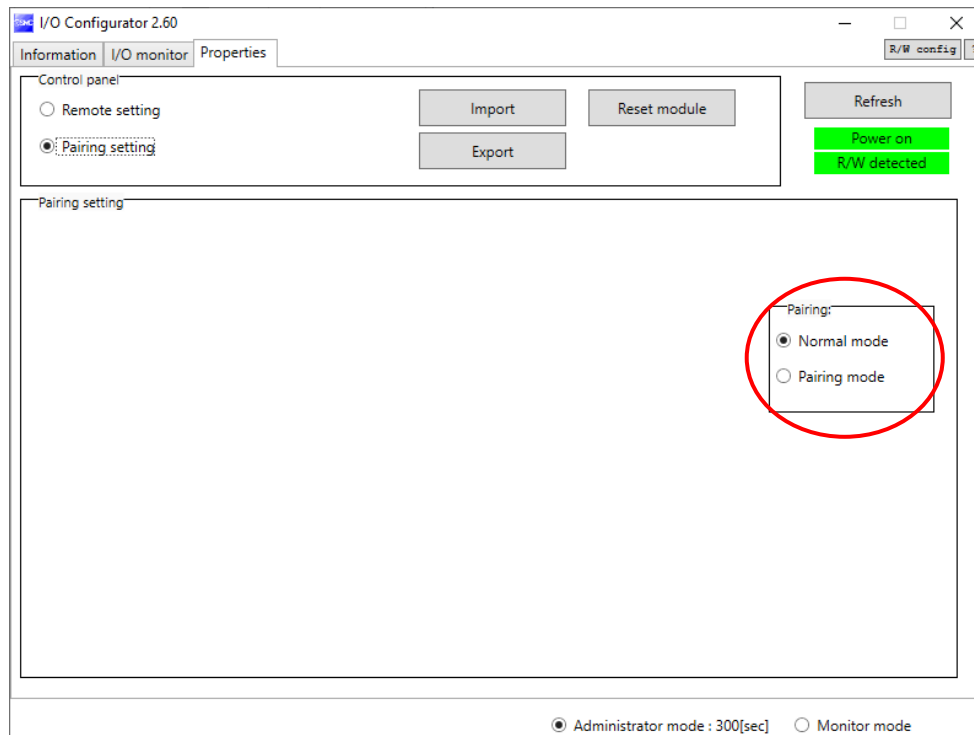
- Control panel:** Contains radio buttons for 'Remote setting' (selected) and 'Pairing setting'. It also has buttons for 'Import', 'Export', 'Reset module', 'Refresh', 'Power on', and 'R/W detected'.
- Remote setting:** This section contains various configuration options:
 - HOLD/CLR (unit):** A dropdown menu set to 'CLEAR'.
 - Input size:** A dropdown menu set to '128 points/16 byte'.
 - Output size:(includes valves):** A dropdown menu set to '128 points/16 byte'.
 - in which includes a valve density of:** A dropdown menu set to '32 points/4 byte'.
 - Wireless signal:** A dropdown menu set to 'Active'.
 - AD refresh time(sec):** A dropdown menu set to '1s'.
 - Unit address order:** This section shows two diagrams. The first diagram, labeled 'Mode 1', shows a sequence of three boxes: '0', '1', and '2', with an arrow pointing from '0' to '1' to '2'. The second diagram, labeled 'Mode 2', shows a sequence of three boxes: '2', '1', and '0', with an arrow pointing from '2' to '1' to '0'. Both diagrams have 'SI' in a box to the right of the sequence.
- Buttons:** On the right side of the 'Remote setting' section, there are buttons for 'Save all', 'Read factory data', and 'Product initialization'.
- Footer:** At the bottom of the window, there are radio buttons for 'Administrator mode : 298[sec]' (selected) and 'Monitor mode'.

•Remote setting items

Item	Explanation
Hold/Clear (unit)	Define all settings in the output operation status when the Fieldbus communication is disconnected. CLEAR: Clear the output. HOLD: Fix the output at the current value. Software control: Clear, Hold or Set for individual points can be set by software bit. *: For details of the Software Control refer to 4.2 Software Control (page 57) for setting in I/O Configurator for NFC)
Input size (Occupied points for the module input)	Set the number of inputs which can be controlled by the Wireless Remote unit. Setting range: 0 to 128 points (0 to 16 bytes). Increase or decrease by 16 points.
Output size (Occupied points for the module output)	Set the number of outputs which can be controlled by the Wireless Remote unit. Setting range: 0 to 128 points (0 to 16 bytes). Increase or decrease by 16 points. The module output point includes the number of points of the valve manifold output.
Valve density of ... (Occupied points for the valve manifold output)	Set the number of outputs to be allocated to the valve manifold output from the number of points set in the module output size. As the valve manifold output point is included in the module output point, the number of effective points are limited within the setting range of the module output point. Setting range: 0 to 32 points (0 to 4 bytes). Increase or decrease by 8 points.
Wireless signal	Define the operation status of wireless communication. Active: Wireless communication is available. Idle: Disconnect the wireless communication.
AD refresh time	Set the data update time of the analogue input unit connected to the Wireless Remote. Setting range: 0.1/0.2/0.5/1/2/5/10/30/60 s (Initial value 1 s) The analogue input update time is set for every Wireless Remote unit.  The graph illustrates the AD refresh time. The vertical axis represents the input and output levels, and the horizontal axis represents time. A smooth curve represents the 'Input level', and a stepped line represents the 'Output level'. The output level updates at discrete intervals, corresponding to the 'Update time' or 'Initial setting 1 second'. The stepped line follows the general trend of the input level curve.
Unit address order	Define the address assignment direction of the EX600 I/O units connected to the Wireless Rmote unit. The address assignment direction is changed by mode 1/mode 2. Be careful about the I/O map. (Refer to the Unit address order of Wireless Base/Remote Module of the Operation Manual for details) Mode 1: Assignment to the right from the end plate. Mode 2: Assignment to the left from the wireless unit.

(2) Pairing setting

Setting for wireless communication between the Wireless Base unit and Wireless Remote unit. It is necessary to set the operation mode to Pairing setting when registering the Wireless Remote to Wireless Base. Pairing setting display.



•Radio button for selecting Pairing mode.

Description	Explanation
Normal mode	Button to change to Normal (non-pairing) mode. Indicates that the current status is Normal (pairing disabled) mode.
Pairing mode	Button to move to Pairing mode. Indicates that the current status is Pairing mode.

3.4. Detailed information of units

3.4.1. Information tab

Each EX600 unit stores its specific information. The information of the unit connected to the Wireless Base/Remote module can be monitored using the I/O configurator for NFC.

The EX600 unit is accessed using the information tab.

◆ Procedure for detailed information

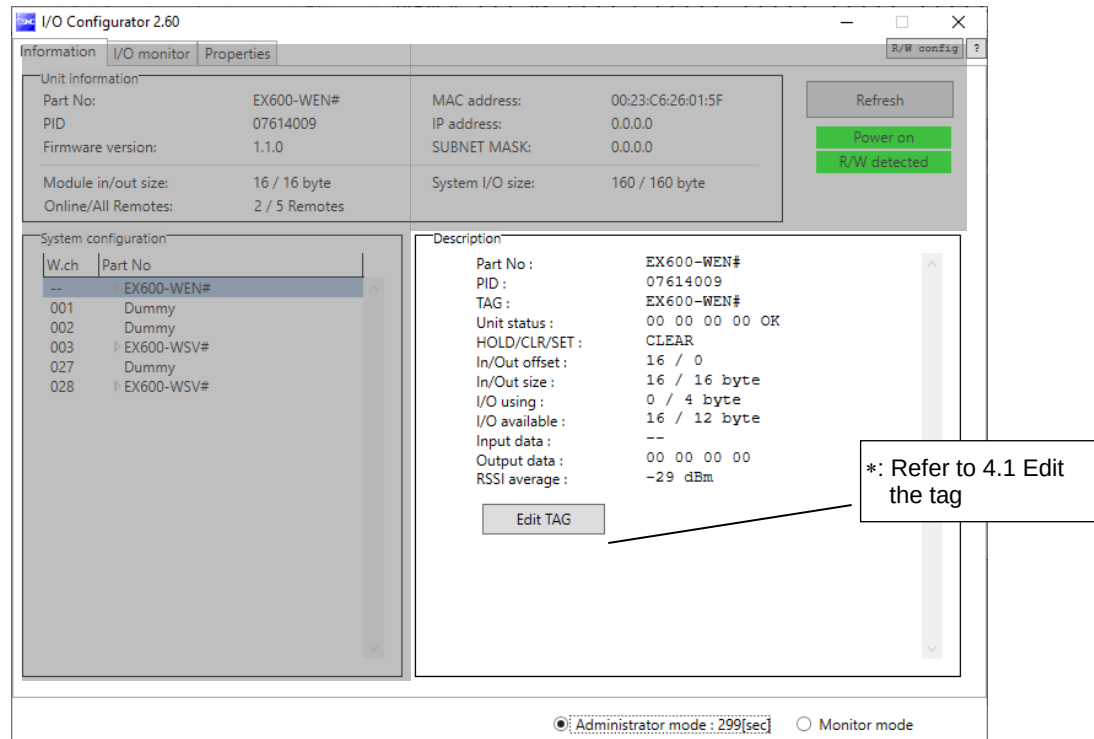
Information tab ⇒ the number of units in System configuration ⇒ Description is displayed.

*: Refer to the operation manual for EX600-W□□ # for I/O units which can be connected to the wireless unit.

3.4.1.1. Wireless unit

Detailed information of the main body and valve can be checked in the wireless unit.

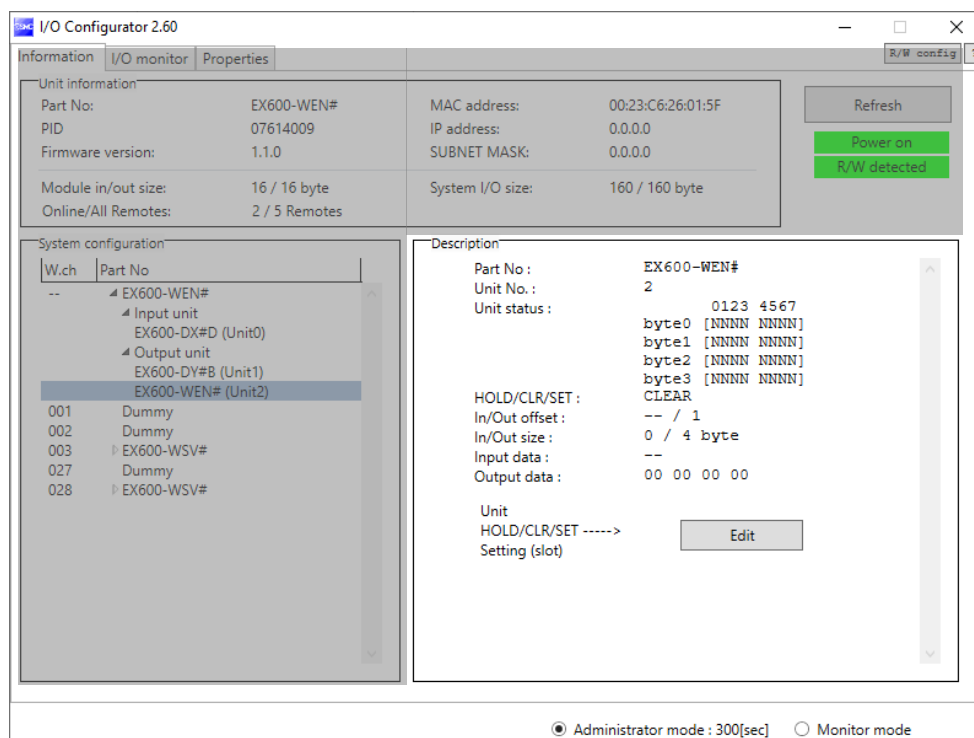
1) Main body



•Detailed Information (main body)

Description	Content
Part No.	Wireless unit product number
PID	Wireless unit PID
Tag	Wireless unit user memo
Unit status (Diagnostic information)	The wireless unit status is displayed in 4 bytes of hexadecimal number. ◆Display of diagnostic information error * Refer to the Operation Manual for details of diagnostic information.
HOLD/CLR/SET	Displays the output operation when communication of the wireless unit is disconnected.
In/Out offset	Displays the start position of the address to which the selected unit is mapped in the I/O mapping.
In/Out size	Control input and output size of the wireless unit.
I/O using	The number of allocated Input and output bytes actually used by the wireless unit.
I/O available	The number of allocated input and output bytes which are available for use by the wireless unit.
Input data	Displays Input data value which is sent to the wireless unit.
Output data	Displays output data value sent from the wireless unit.
RSSI Average	The average signal strength received by the wireless unit.

2) Valve

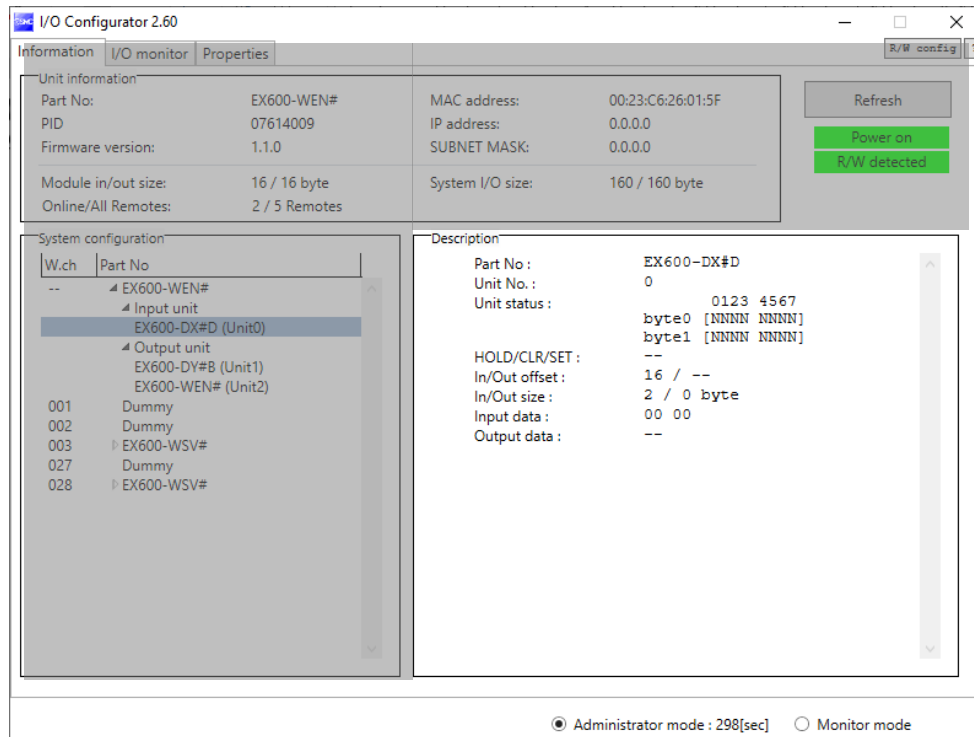


•Detailed information (valve)

Description	Content
Part No.	Wireless Base/Remote product number
Unit No.	Mapped position for the valve. Displays the mapped position of the selected valve. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for mapping position.
Unit status (Diagnostic information)	Displays the mapped diagnostic data bits for the selected valve. Address in the unit Example: 4th. bit of byte 0 Content of diagnostics *: Content of diagnostics N: Normal Error is not detected O: Bit Open Load is not connected (disabled at initial status) S: Bit Short Short circuit of the load output is detected L: Limit Over Contact operation exceeded the limit (disabled at initial status) P: Power Short Short circuit of the load power supply is detected
HOLD/CLR/SET	Output operation when communication of the valve is disconnected
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Valve input/output size (Input size for valves is always 0 byte)
Input data	"--" is displayed for the valve (setting is only applicable to units with inputs).
Output data	Displays the output data valve which is sent to the selected valve.

3.4.1.2 Digital input unit

Digital input unit (product number: EX600-DX*D)

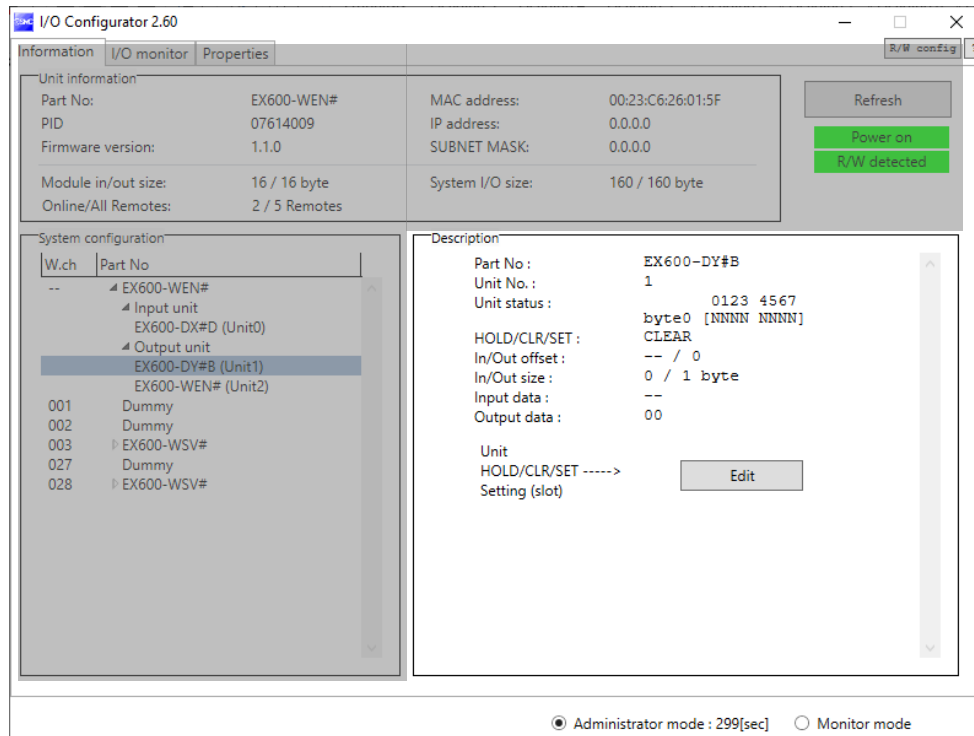


•Detailed information (digital input unit)

Description	Content
Part No.	Displays the product number of the digital input unit which is selected.
Unit No.	Displays the mapped position of the selected digital input unit. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for mapping position.
Unit status (Diagnostic information)	Displays the mapped diagnostic data bits for the selected digital input unit. Address in the unit Example: <u>3rd. bit of byte 1</u> 0123 4567 byte0 [NNNN NNNN] byte1 [NNNN NNNN] Content of diagnostics *: Content of diagnostics - N: Normal Error is not detected - O: Bit Open Load is not connected (disabled at initial status) - S: Bit Short Short circuit of the load output is detected - L: Limit Over Contact operation exceeded the limit (disabled at initial status) - P: Power Short Short circuit of the load power supply is detected
HOLD/CLR/SET	"--" is displayed for the input unit (setting is only applicable to units with outputs).
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Displays the IO size of the selected digital input unit. Output size is 0 byte.
Input data	Displays the input data value which is sent from the selected digital input unit.
Output data	"--" is displayed for the input unit (setting is only applicable to units with outputs).

3.4.1.3. Digital output unit

Digital output unit (product number: EX600-DY*B)

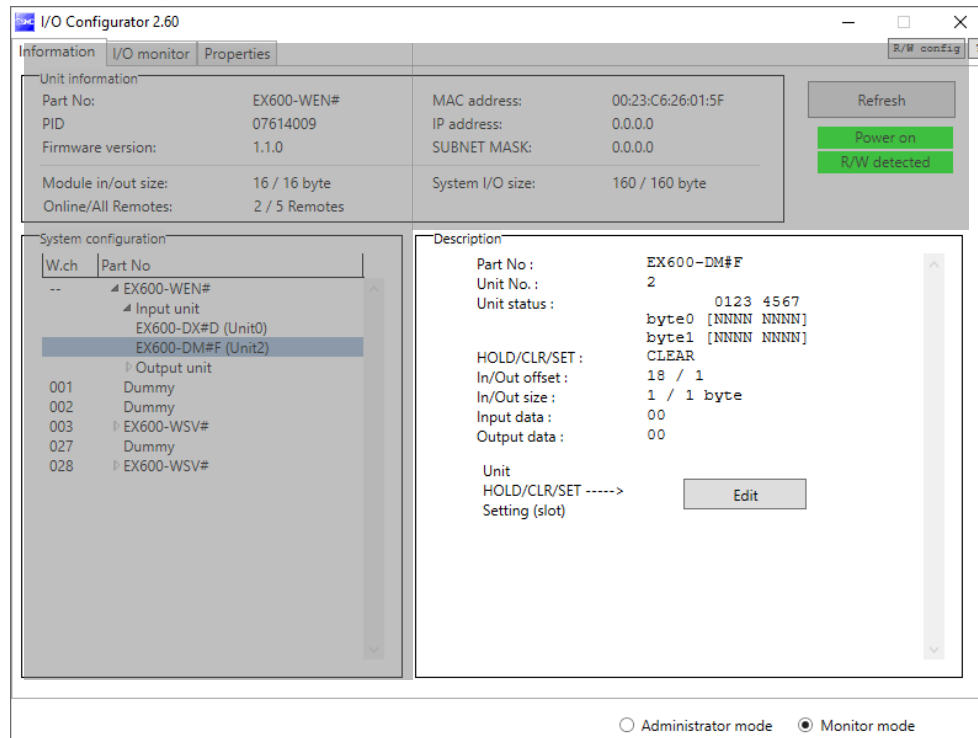


•Detailed information (digital output unit)

Description	Content
Part No.	Displays the product number of the selected digital output unit.
Unit No.	Displays the mapped position of the selected digital output unit. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.
Unit status (Diagnostic information)	Displays the mapped diagnostic data bits for the selected digital output unit. Address in the unit Example: 4th bit of byte0 Content of diagnostics *: Content of diagnostics N: Normal Error is not detected O: Bit Open Load is not connected (disabled at initial status) S: Bit Short Short circuit of the load output is detected L: Limit Over Contact operation exceeded the limit (disabled at initial status) P: Power Short Short circuit of the load power supply is detected
HOLD/CLR/SET	Displays the output operation when the communication of the digital output unit which is selected is disconnected.
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Displays the input/output size of the selected digital output unit. Input size is 0 byte.
Input data	"--" is displayed for the output unit (setting is only applicable to units with inputs).
Output data	Displays the output data value which is sent to the selected digital output unit.

3.4.1.4. Digital I/O unit

Digital output unit (product number: EX600-DM*F)

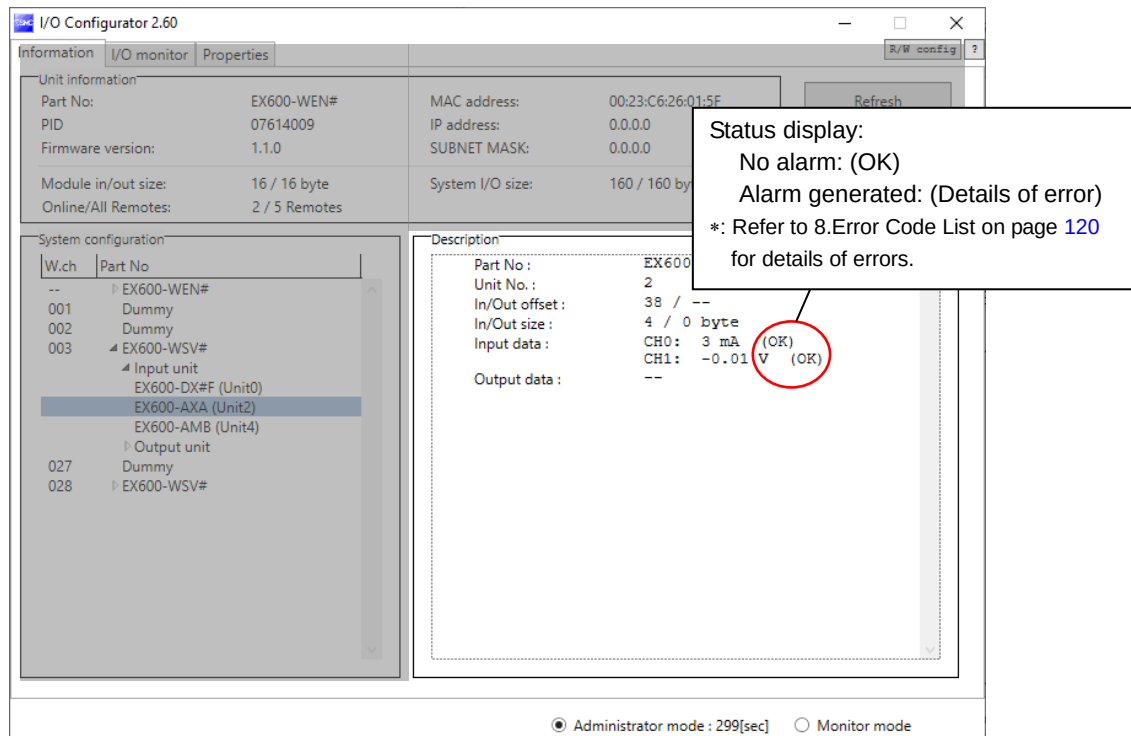


•Detailed information (digital input/output unit)

Description	Content
Part No.	Displays the product number of the selected digital input/output unit.
Unit No.	Displays the mapped position of the selected digital input/output unit. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.
Unit status (Diagnostic information)	Displays the mapped diagnostic bits for the selected digital input/output unit. Address in the unit Example: 3rd. bit of byte 1 0123 4567 byte0 [NNNN NNNN] byte1 [NNNN NNNN] Diagnostic content *: Content of diagnostics N: Normal Error is not detected O: Bit Open Load is not connected (disabled at initial status) S: Bit Short Short circuit of the load output is detected L: Limit Over Contact operation exceeded the limit (disabled at initial status) P: Power Short Short circuit of the load power supply is detected
HOLD/CLR/SET	Displays the output operation when the communication of the digital input/output unit which is selected is disconnected.
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Displays the I/O size of the selected digital input/output unit.
Input data	Displays the input data value which is sent from the selected digital input/output unit.
Output data	Displays the output data value which is sent to the selected digital input/output unit.

3.4.1.5. Analogue input unit

Analogue input (product number: EX600-AXA)

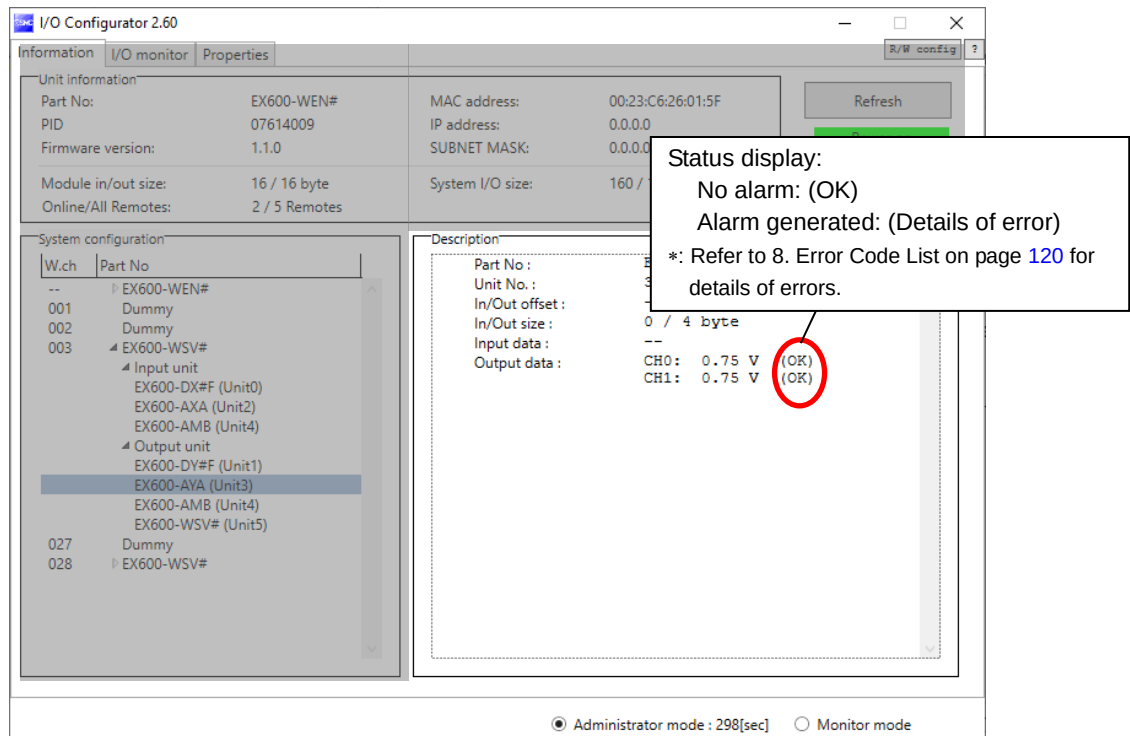


•Detailed information (analogue Input unit)

Description	Content
Part No.	Displays the product number of the selected analogue input unit.
Unit No.	Displays the mapped position of the selected analogue input unit. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Displays the input/output size of the analogue input unit which is selected. Output size is 0 byte.
Input data	Displays the input data value which is sent from the selected analogue input unit.
Output data	"--" is displayed for the input unit (setting is only applicable to units with outputs).

3.4.1.6. Analogue output unit

Analogue output (product number: EX600-AYA)

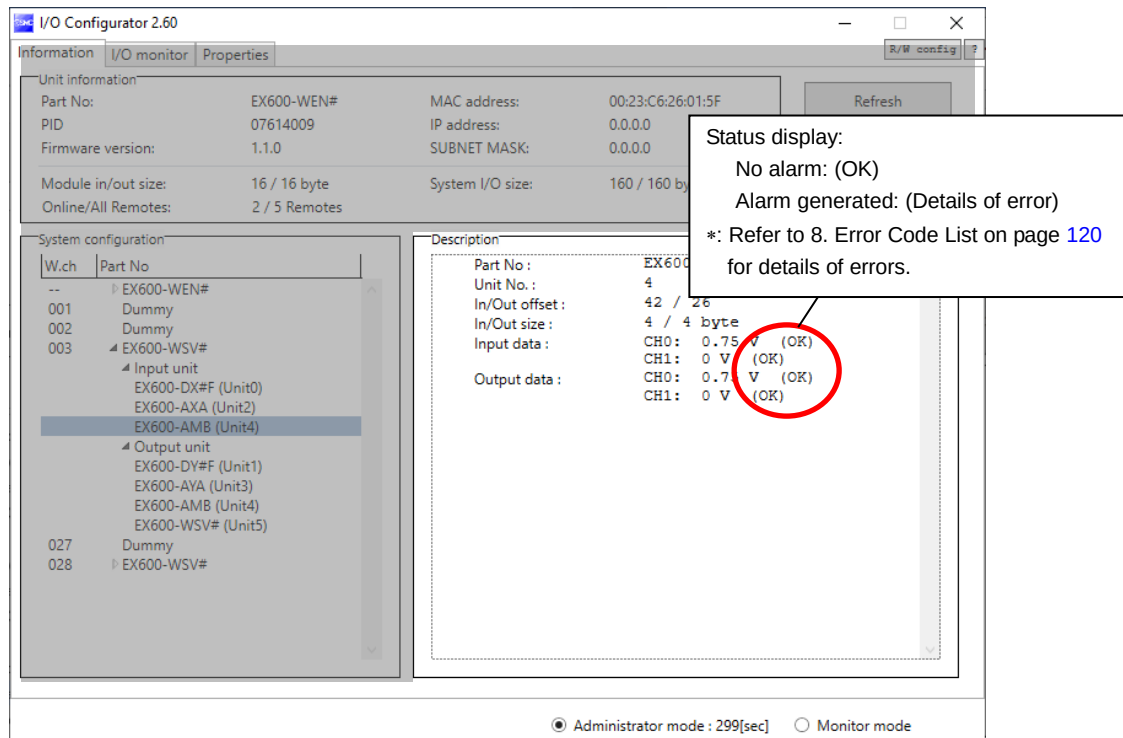


•Detailed information (analogue output unit)

Description	Content
Part No.	Displays the product number of the selected analogue output unit
Unit No.	Displays the mapped position of the selected analogue output. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Displays the input/output size of the selected analogue output unit. Input size is 0 byte.
Input data	"--" is displayed for the output unit (setting is only applicable to units with inputs).
Output data	Displays the output data value which is sent to the selected analogue output unit.

3.4.1.7. Analogue I/O unit

Analogue input/output unit (product number: EX600-AMB)



•Detailed information (analogue I/O unit)

Description	Content
Product No.	Displays the product number of the selected analogue input/output unit.
Unit No.	Displays the mapped position of the selected analogue input/output unit. *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.
In/Out offset	Displays the start position of the address to which the selected unit is mapped on the I/O map.
In/Out size	Displays the input/output size of the analogue input/output unit which is selected.
Input data	Displays the input data value which is sent from the selected analogue input/output unit.
Output data	Displays the output data value which is sent to the selected analogue input/output unit.

3.4.2. Details of I/O monitor tab

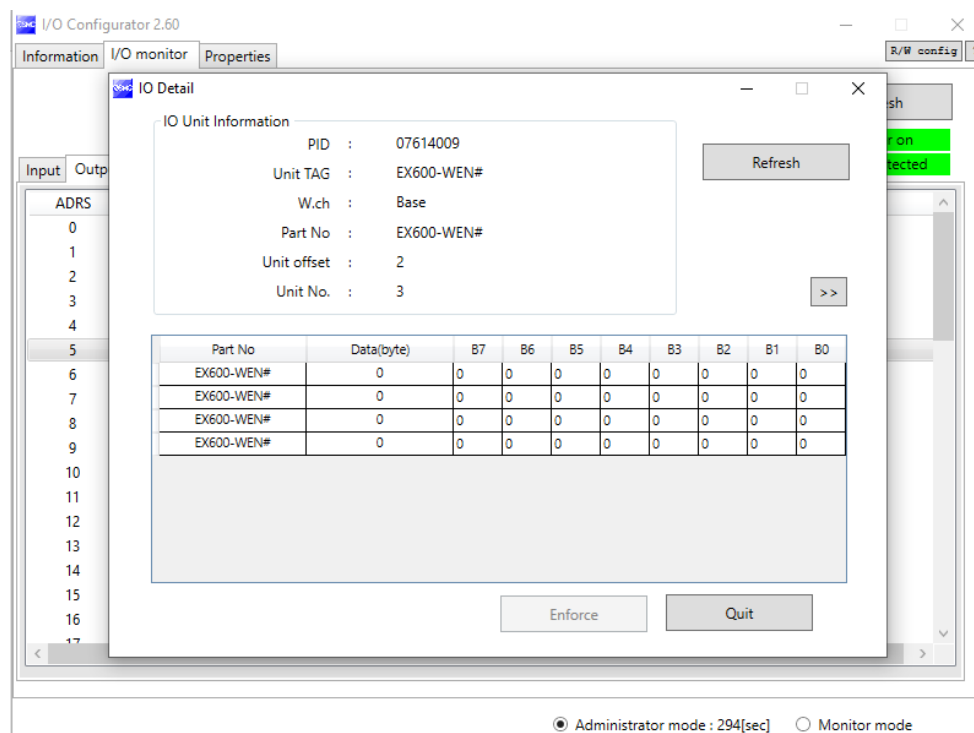
By clicking the IO Detail tab, the information of the selected unit, diagnostic status, Byte or Bit value , or analogue input/output can be checked.

◆ Procedure to display the details of IO unit information

I/O monitor tab ⇒ double click the line in which the unit to be checked is mapped ⇒ IO Detail is displayed

*: Refer to the operation manual for EX600-W□□ # for the I/O unit which can be connected with the wireless unit.

3.4.2.1. Wireless unit (valve)

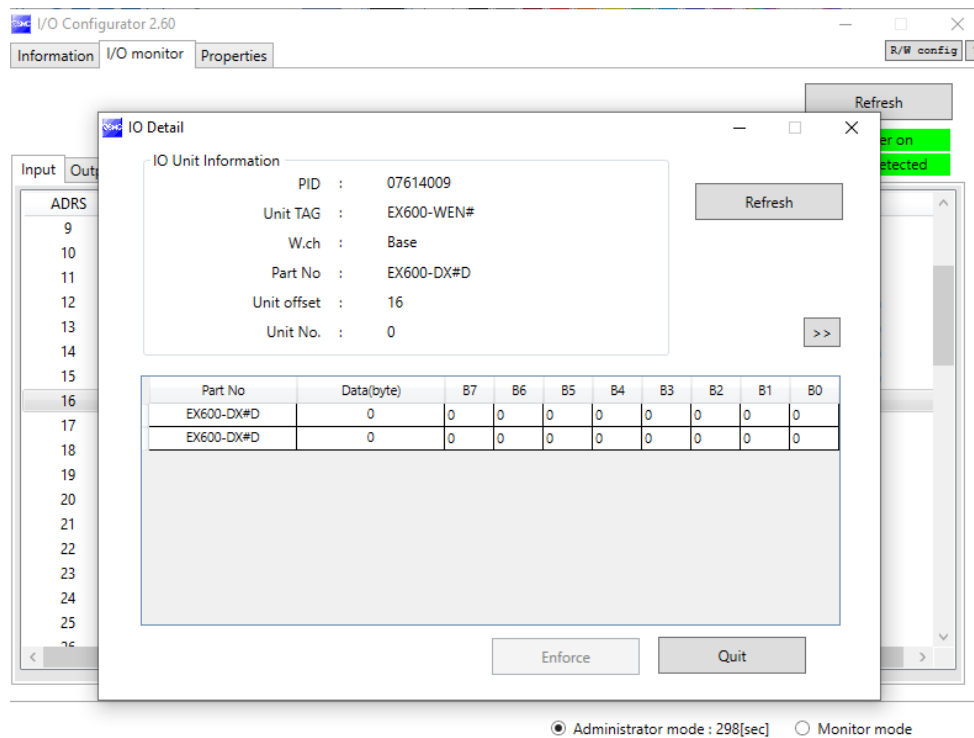


•IO Detail (Wireless Base/Remote unit (valve))

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the selected valve is connected.
Unit Tag	Displays the tag of Wireless Base/Remote to which the selected valve is connected.
W.ch	Displays the channel name of Wireless Base/Remote to which the selected valve is connected. Base is displayed for the Base. 1 to 127 is displayed for the Remote.
Part No.	Displays the product number of the Wireless Base/Remote to which the selected valve is connected.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected valve. (relates to position of the unit within the manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

3.4.2.2. Digital input unit

Digital input unit (product number: EX600-DX*D)

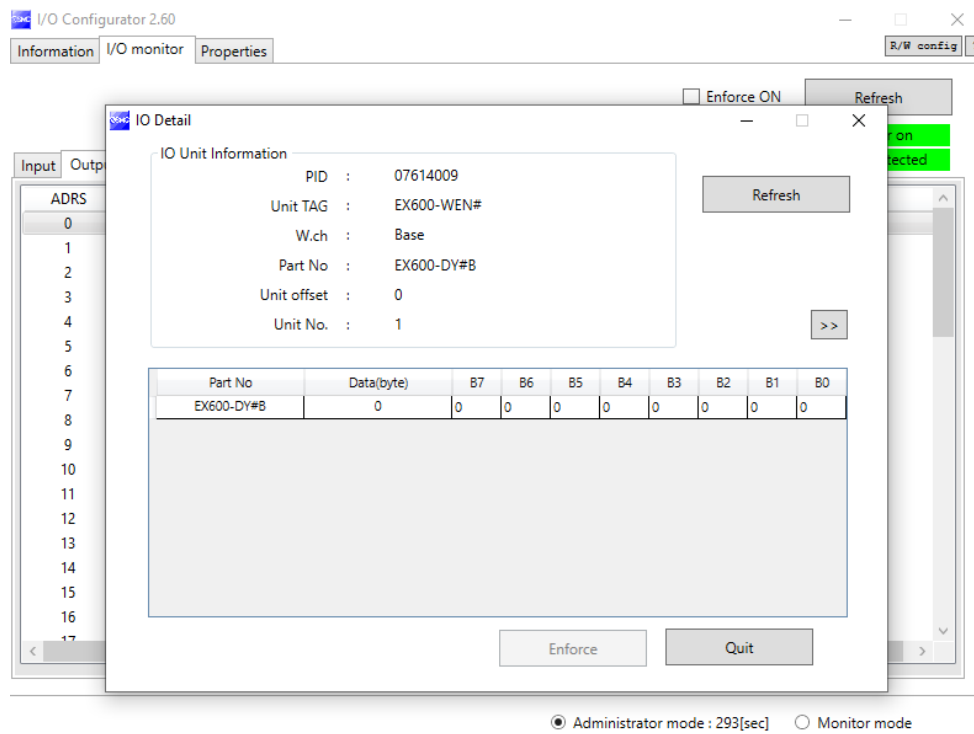


•IO unit information (digital input unit)

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the digital input unit is connected.
Tag	Displays the tag of Wireless Base/Remote to which the selected digital input unit is connected.
Wireless channel	Displays the channel name of Wireless Base/Remote to which the selected digital input unit is connected. Base is displayed for the Base. 1 to 125 is displayed for the Remote.
Part No.	Displays the product number of the selected digital input unit.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected digital input unit (relates to position of unit within manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

3.4.2.3. Digital output unit

Digital output unit (product number: EX600-DY*B)

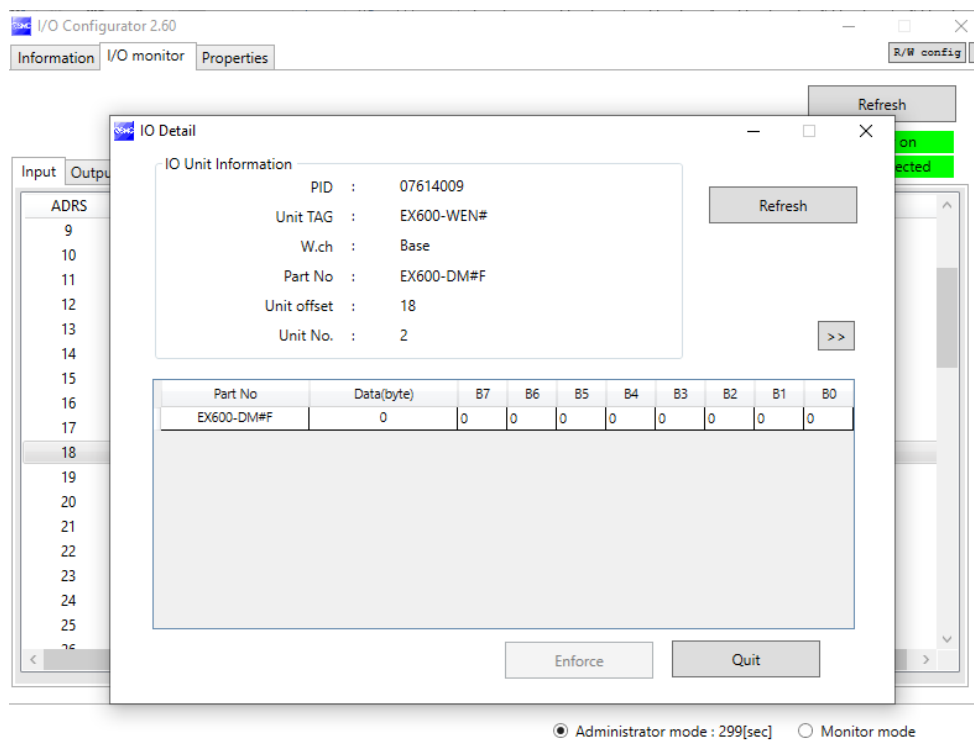


•IO unit information (digital output unit)

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the selected digital output unit is connected.
Unit Tag	Displays the tag of Wireless Base/Remote to which the selected digital output unit is connected.
W.ch	Displays the channel name of Wireless Base/Remote to which the selected digital output unit is connected. Base is displayed for the Base. 1 to 127 is displayed for the Remote.
Part No.	Displays the product number of the selected digital output unit.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected digital output unit (relates to position of unit within manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

3.4.2.4. Digital I/O unit

Digital input / output unit (product number: EX600-DM*F)

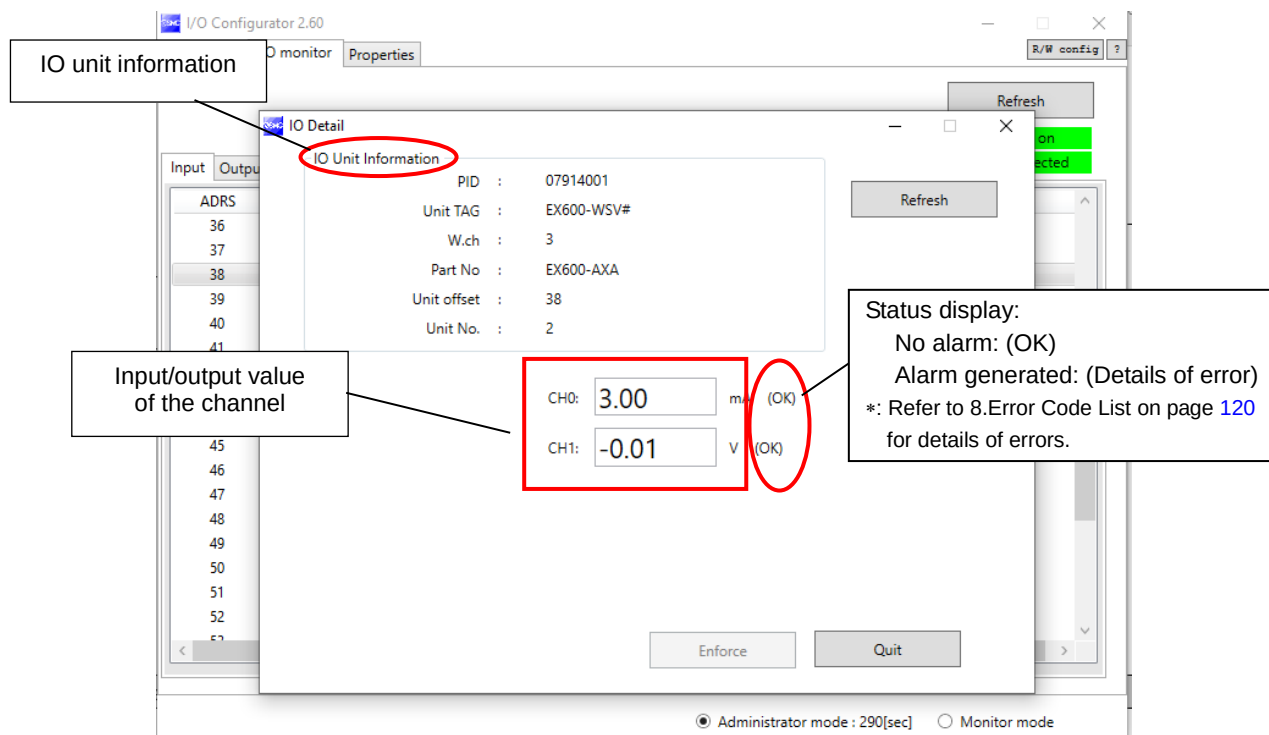


•IO unit information (digital input/output unit)

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the selected digital input/output unit is connected.
Unit Tag	Displays the tag of Wireless Base/Remote to which the selected digital input/output unit is connected.
W.ch	Displays the channel name of Wireless Base/Remote to which the selected digital input/output unit is connected. Base is displayed for the Base. 1 to 127 is displayed for the Remote.
Part No.	Displays the product number of the selected digital input/output unit.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected digital input/output unit (relates to position of unit within manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

3.4.2.5. Analogue input unit

Example of analogue input unit (product number: EX600-AXA)



•IO unit information (analogue input unit)

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the analogue input unit is connected.
Unit Tag	Displays the tag of Wireless Base/Remote to which the selected analogue input unit is connected.
W.ch	Displays the channel name of Wireless Base/Remote to which the selected analogue input unit is connected. Base is displayed for the Base. 1 to 127 is displayed for the Remote.
Part No.	Displays the product number of the selected analogue input unit.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected analogue input unit (relates to position of unit within manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

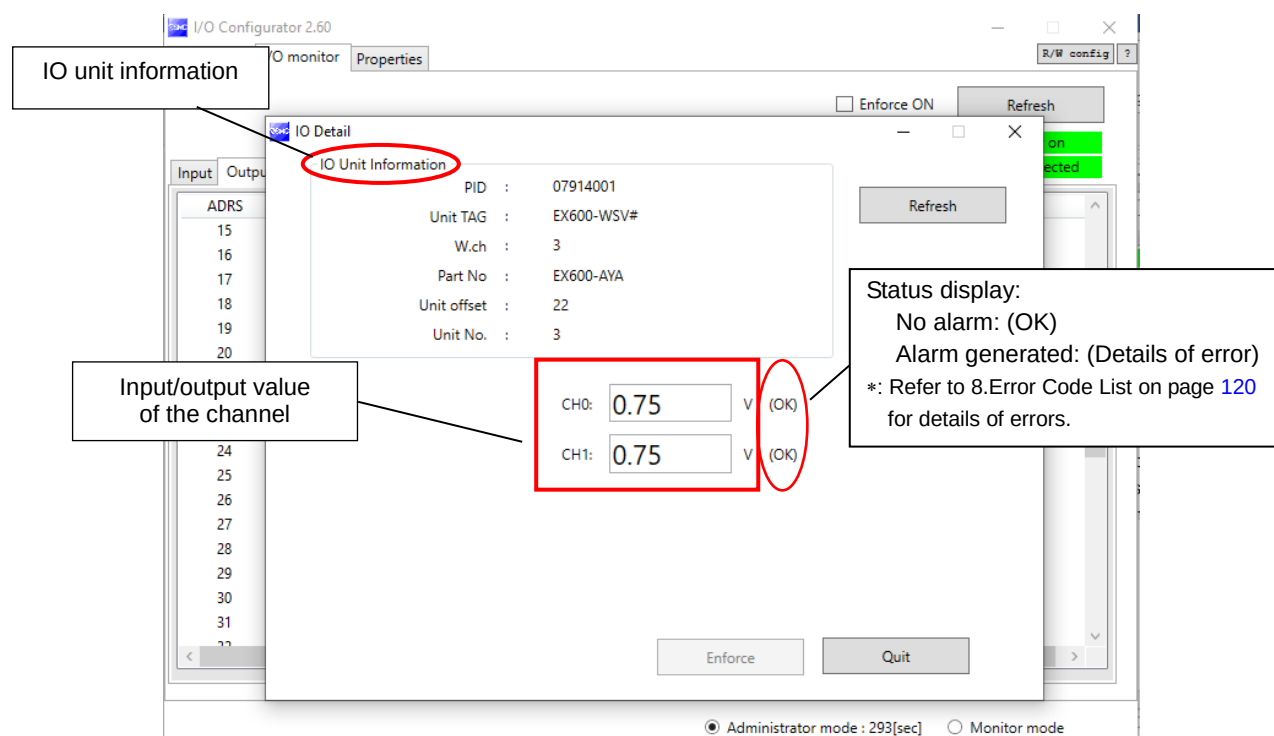
•Channel status (analogue input unit)

Data format	Displayed analogue value
Offset binary, Sign and Magnitude, 2's Complement	±□□□ mA (current range)
	±□□□ V (voltage range)
Scaled	±□□.□□

*:Refer to I/O Configurator on the website for data format.

3.4.2.6. Analogue output unit

Example of analogue output unit (product number: EX600-AYA)



•IO unit information (analogue output unit)

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the analogue output unit is connected.
Unit Tag	Displays the tag of Wireless Base/Remote to which the selected analogue output unit is connected.
W.ch	Displays the channel name of Wireless Base/Remote to which the selected analogue output unit is connected. Base is displayed for the Base. 1 to 127 is displayed for the Remote.
Part No.	Displays the product number of the selected analogue output unit.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected analogue output unit (relates to position of unit within manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

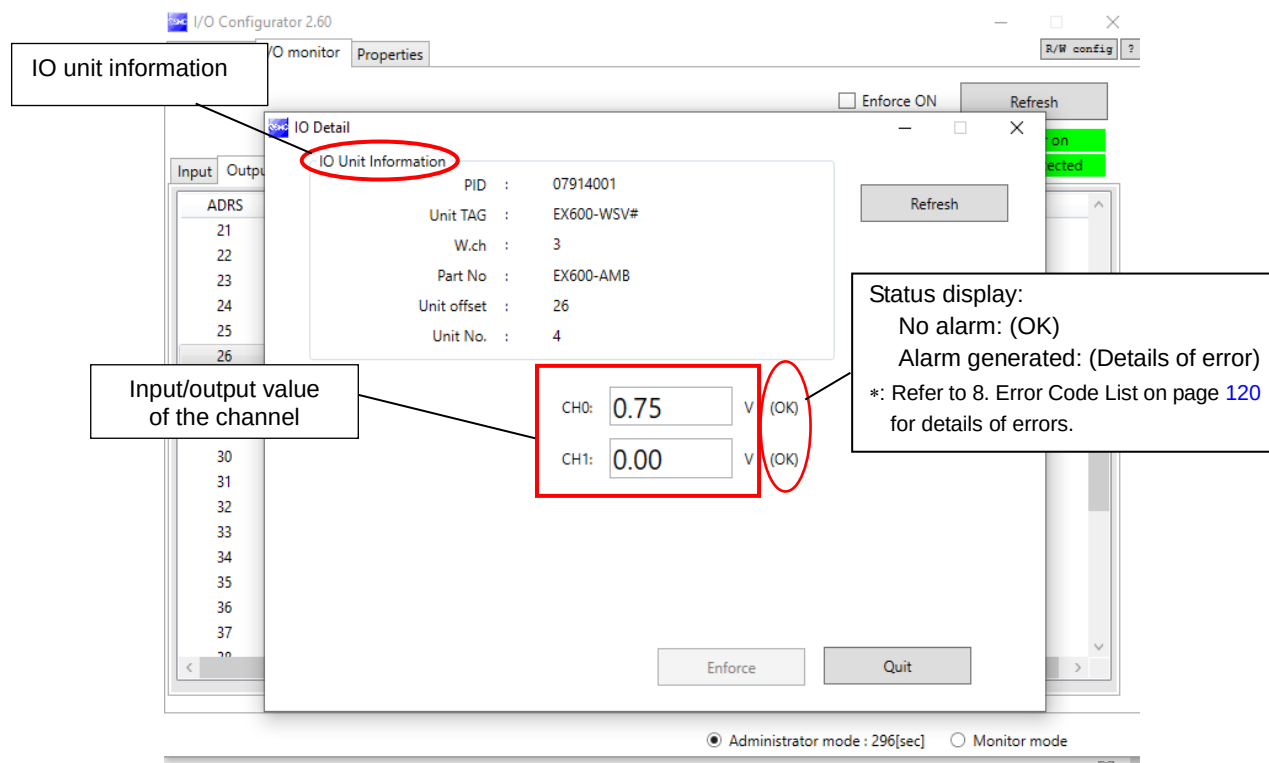
•Channel status (analogue output unit)

Data format	Displayed analogue value
12-Bit-Resolution, 11-Bit-Resolution	±□□□ mA (current range) ±□□□ V (voltage range)
Scaled	±□□.□□

*:Refer to I/O Configurator on the website for data format.

3.4.2.7. Analogue I/O unit

Example of analogue output unit (product number: EX600-AMB)



•IO unit information (analogue input/output unit)

Description	Content
PID	Displays the PID of Wireless Base/Remote to which the analogue input/output unit is connected.
Unit Tag	Displays the tag of Wireless Base/Remote to which the selected analogue input/output unit is connected.
W.ch	Displays the channel name of Base/Remote to which the selected analogue input/output unit is connected. Base is displayed for the Base. 1 to 127 is displayed for the Remote.
Part No.	Displays the product number of the selected analogue input/output unit.
Unit offset	Displays the start position of the address to which the selected unit is mapped on the IO map.
Unit No.	Displays the mapped position of the selected analogue input/output unit (relates to position of unit within manifold). *: Refer to the "Unit address order" of Base setting (page 22) or Remote setting (page 38) for IO mapping position.

•Channel status

Data format	Displayed analogue value
12-Bit-Resolution, 11-Bit-Resolution	±□□□ mA (current range): Input or output value ±□□□ V (voltage range): Input or output value
Scaled	±□□-□□: Input or output value

*:Refer to I/O Configurator on the website for data format.

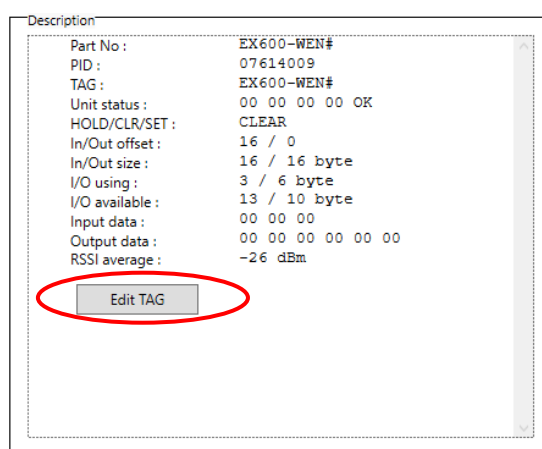
4. Setting Function

There are functions which can be set more easily by using the I/O configurator for NFC for setting.

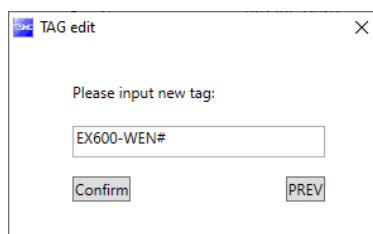
- Edit TAG (page 57)
- Software Control(page 57)
- Forced output (page 60)
- Export of setting (page 64)
- Import of setting (page 66)
- Reading of the initial value (page 67)
- Initialize the product (page 68)

4.1. Edit TAG

- (1) Only the SI unit can be set using the TAG edit. Up to 15 alphanumeric characters can be entered. Click the Edit TAG button at the bottom of the window.



- (2) The TAG edit window will open by clicking the "Edit TAG" button. Enter a new tag name and click the Confirm button. The name can be returned to the previous status by clicking PREV during editing.



4.2. Software Control

With the "Clear/Hold/Software control" of Base/Remote setting, the output operation for when the Ethernet communication is disconnected can be selected for valve output or output unit independently using CLEAR, HOLD or SET. The values for the Hold/Clear for each valve output or output unit are stored in the unit with output.

Value	Content
HOLD	Maintain the value before Hold/Clear.
Clear	0 for Hold/Clear
SET	1 for Hold/Clear

*: Editing is possible from the Description of the Information tab when Hold/Clear is set to Software Control. In order to set the Software Control of Hold/Clear, change the setting using the Base setting or Remote setting in the Set tab.

*: The output operation when wireless communication is disconnected, the status is HOLD regardless of the setting of the Software Control.

◆ Hold/Clear setting procedure

(1) Details of the output unit information.

(Refer to Description (page 15, 31) to show the detailed information.)

Description

Part No : EX600-DY#F

Unit No. : 1

Unit status : 0123 4567

byte0 [NNNN NNNN]

byte1 [NNNN NNNN]

HOLD/CLR/SET : 0123 4567

byte0 [CCCC CCCC]

byte1 [CCCC CCCC]

In/Out size : 0 / 2 byte

Input data : --

Output data : 00 00

Unit

HOLD/CLR/SET ----->

Setting (slot)

Displayed when Software Control is selected.

(2) The window for Unit HOLD/CLR/SET setting appears by clicking the Edit button.

Unit HOLD/CLR/SET setting (Admin Mode)

Selected unit: EX600-DY#F (Unit1)

HOLD/CLR/SET:

☒ Software control

EX600-DY#F (Unit1) byte 0

CCCCCCCC

EX600-DY#F (Unit1) byte 1

CCCCCCCC

From the left Bit0,1,2,3,4,5,6,7

Save all

Quit

- (3) Upper case letters are used to express the current status of Clear/Hold. The Settable values are C (CLEAR), H (HOLD) or S (SET). Enter 8 characters. When the required values have been entered, click the "Save all" button to store the data.

*: When CLEAR and HOLD is set for HOLD/CLR/SET, the window below will be displayed.

Hold/Clear: CLEAR

Hold/Clear: HOLD

4.3. Forced output

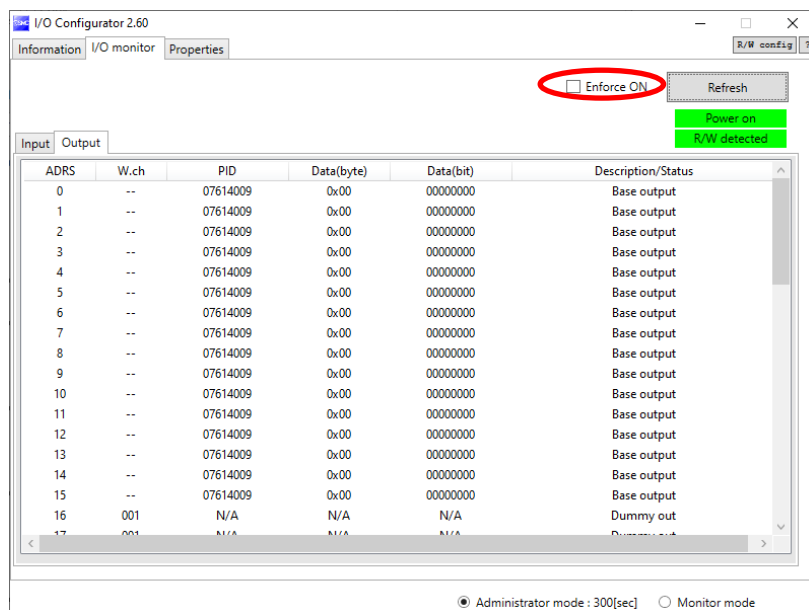
4.3.1. Forced output conditions

The I/O configurator for NFC can directly command the Wireless Base/Remote.
Operating conditions for Forced output.

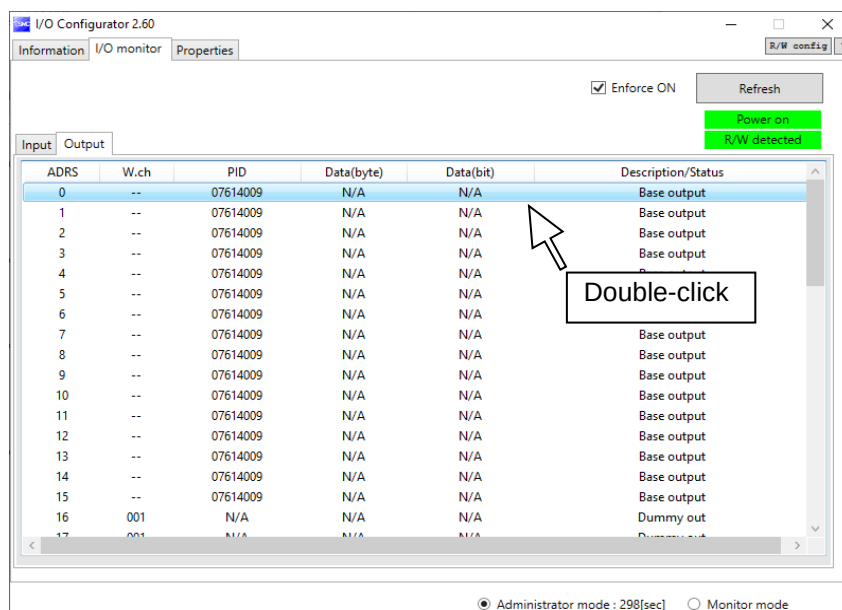
	[Forced output from the Wireless Base]	[Forced output from the Wireless Remote]
Forced output conditions	Login from the Administrator mode. Not connected with the higher PLC by Ethernet.	Login from the Administrator mode. Not wirelessly connected with Wireless Base.
Applicable item for forced output	Wireless Base/Remote	Wireless Remote

4.3.2. Forced output procedure

This is the forced output procedure using individual bits. Change the tab to I/O monitor to move to forced output mode. Then, click "Enforce ON" on the upper right of the window. Then Click Yes.



The window below appears when the mode is changed to forced output mode. Select the output unit to be forced output and double click it.



The IO Detail window is displayed. Then, select the Bit (B0 to B7) to be forced output and set to 1. The set value is output by clicking the Enforce button at the bottom of the window. The power supply for output is necessary to activate the output equipment for forced output mode. Refer to the Operation Manual for the SMC Wireless System for details of the power supply for output.

The screenshot shows the 'IO Detail' window. Under 'IO Unit Information', the following details are listed: PID: 07614009, Unit TAG: EX600-WEN#, W.ch: Base, Part No: EX600-DY#F, Unit offset: 0, and Unit No.: 1. A 'Refresh' button is located to the right. Below this is a table with columns for Part No, Data(byte), and individual bits B7 through B0. The first row, for Part No EX600-DY#F, shows Data(byte) as 1 and all bits as 0, except for B0 which is 1. The second row shows Data(byte) as 0 and all bits as 0. A red circle highlights the '1' in the B0 column of the first row. At the bottom, the 'Enforce' button is circled in red.

Part No	Data(byte)	B7	B6	B5	B4	B3	B2	B1	B0
EX600-DY#F	1	0	0	0	0	0	0	0	1
EX600-DY#F	0	0	0	0	0	0	0	0	0

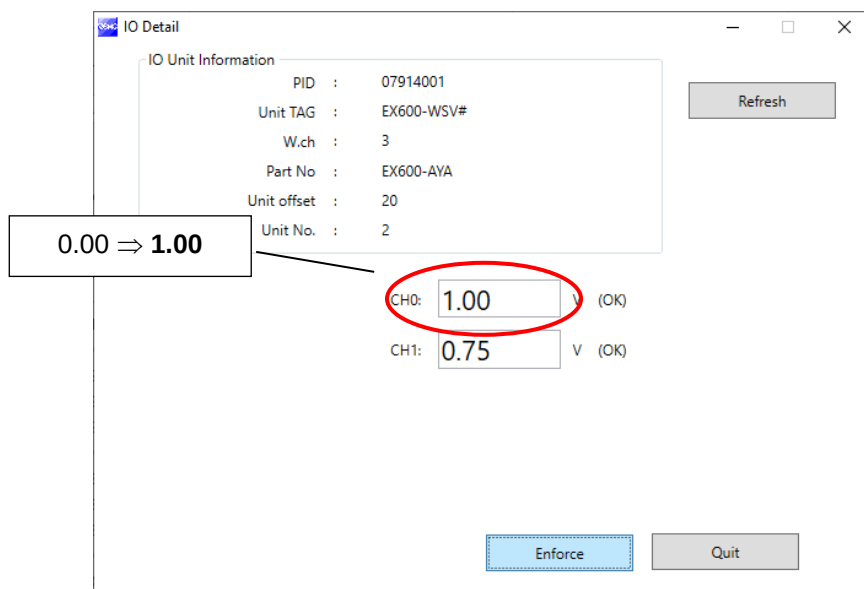
Forced output is possible also using bytes. Enter the value between 0x00 and 0xFF to the data (byte). The value in bytes is output by clicking the Enforce button. This is the forced output procedure for the digital unit.

The screenshot shows the 'IO Detail' window with the same unit information as the previous image. In the table below, the 'Data(byte)' field for the first row (EX600-DY#F) is set to 35, which is circled in red. The corresponding bits B7 through B0 are 1, 0, 0, 1, 0, 1, 0, and 1 respectively. The second row shows Data(byte) as 0 and all bits as 0. At the bottom, the 'Enforce' button is circled in red.

Part No	Data(byte)	B7	B6	B5	B4	B3	B2	B1	B0
EX600-DY#F	35	1	0	0	1	0	1	0	1
EX600-DY#F	0	0	0	0	0	0	0	0	0

•Forced output (analogue unit)

The window for the forced output for analogue unit is displayed. For forced output for the analogue unit, enter the values according to the analogue range (analogue range can be selected by the I/O configurator for WEB). Enter the values. The analogue value will be output by clicking the Enforce button. The power supply for output is necessary to activate the output equipment for forced output mode. Refer to the Operation Manual for the SMC Wireless System for details of the power supply for output.

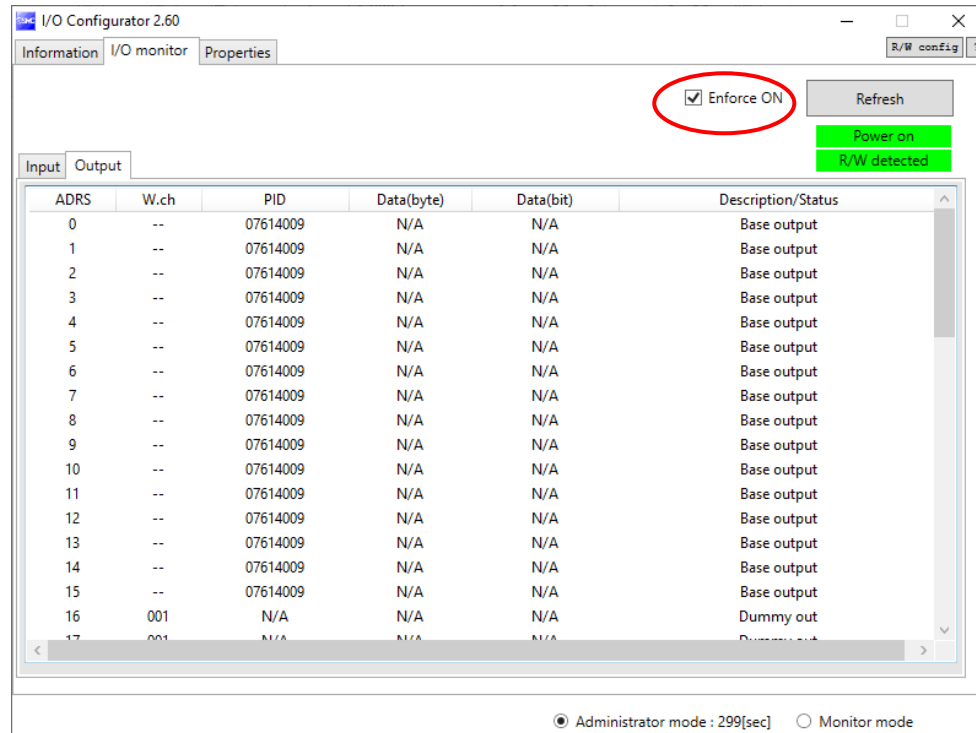


When the window below appears, the input value was outside the setting range. Enter a value within the range.



4.3.3. Forced output release procedure

First, check the box for Enforce ON. Then Click Yes. Click Yes on the following window. Forced output mode is released. Finally, click the Refresh button to update the information in the window. Forced output can also be released by turning off the power supply.



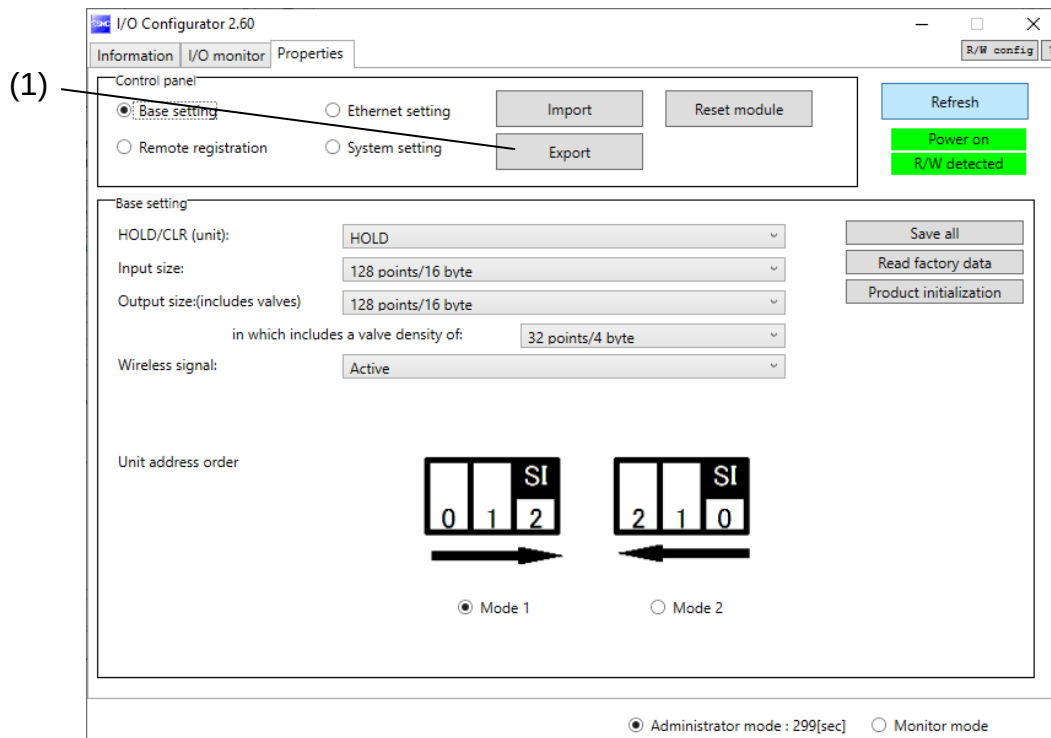
*: Caution for releasing forced output mode: The operation after releasing the forced output is different for Wireless Base and Remote. Set values are maintained for the Wireless Base, but they are not maintained for the Wireless Remote.

4.4. Export Settings

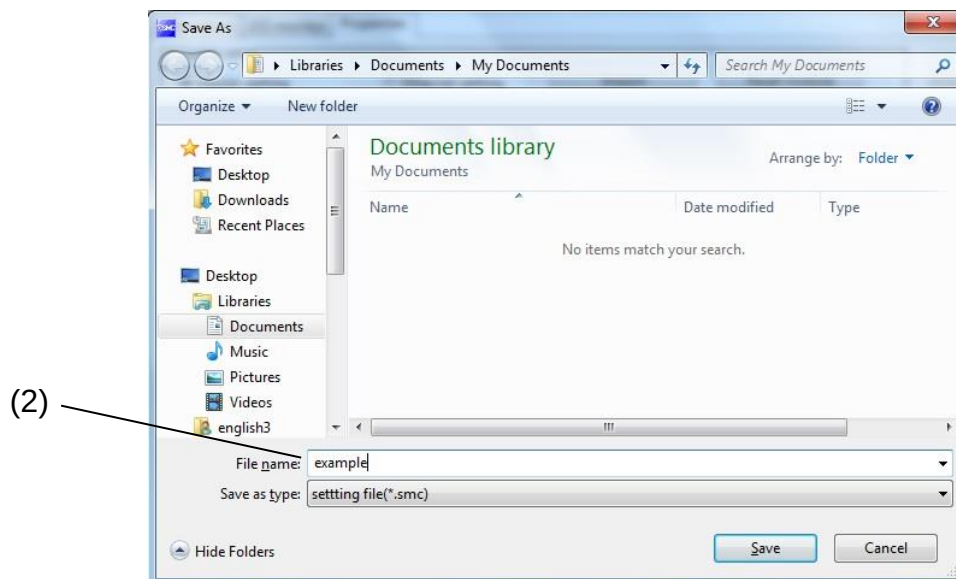
The Export settings tab enables the setting of the unit connected with current NFC reader/writer to be saved to a PC in the format of ".smc". The Import enables the unit setting to be reflected in the other unit. Refer to the table below for settings which can be exported.

◆ Procedure for exporting the settings

(1) Open the window to save the file by clicking the "Export" button.



(2) Input the file name and store the file.



•Export/import setting

Item		Base		Remote
		(EX600-WEN#)	(EX600-WPN#)	(EX600-WSV#)
Base setting/ Remote setting	Hold/Clear (unit)	○	○	○
	Occupied points for the module input	○	○	○
	Occupied points for the module output	○	○	○
	Occupied points for the valve manifold output	○	○	○
	Wireless communication	○	○	○
	Analogue input update time	—	—	○
	I/O unit assignment direction	○	○	○
Remote registration/ pairing setting	Pairing disabled/enabled	○	○	○
Ethernet setting	IP address setting mode	○	—	—
	IP address	○	—	—
	Auto MDI/MDI-X	○	—	—
	Duplex	○	—	—
	Speed	○	—	—
System setting	I/O assignment	○	—	—
	System input size	○	—	—
	System output size	○	—	—
	Diagnostic assignment	○	○	—
	Number of registered Remote	○	○	—
	Analogue output update time	○	○	—

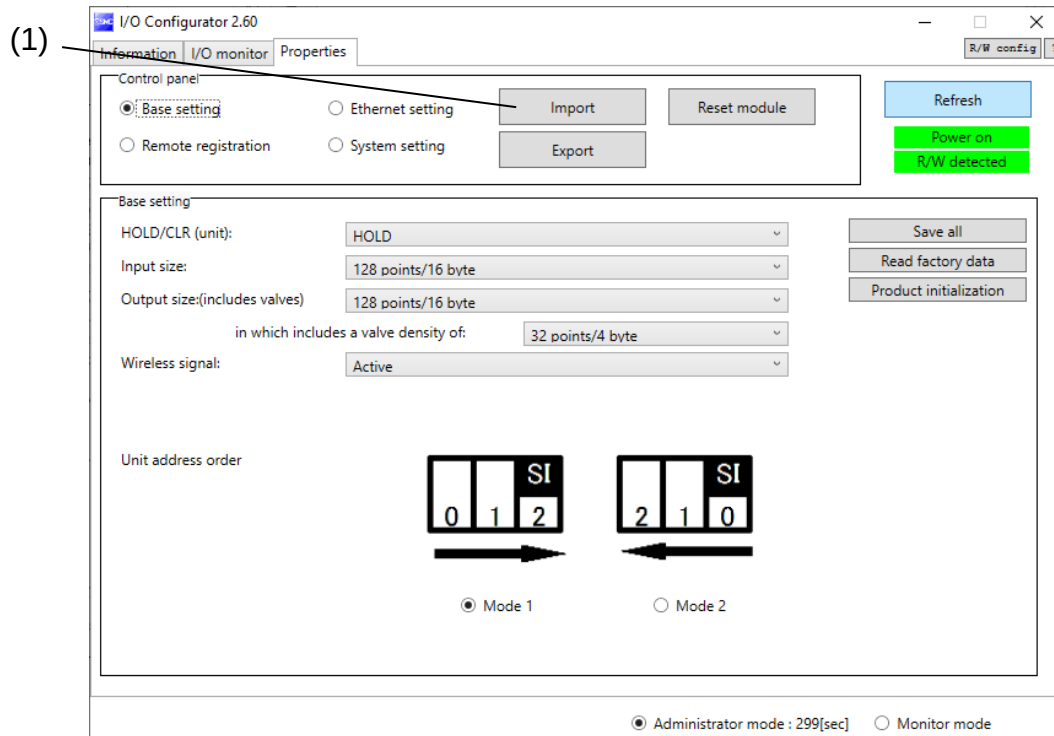
4.5. Import Settings

The Import settings tab enables the set file in the format of ".smc" which is save in the PC to be read, and the content of the unit connected with the NFC reader/writer can be changed to the content of the set file. This function is applicable only between the same type of unit (between Bases, or between Remotes)

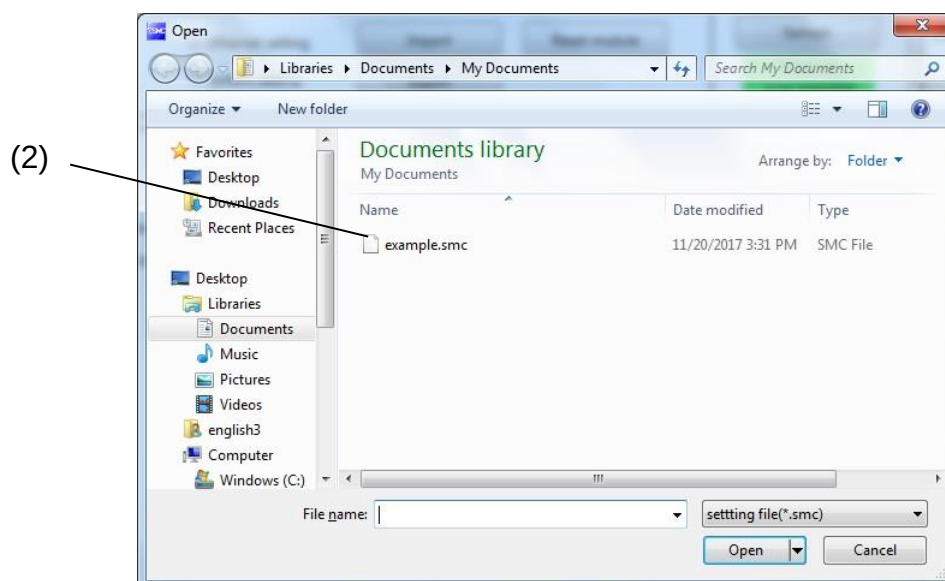
*: Refer to 4.4. Export Setting (page 64) for parameters settings subjected to import.

◆ Procedure for importing the settings

(1) Click the "Import" button.

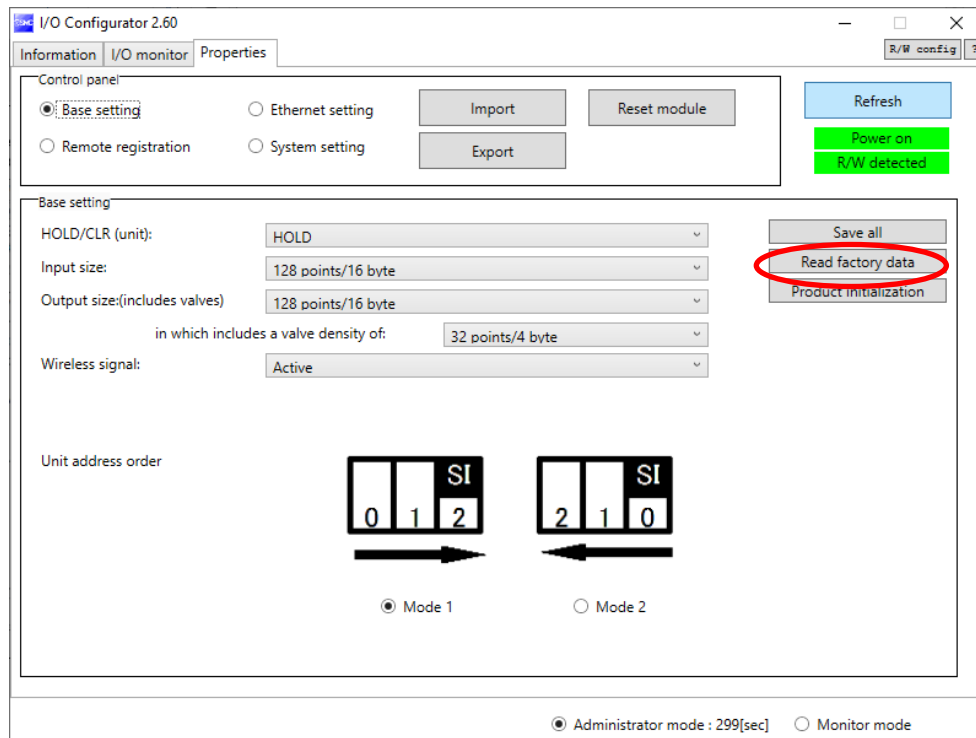


(2) Select the required file and click the Open. Select Yes to execute the import of settings.



4.6. Reading of the initial value

Click the "Read factory data" button to initialize or check the parameters in the window currently opened by the setting tab (excluding Remote unit registration and pairing setting). In order to reflect the setting, turn off the power and on again or reset when the power is on. Turn on the power supply when the power is off.



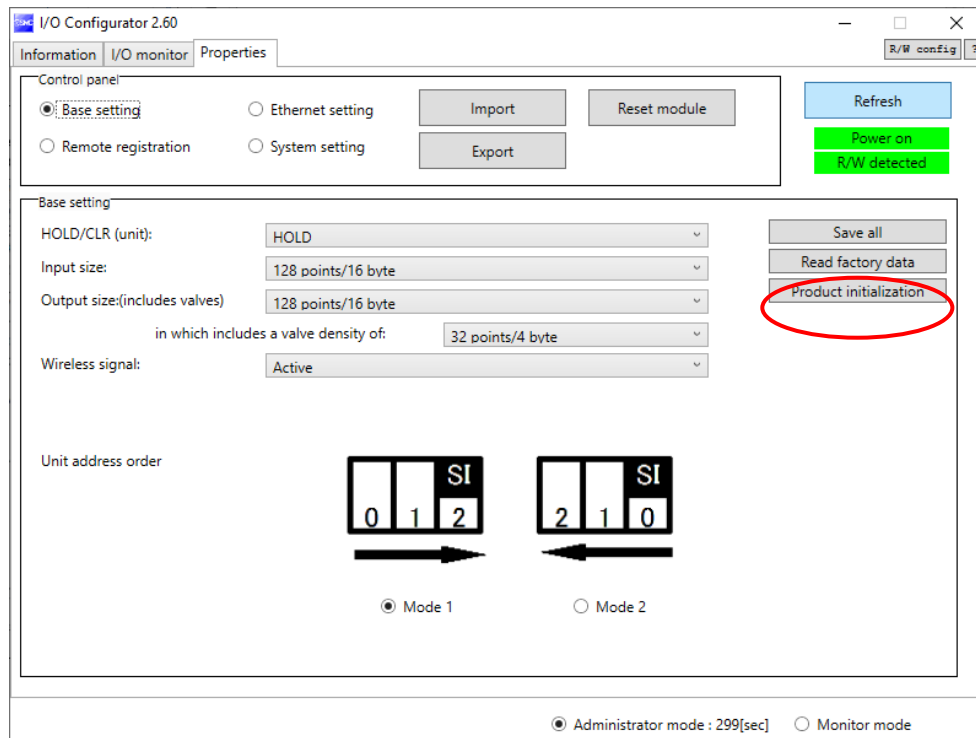
◆ Settings for which initial values are read:

- Wireless Base: Base setting, Ethernet setting, system setting
- Wireless Remote: Remote setting

4.7. Initialize

Perform Product initialization of the Base setting or Remote setting to initialize the product.

*: After executing the function, this function saves and reflects the setting, and updates the information in the window. The operation is not irreversible.



Some values set by the I/O configurator (WEB) are included in the initialized items. Refer to the table below for the set items to be initialized.

•Initialized items (I/O Configurator (NFC version))

Initialized items			Base		Remote
			(EX600-WEN#)	(EX600-WPN#)	(EX600-WSV#)
Set tab	Base/Remote setting	Hold/Clear	○	○	○
		Input size	○	○	○
		Output size	○	○	○
		Valve manifold output size	○	○	○
		Wireless communication	○	○	○
		Analogue input update time	-	-	○
		I/O unit assignment direction	○	○	○
	Remote unit registration	Pairing mode	○	○	○
		Info. registered in Base	-	-	○
	Pairing setting	Pairing mode	○	○	○
		Info. registered in Remote	○	○	-
	Ethernet setting	IP address setting mode	○	-	-
		IP address	○	-	-
		Auto MDI/MDI-X	○	-	-
		Duplex	○	-	-
		Speed	○	-	-
	System setting	I/O layout	○	-	-
		System input size	○	-	-
		System output size	○	-	-
		Diagnostic allocation	○	○	-
		Number of connected Remote	○	○	-
		Analogue output update time	○	○	-
Information tab	Detailed information	Tag	○	○	○

- N/A

•Initialized items (I/O Configurator (WEB version))

Initialized items		Base (EX600-WEN#) (EX600-WPN#)	Remote (EX600-WSV#)
Module Setting	Power Supply Voltage Monitor (Output)	○	○
	Byte Order of Analogue Values	○	○
Channel Setting	OpenDiag	○	○
	HOLD/CLEAR	○	○
	MAXCount	○	○
	CountOverDiag	○	○
	CountReset	○	○

*: Refer to the I/O Configurator (Web version) for item details.

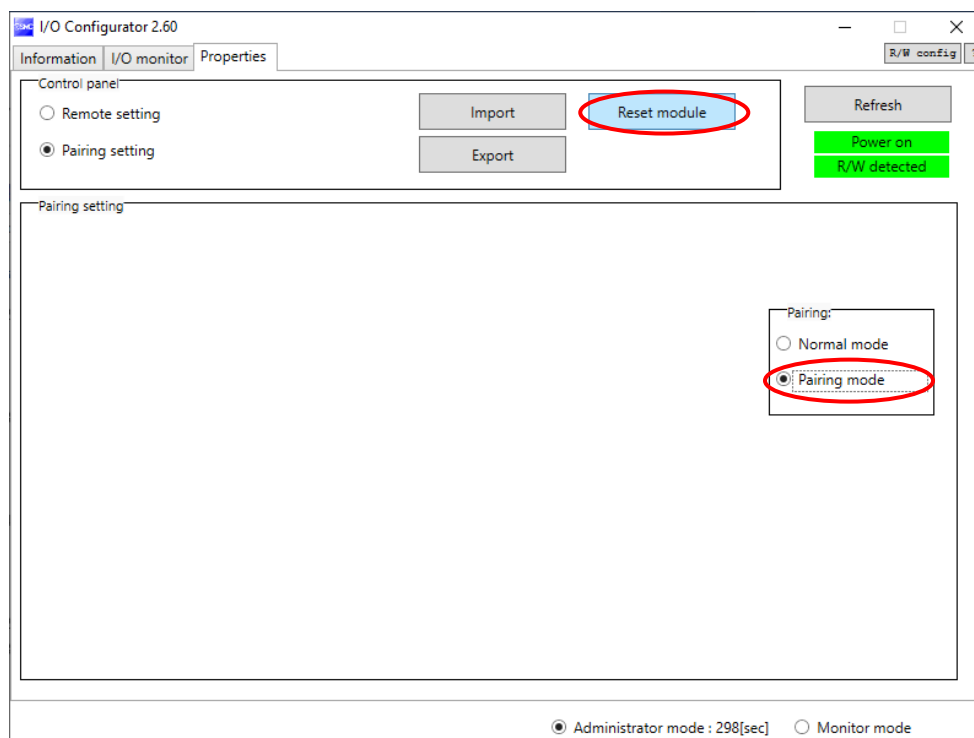
5. Pairing of wireless unit

5.1. Pairing procedure of wireless unit

*: Login to the Administrator mode to change to pairing mode.

Refer to 3.1.1 Login to administrator mode (page 13).

- (1) Change the mode of the Wireless Remote unit to **Pairing mode**.
 - (1-1) Change the pairing setting of the Wireless Remote unit to "Pairing enable".
 - (1-2) Reflect the change by clicking Reset module or by re-supplying power.



*: After switching the operation mode to Pairing mode, check that the W-NS LED on the wireless unit flashes in green and red alternately. Refer to the Operation Manual for details of LEDs.

(2) Change the mode of the Wireless Base unit to **Pairing mode**.

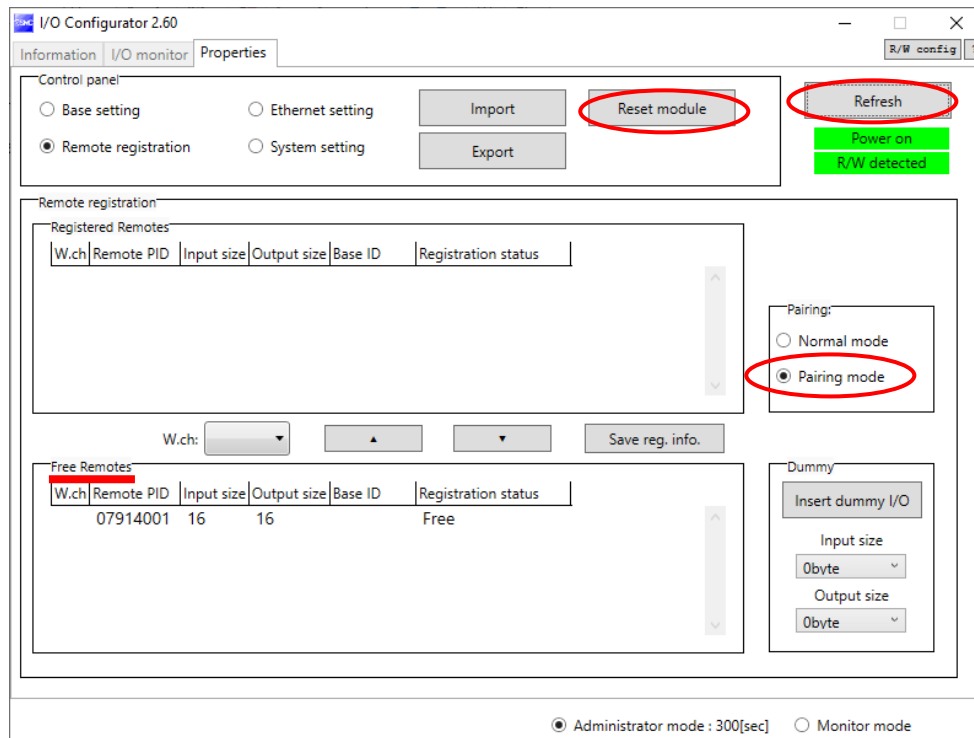
(2-1) Change the pairing setting of the Remote unit registration of the Wireless Base unit to "Pairing enable".

(2-2) Reflect the change by clicking **Reset module** or by re-supplying power.

(2-3) Update the contents on the screen by clicking **Refresh**.

(Registered Wireless Remote unit information will be displayed in the box of free Remote.)

*: The Power supply for the Wireless Base/Remote has to be on for registration of the Remote unit.



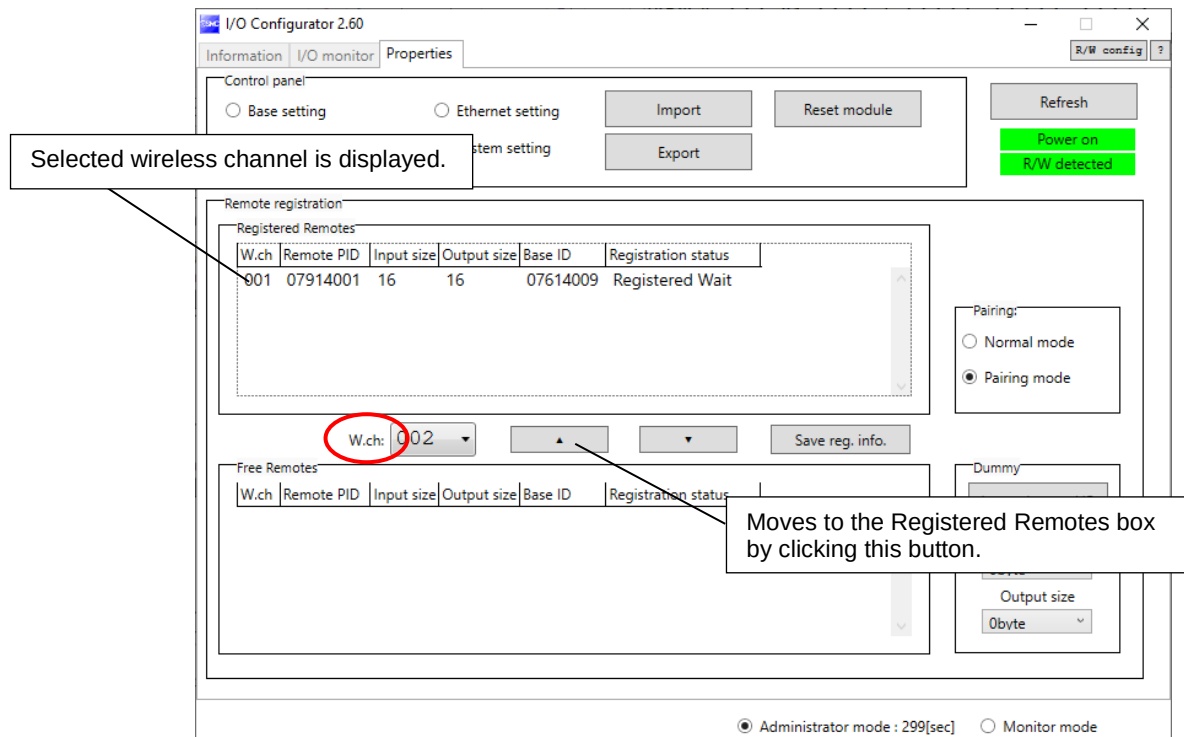
*: After switching the operation mode to Pairing mode, check that the W-NS LED on the wireless unit flashes in green and red alternately. Refer to the Operation Manual for details of LEDs.

(3) Select the wireless channel

(3-1) Register the required wireless channel by registering the Remote unit to the Wireless Base unit.
Select the wireless channel.

(3-2) Move it from the Free Remotes box to Registered Remotes box.

(Registration is not complete at this point. The status of the Wireless Remote unit will be shown as "Waiting for registration".)



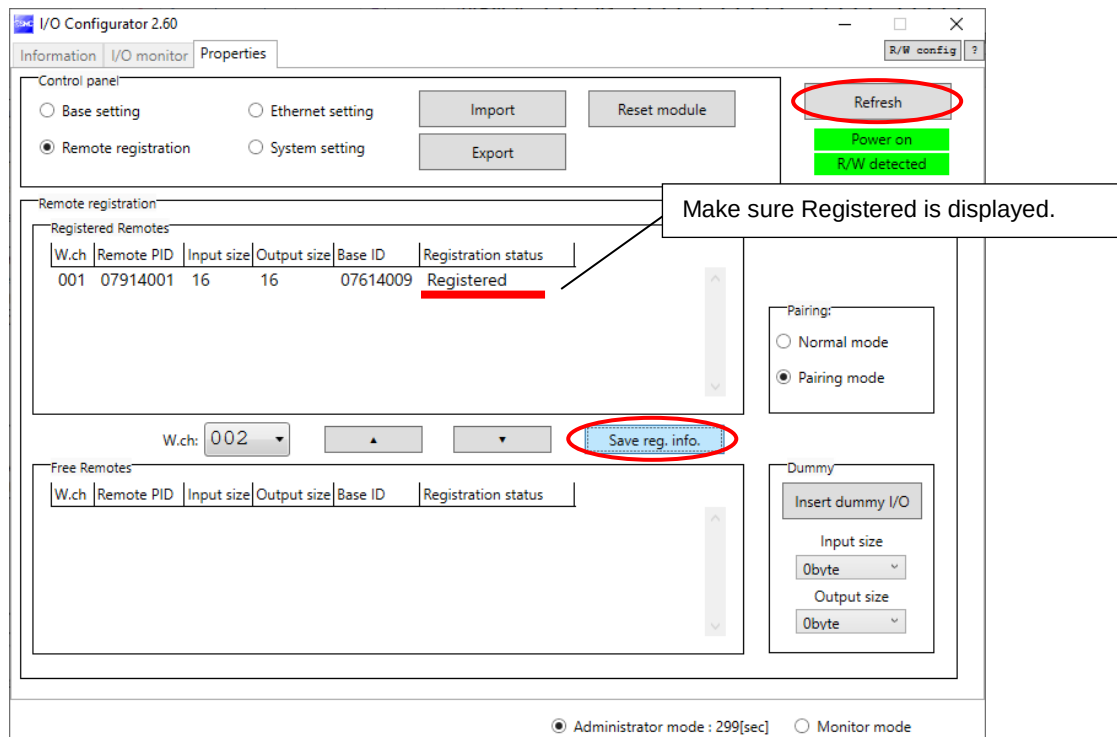
(4) **Determination of the registered information**

(4-1) Press Save reg-info to register the Wireless Remote unit to the Wireless Base.

(4-2) Click **Refresh** to confirm that the setting has been reflected.

(When registration has been completed correctly, the status of the selected Wireless Remote unit will change from "Waiting for registration" to "registered".

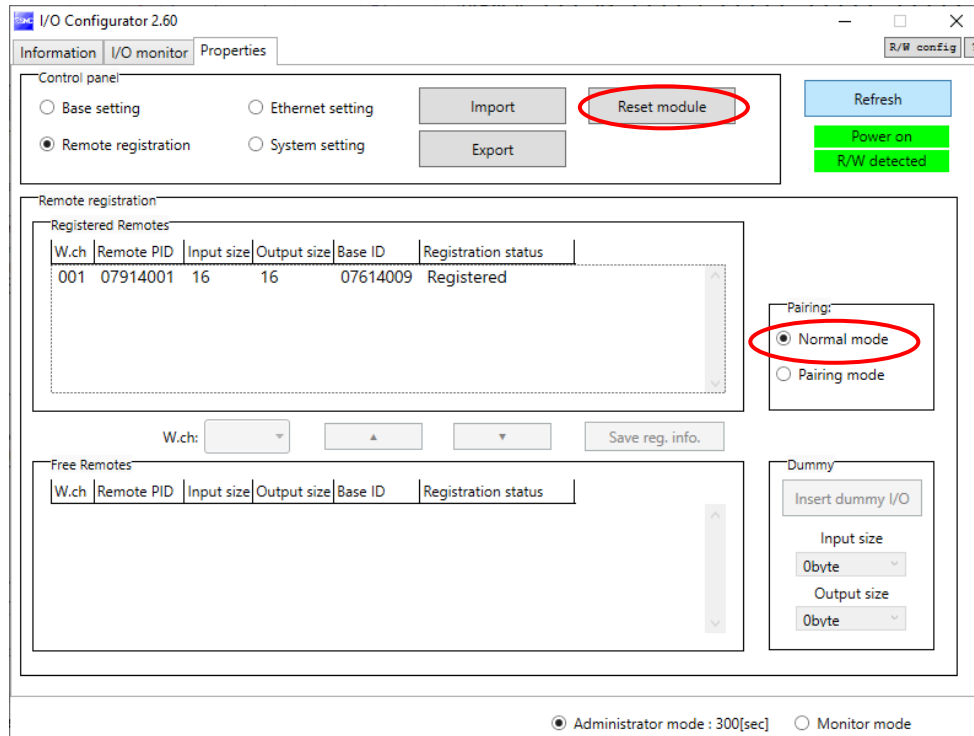
(When the Wireless Remote unit is registered correctly, the mode will change automatically.)



(5) **Change of operation mode** of the Wireless Base unit

(5-1) Change the pairing setting on the Remote unit registration screen of the Wireless Base unit to "Pairing disable".

(5-2) Reflect the change by clicking Reset module or by re-supplying power.



Now, the registration procedure for the Wireless Base unit and the Wireless Remote unit are complete.

When registering more than one Wireless Remote is required, repeat procedures (3) and (4).

It is also possible to register more than one Wireless Remote unit simultaneously to the Wireless Base unit.



- Registration should be performed with power supplied to both wireless Base and wireless Remote units.
- For the Input and Output size of the wireless Remote unit module, the setting of wireless registration will be reflected to the wireless Base unit.**
When changing the number of Input and Output points of the wireless Remote unit, wireless registration should be performed again.
- The setting of the Input and Output points of the wireless Base unit are valid all the time. Be careful that the I/O map will be different if the setting is changed after constructing the I/O map. (After changing, the setting is reflected by pressing the [Reset] button or by supplying the power again.)

5.2. Registration of dummy Remote

(1) **Change of operation mode** of the Wireless Base unit

(1-1) Change the pairing setting of the Remote unit registration of the Wireless Base unit to "Pairing enable".

(1-2) Reflect the change by clicking **Reset module** or by re-supplying power.

(1-3) Update the contents on the screen by clicking **Refresh**.

(2) **Inputs/outputs setting** of dummy Remote

Set the number of inputs and outputs of the dummy Remote.

(3) **Insert** the dummy Remote **to the required wireless channel**

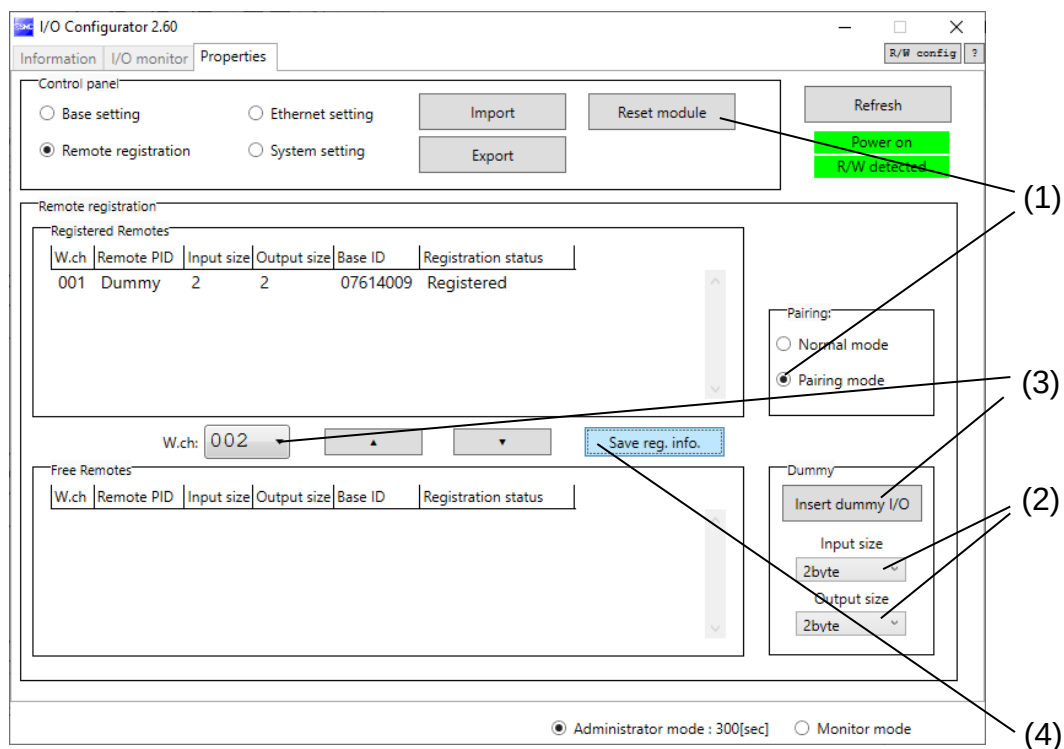
Select the required wireless channel and click **Insert** so that the set dummy Remote is displayed in the box for "Registered Remotes".

(Dummy Remote registration is not complete at this point. The status is "Waiting for registration".)

(4) Save the dummy Remote **registration information**.

Click **Save reg. info** to reflect the registered information.

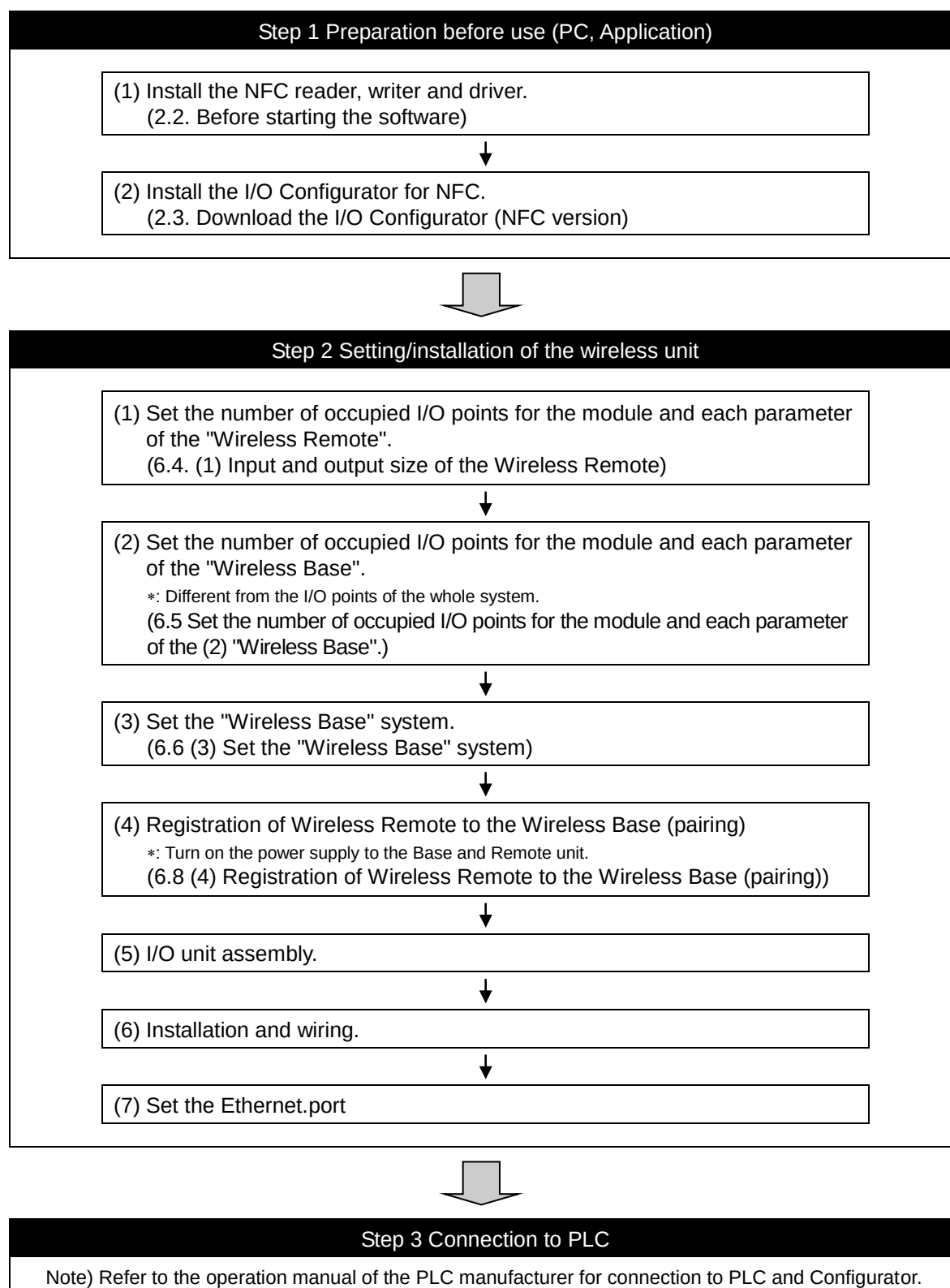
(When registration has been completed correctly, the status of the dummy Remote will change to "registered".)



6. Wireless system configuration example

The Wireless system configuration method is shown below. Perform the preparation according to section 2. Preparation before use (page 7) before configuring the wireless system. The example below is based on the Step 2 Setting/installation of the wireless unit of 6.1 Flow chart for using the wireless system (page 76) to explaining the Example 1 of 6.2 System Configuration example (page 77).

6.1. Flow chart for using the wireless system (Refer to Step 2)



6.2. System Construction Example

An example of the set parameters and memory map of the wire Base and Remote (2 pcs.) used for wireless system configuration are shown below.

Based on the example of Diagnostic allocation of the Operation Manual.

	Unit 0	Unit 1	Unit 2	
End plate	DY*B	DX*D	EX600-WEN#	Valve manifold (16 points)
	Digital output	Digital input	Wireless Base unit	
	1-byte output	2-byte output	2-byte output	

Wireless Base unit setting parameter

Diagnostic allocation: Detailed
I/O mapping: Auto
Input size: 32 points/4 bytes
Output size: 32 points/4 bytes
Valve manifold output size: 16 points/2 bytes
I/O unit layout mode: Mode 1
Number of Remote connection: 15 pcs.

Wireless Base module construction

Input data: [Unit 1] Digital input unit (EX600-DX*D): 2 bytes occupied

Output data: [Unit 0] Digital output unit (EX600-DY*B): 1 byte occupied

[Unit 2] Wireless Base unit (EX600-WEN#): 2 bytes occupied

	Unit 0	Unit 1	Unit 2	Unit 3	
End plate	DY*B	AXA	DX*D	EX600-WSV#	Valve manifold (32 points)
	Digital output	Analogue input	Digital input	Wireless Remote unit	
	1-byte output	4-byte input	2-byte input	4-byte output	

Wireless Remote unit setting parameter
(Wireless channel 001)

Input size: 64 points/8 bytes
Output size: 48 points/6 bytes
Valve manifold output size: 32 points/4 bytes
I/O unit layout mode: Mode 1

Wireless Remote module construction (Wireless channel 001)

Input data: [Unit 1] Digital input unit (EX600-DX*D): 2 bytes occupied

[Unit 2] Analogue input unit (EX600-AXA): 4 bytes occupied

Output data: [Unit 0] Digital output unit (EX600-DY*B): 1 byte occupied

[Unit 3] Wireless Remote unit (EX600-WSV#): 4 bytes occupied

	Unit 0	Unit 1	Unit 2	Unit 3	
End plate	DY*B	DX*D	DX*B	EX600-WSV#	End plate (Output side)
	Digital output	Digital input	Digital input	Wireless Remote unit	
	1-byte output	2-byte input	1-byte input	0-byte output	

Wireless Remote unit setting parameter
(Wireless channel 002)

Input size: 32 points/4 bytes
Output size: 16 point/2 bytes
Valve manifold output size: 0 point/0 byte
I/O unit layout mode: Mode 1

Wireless Remote module construction (Wireless channel 002)

Input data: [Unit 1] Digital input unit (EX600-DX*D): 2 bytes occupied

[Unit 2] Digital input unit (EX600-DX*B): 1 byte occupied

Output data: [Unit 0] Digital output unit (EX600-DY*B): 1 byte occupied

[Unit 3] Wireless Remote unit (EX600-WSV#): 0 byte occupied

•Memory map

	Input data		Output data	
	Module name	Unit name	Module name	Unit name
byte0	System diagnosis 1		Wireless Base module	DX*B (Unit 0)
byte1	System diagnosis 2			EX600-WEN# (Unit 2) Valve output: 16 points
byte2	System diagnosis 3			Reserved
byte3	System diagnosis 4			
byte4	Wireless Remote connection information (Wireless channel 1-7; bit 0 are fixed at "0".)		Wireless Remote module (Wireless channel 001)	DY*B (Unit 0)
byte5	Wireless Remote connection information (Wireless channel 8-15)			EX600-WSV# (Unit 3) Valve output: 32 points
byte6	Wireless Remote diagnostic information * ¹ (Wireless channel 1-7)			
byte7	Wireless Remote diagnostic information (Wireless channel 8-15)			
byte8	Wireless Remote registration information (Wireless channel 1-7; bit 0 are fixed at "0".)			
byte9	Wireless Remote registration information (Wireless channel 8-15)			Reserved
byte10	Wireless Base module	DX*D (Unit 1)	Wireless Remote module (Wireless channel 002)	DY*B (Unit 0)
byte11				Reserved
byte12		Reserved		
byte13		Reserved		
byte14	Wireless Remote module (Wireless channel 001)	AXA (Unit 1)		
byte15				
byte16				
byte17		DX*D (Unit 2)		
byte18				
byte19				
byte20	Reserved			
byte21	Reserved			
byte22	Wireless Remote module (Wireless channel 002)	DX*D (Unit 1)		
byte23		DX*B (Unit 2)		
byte24				
byte25		Reserved		
Total	26 byte		12 byte	

6.3. Preparation

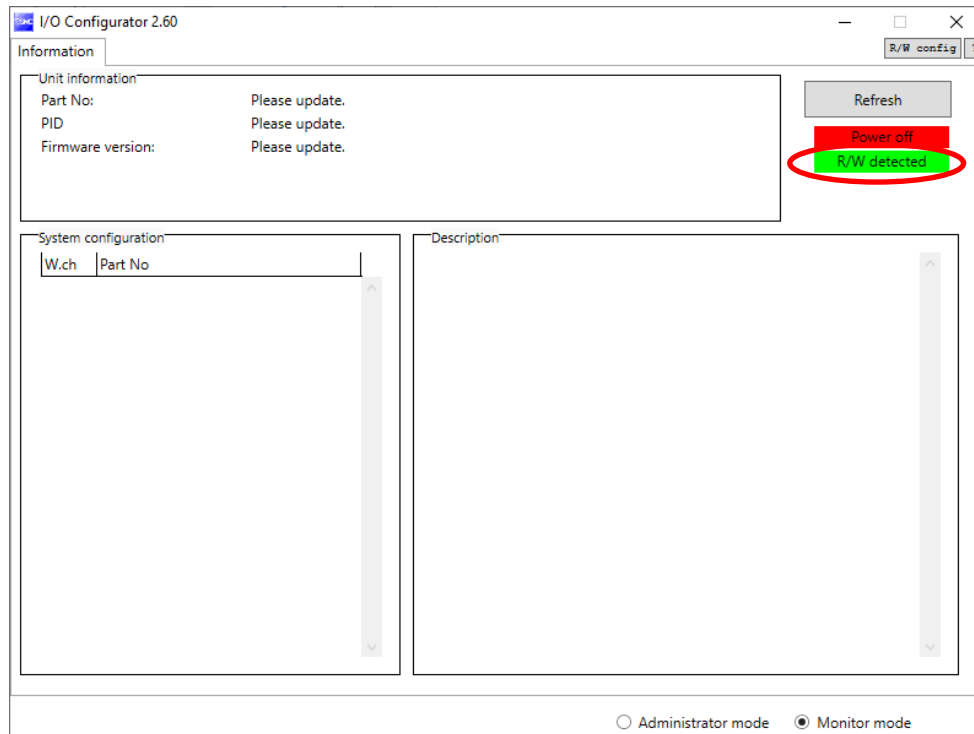
STEP 1 STEP 2

Start the I/O Configurator (NFC version)
Login to Administrator mode

STEP 1 Start the I/O Configurator (NFC version)

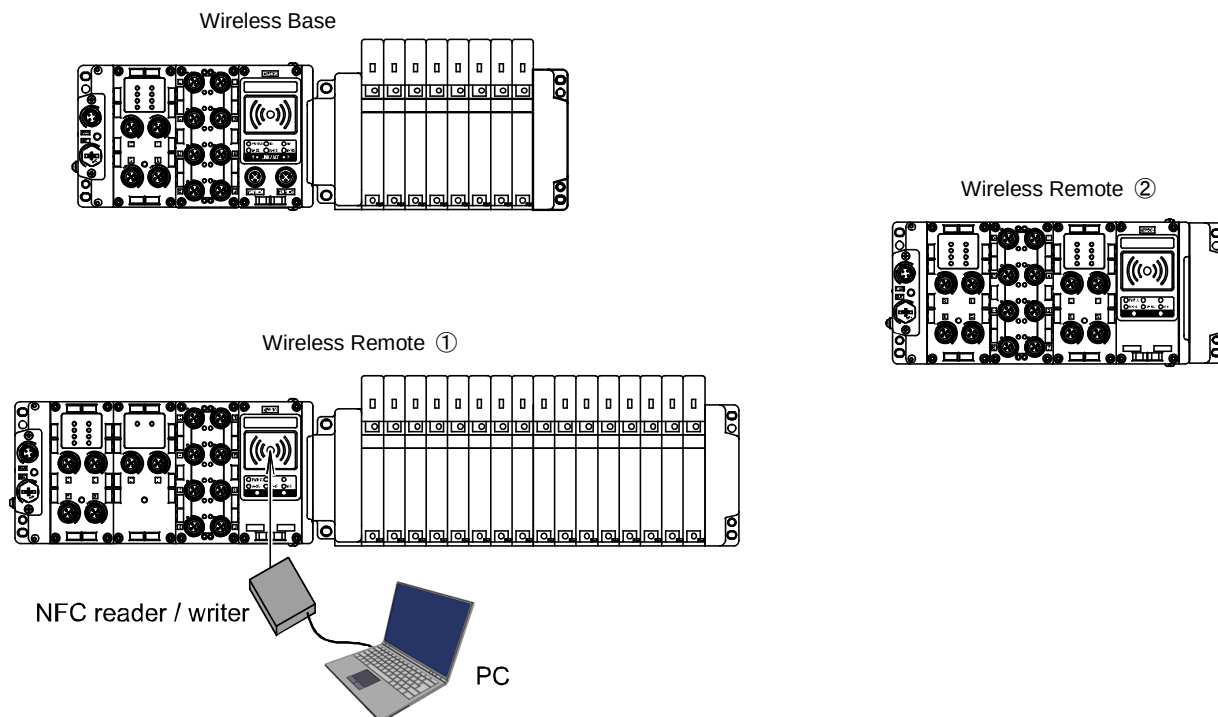
(1) Start up the I/O Configurator (NFC) and connect the NFC reader/writer to the PC. "R/W detected" will turn on in green when the PC detects the NFC reader/writer.

*: Refer to 2. Preparation before use (page 7) for details of the connection of the NFC reader/writer.

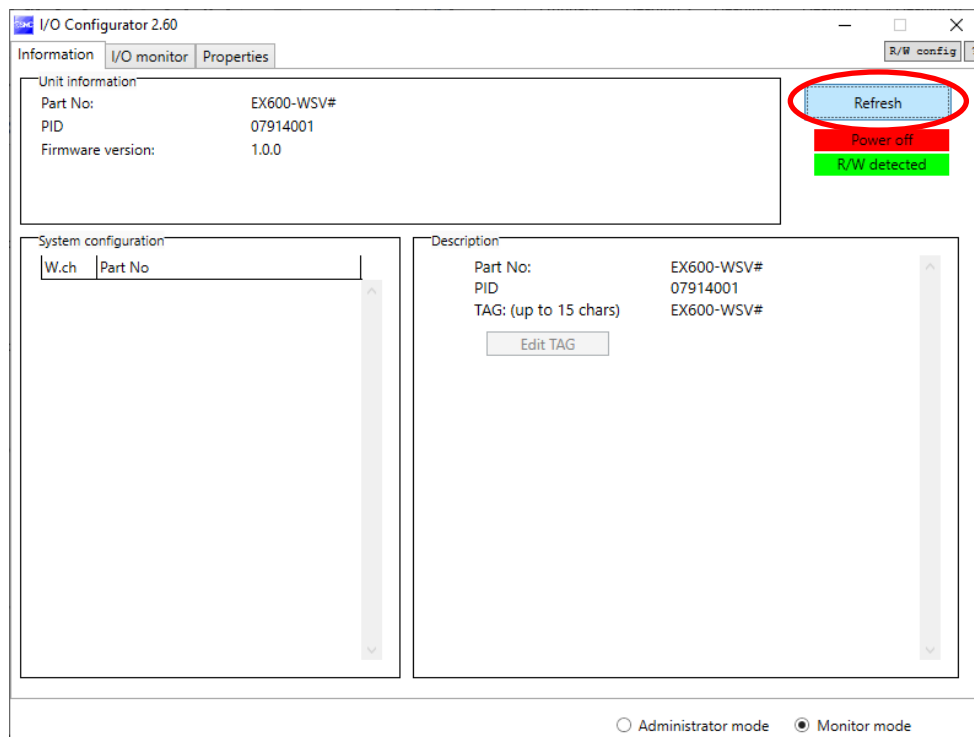


Window when the NFC reader/writer is detected

(2) Hold the NFC reader/writer over the Wireless Remote (1).



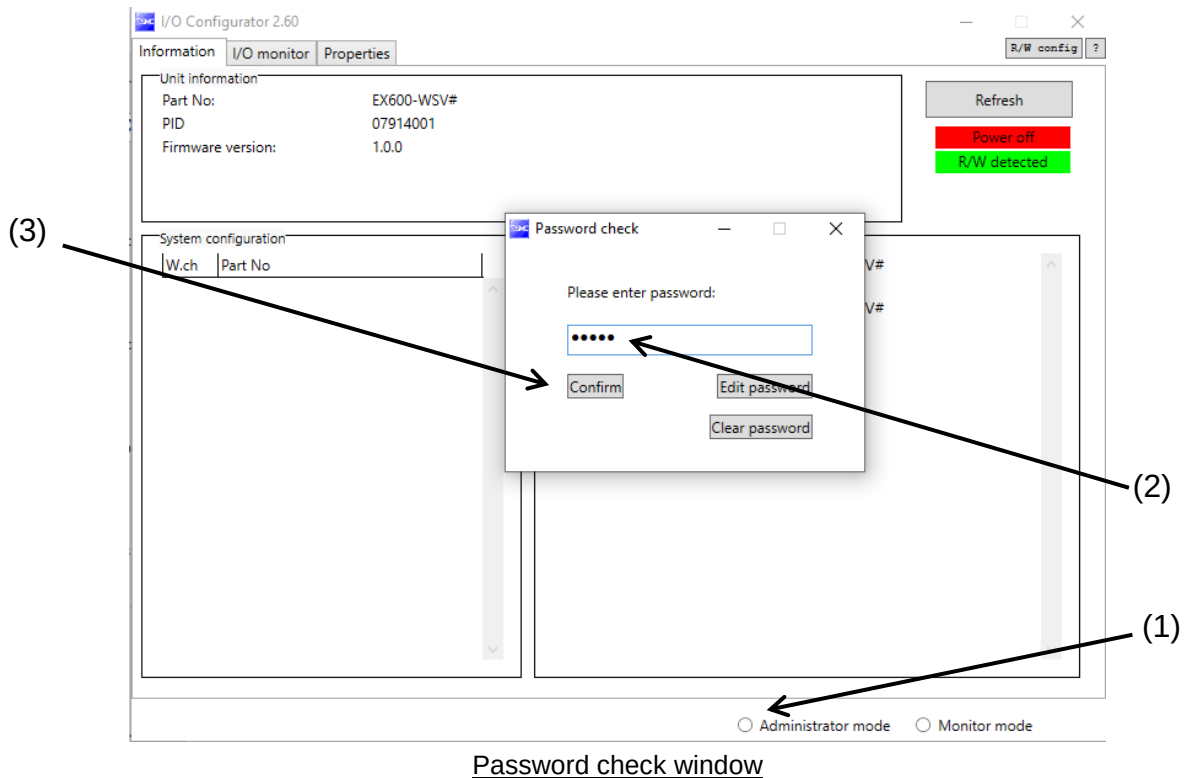
(3) Click the "Refresh" button to update the information in the Information tab window of the Wireless Remote (1).



Update of the Information tab window

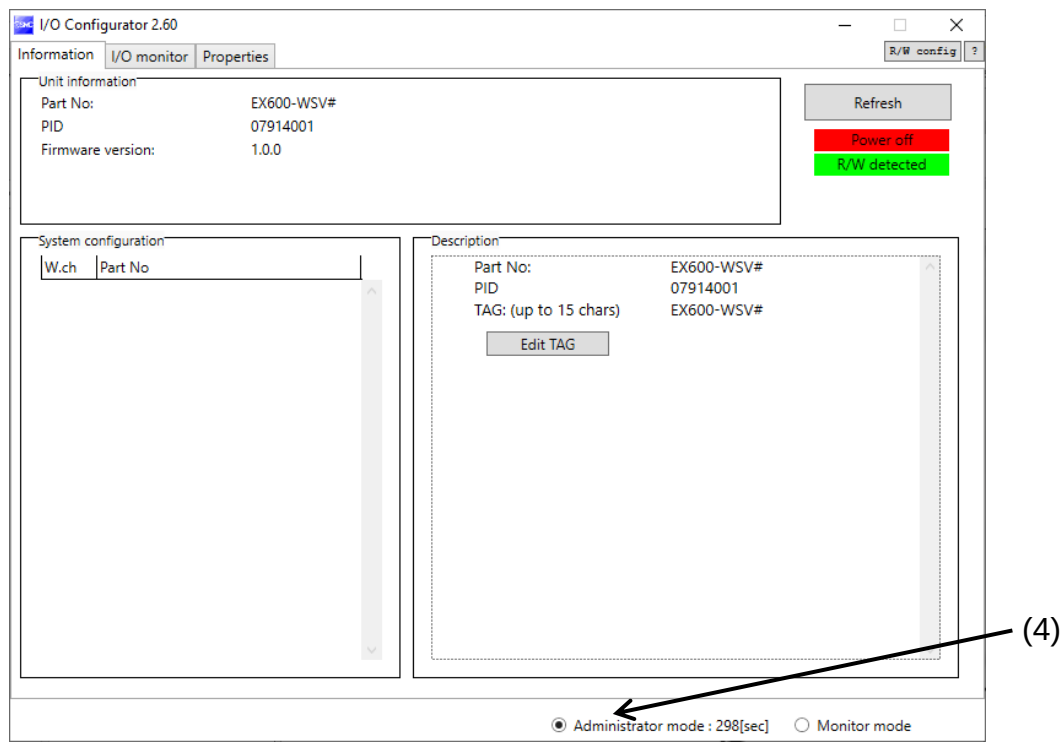
STEP 2 Login from the Administrator mode.

- (1) Click the radio button for Administrator mode.
- (2) Enter the password in the Password check window.
 - *: The default password at the time of shipment from the factory is **admin**.
- (3) When the following password input window is displayed, click **Confirm**.
 - "Password checking passed." is displayed when login is successful.
 - *: When login is not successful, refer to 9. Troubleshooting (page 121).



(4) Confirm that the radio button "Administrator mode" is checked during the login state.

*: The mode is automatically changed to the monitor mode unless a mouse operation is made within 300 seconds in Administrator mode.



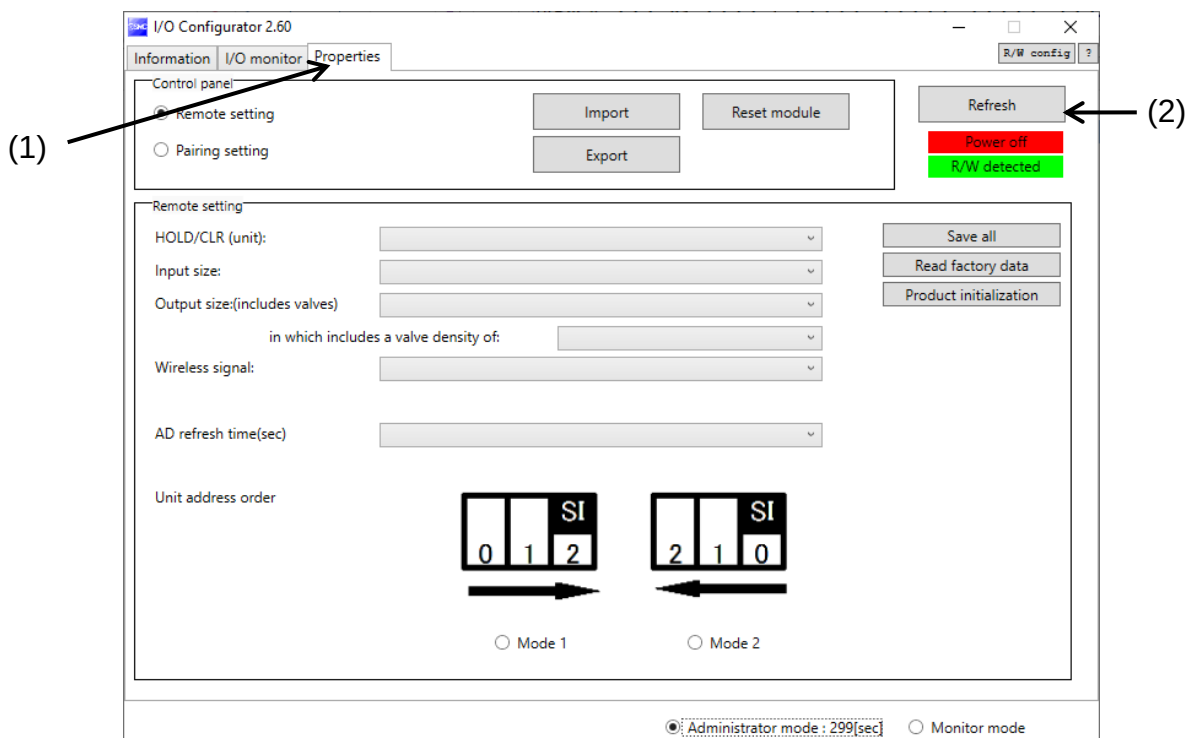
Window to complete login

6.4. (1) Input and output size of the Wireless Remote

STEP 3	Change of parameter setting (Wireless Remote (1))
STEP 4	Change to pairing mode (Wireless Remote (1))
STEP 5	Change of parameter setting (Wireless Remote (2))
STEP 6	Change to pairing mode (Wireless Remote (2))

STEP 3 Change of parameter setting (Wireless Remote (1))

- (1) Click the Properties tab to move to the Remote setting window.
- (2) Click the "Refresh" button to update the information in the Remote setting window for the Remote unit.

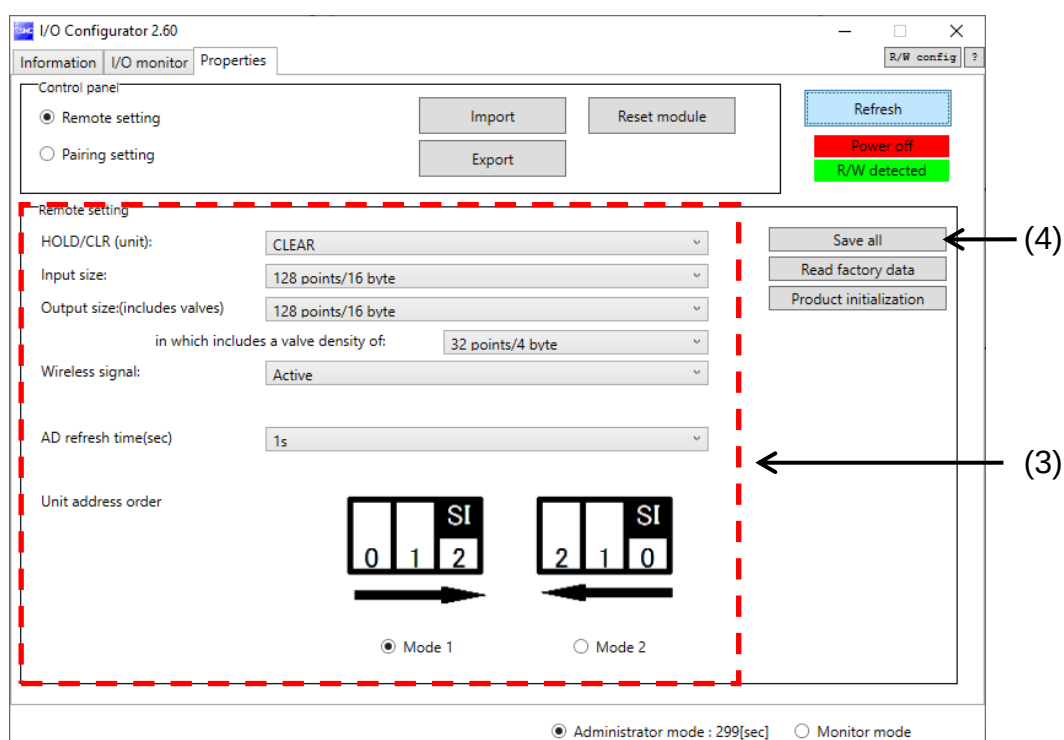


Remote setting window before updating (Wireless Remote(1))

- (3) Change the parameter setting of the Wireless Remote(1) to the values in the table for parameter setting.
 (4) Click the "Save all" button to save the set values in the Wireless Remote (1).

Table for the change of parameter setting (Wireless Remote (1))

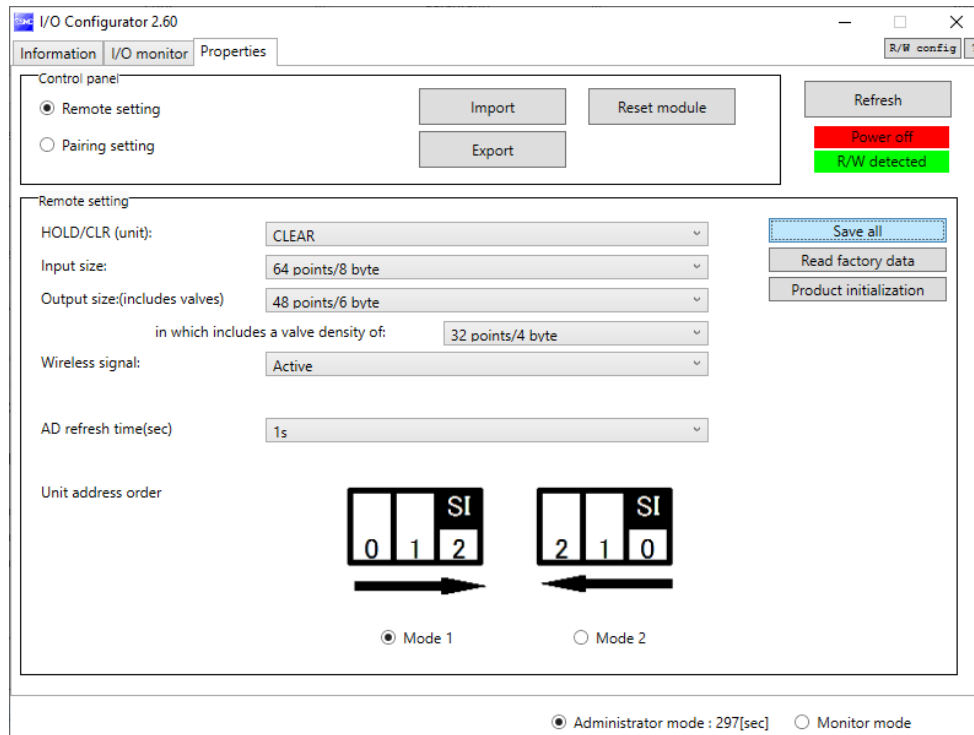
Setting items	Set value
Hold/Clear (unit)	Clear
Occupied points for the module input	64 point/8 byte
Occupied points for the module output	48 points/6 bytes
Occupied points for the valve manifold output	32 point/4 byte
Wireless communication	Active
Analogue input update time	1 s
I/O unit assignment direction	Mode 1



Default condition of the window for setting the Remote unit (Wireless Remote (1))

*: Refer to 3.3.3.2. Setting window (page 38) for details of parameters.

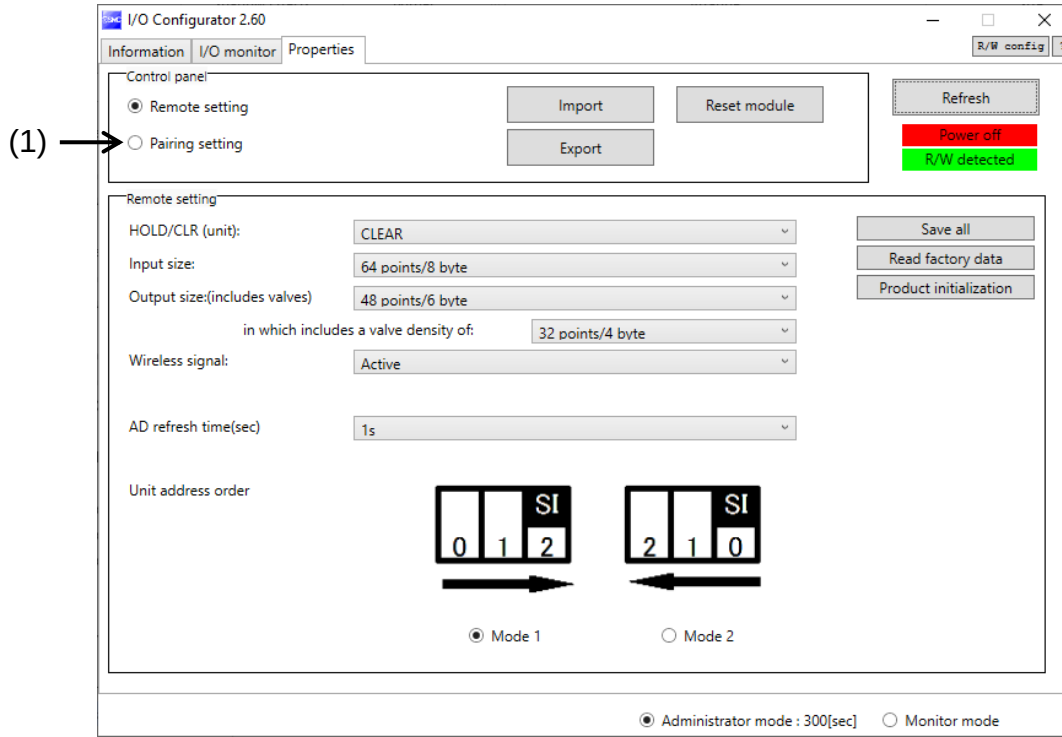
(5) The parameter setting of the Wireless Remote(1) is complete.



Remote setting window after setting (Wireless Remote (1))

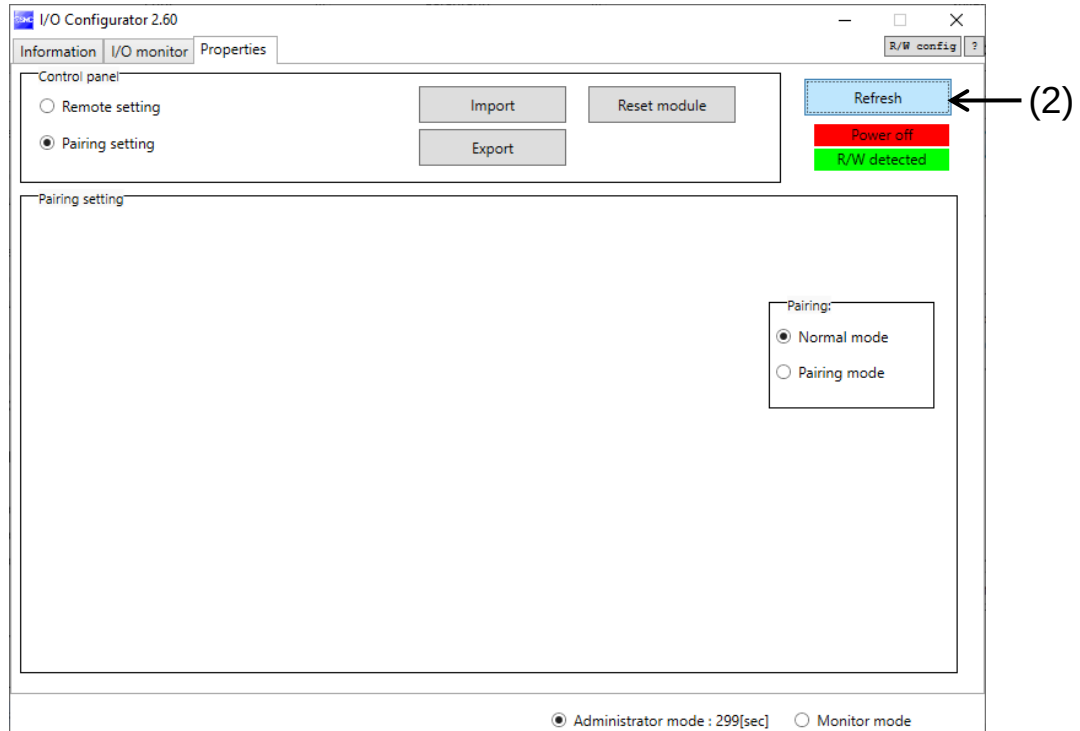
STEP 4 Change to pairing mode (Wireless Remote (1))

(1) Click the radio button for Pairing setting to move to the pairing setting window.



From the Remote setting window to Pairing setting (Wireless Remote (1))

(2) Click the "Refresh" button to update the information in the Pairing setting window.



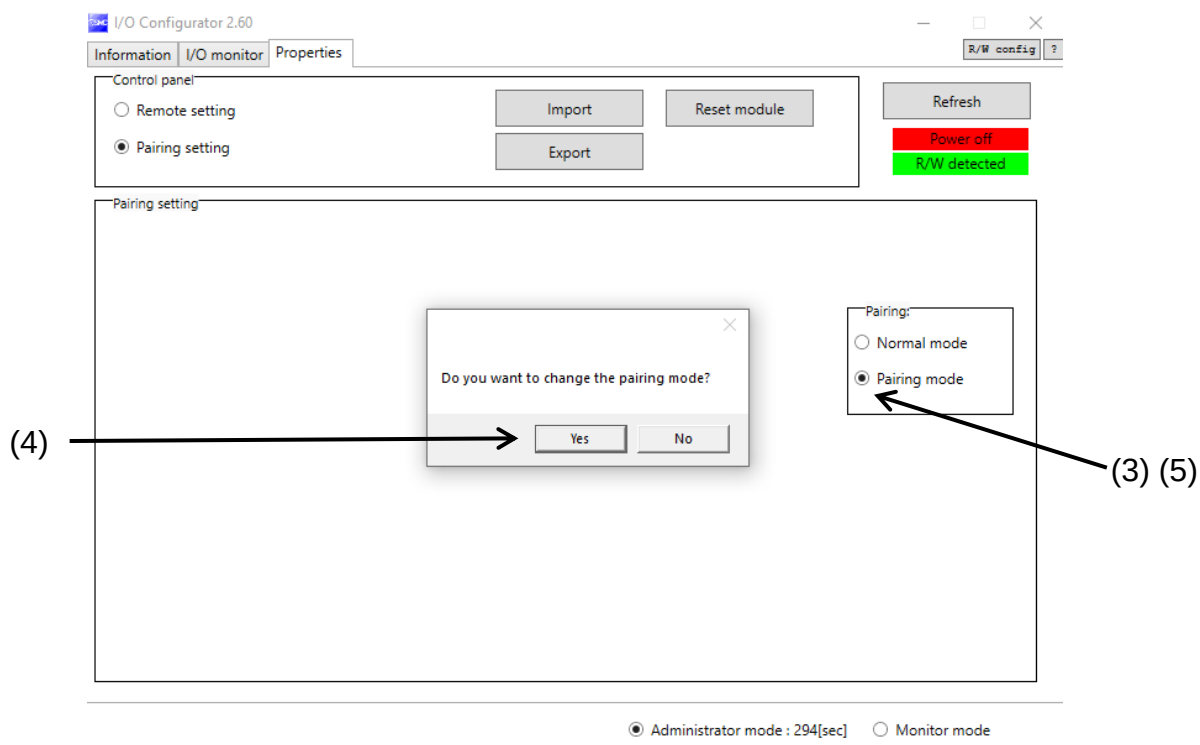
Pairing setting window (Wireless Remote (1))

(3) Click the radio button for Pairing mode.

(4) Click Yes to change to the pairing mode.

*: Remote reset is requested when the mode is changed to pairing mode. The Remote cannot be reset when the power supply is not connected.

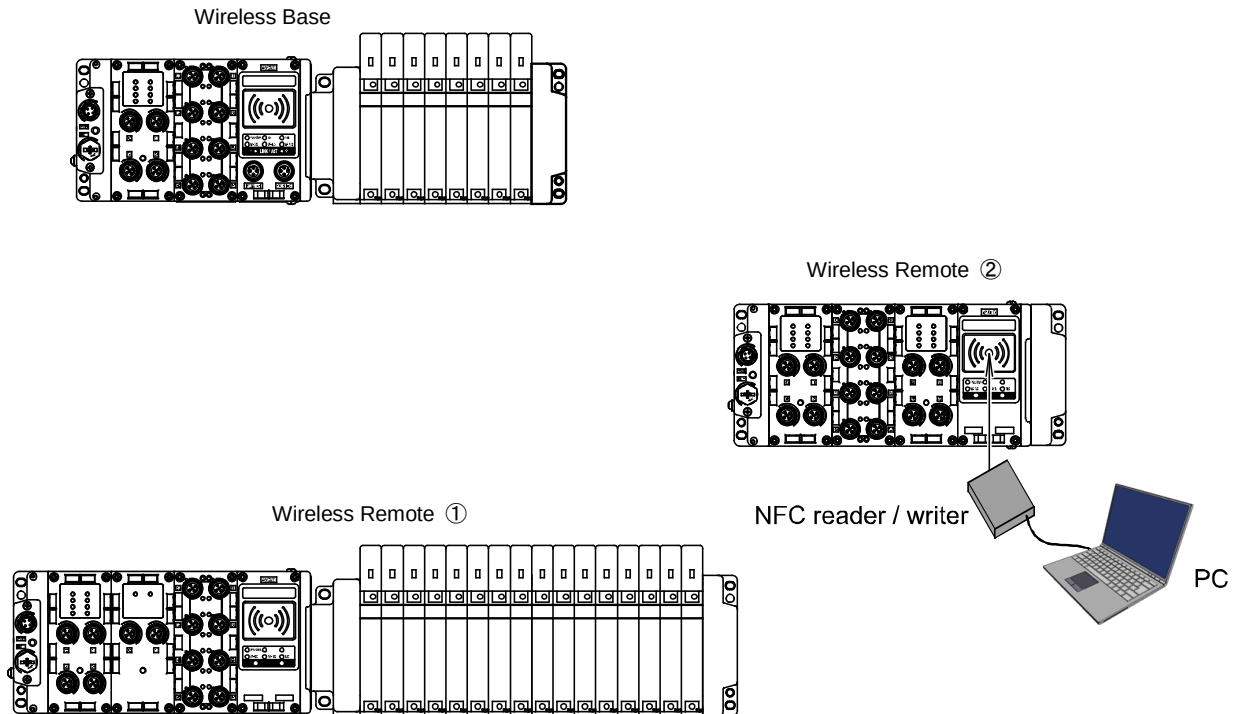
(5) Confirm that the radio button "Pairing mode" is checked.



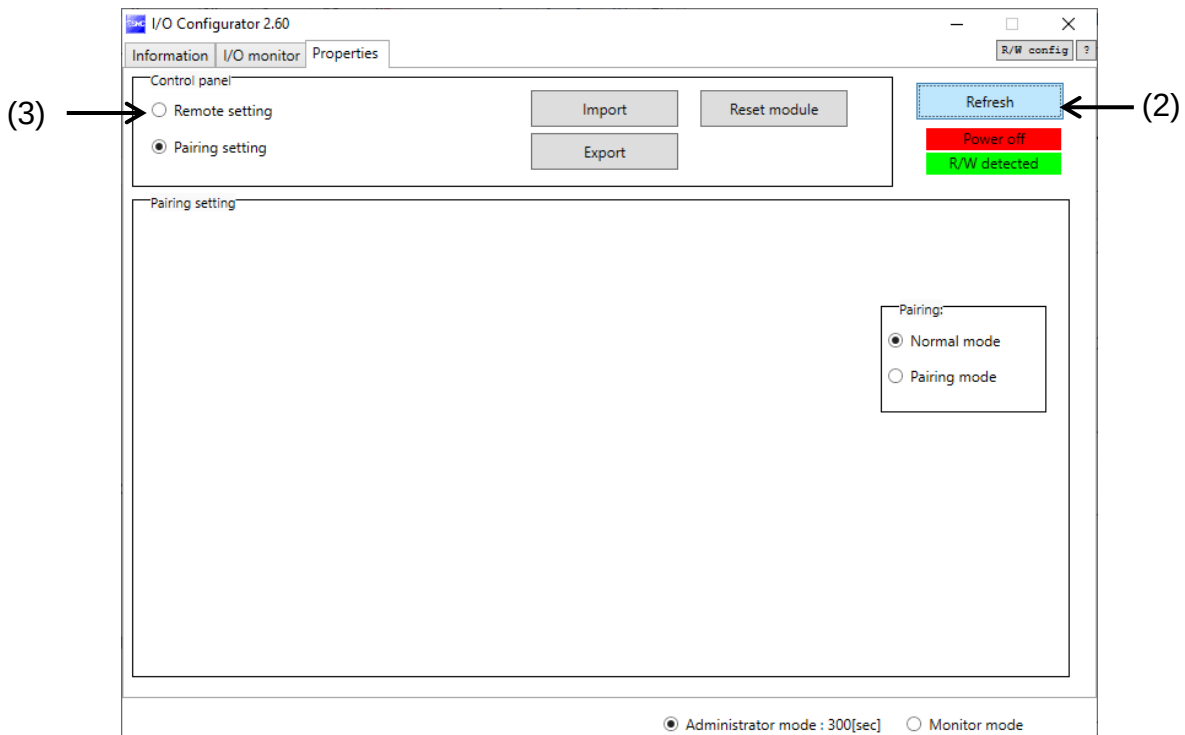
Pairing check window (Wireless Remote (1))

STEP 5 Change of parameter setting (Wireless Remote (2))

- (1) Hold the NFC reader/writer over the Wireless Remote (2).



- (2) Click the "Refresh" button to update the window of the Wireless Remote (2).
 (3) Click the radio button for Remote setting to move to the Remote setting window.

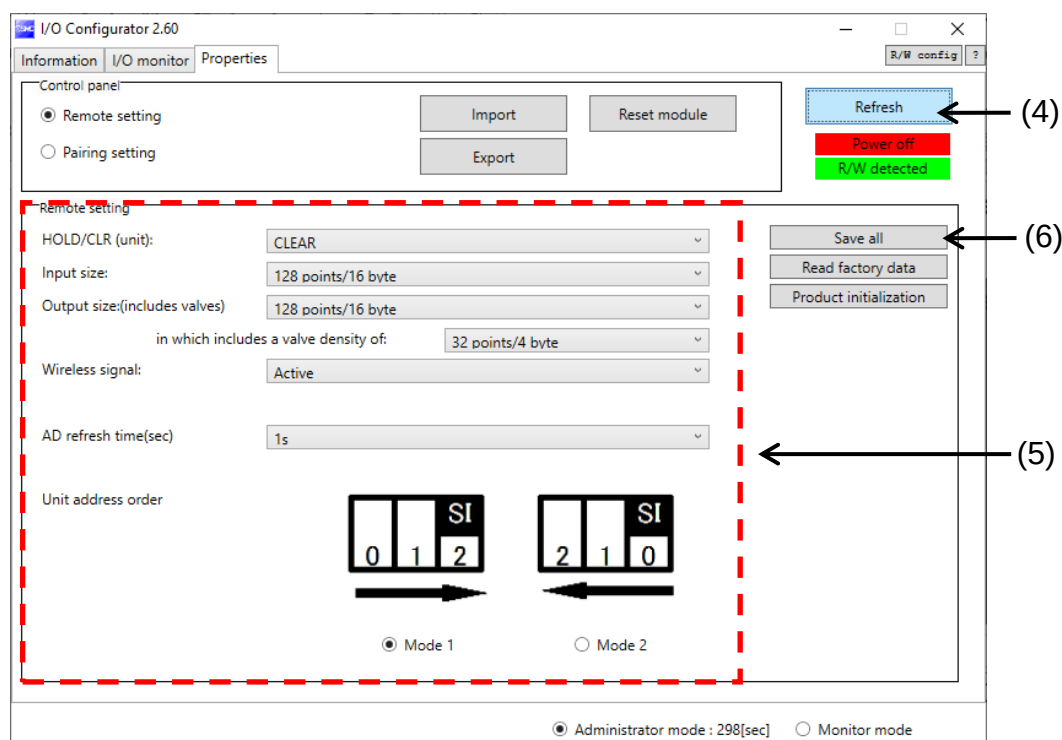


From the Pairing setting window to Remote setting (Wireless Remote (2))

- (4) Click the "Refresh" button to update the information in the Remote setting window for the Remote unit.
- (5) Change the parameter setting of the Wireless Remote(2) to the values in the table for parameter setting.
- (6) Click the "Save all" button to save the set values in the Wireless Remote (2).

Table for the change of parameter setting (Wireless Remote (2))

Setting items	Set value
Hold/Clear (unit)	CLEAR
Input size (Occupied points for the module input)	32 point/4 byte
Output size (Occupied points for the module output)	16 point/2 byte
Valve density of... (Occupied points for the valve manifold output)	0 point/0 byte
Wireless signal	Active
AD refresh time	1 s
Unit address order	Mode 1



Default condition of the window for setting the Remote unit (Wireless Remote(2))

*: Refer to 3.3.3.2. Setting window (page 38) for details of parameters.

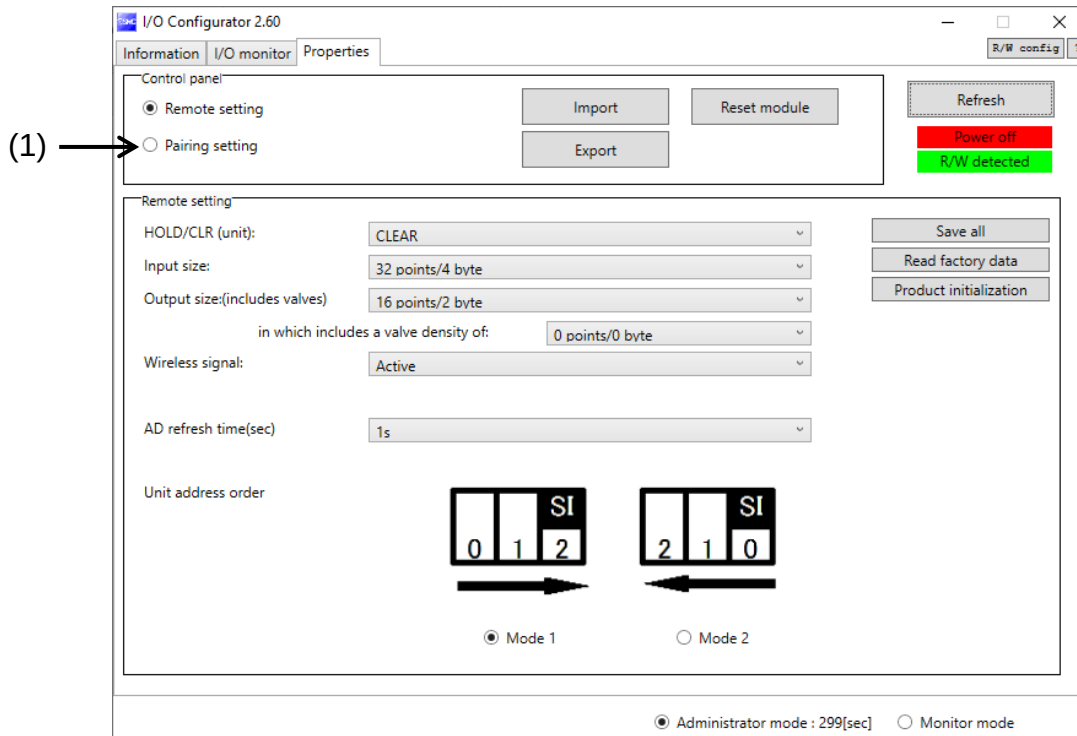
(6) The parameter setting of the Wireless Remote (2) is complete.



Remote setting window after setting (Wireless Remote (2))

STEP 6 Change to pairing mode (Wireless Remote (2))

(1) Click the radio button for Pairing setting to move to the pairing setting window.



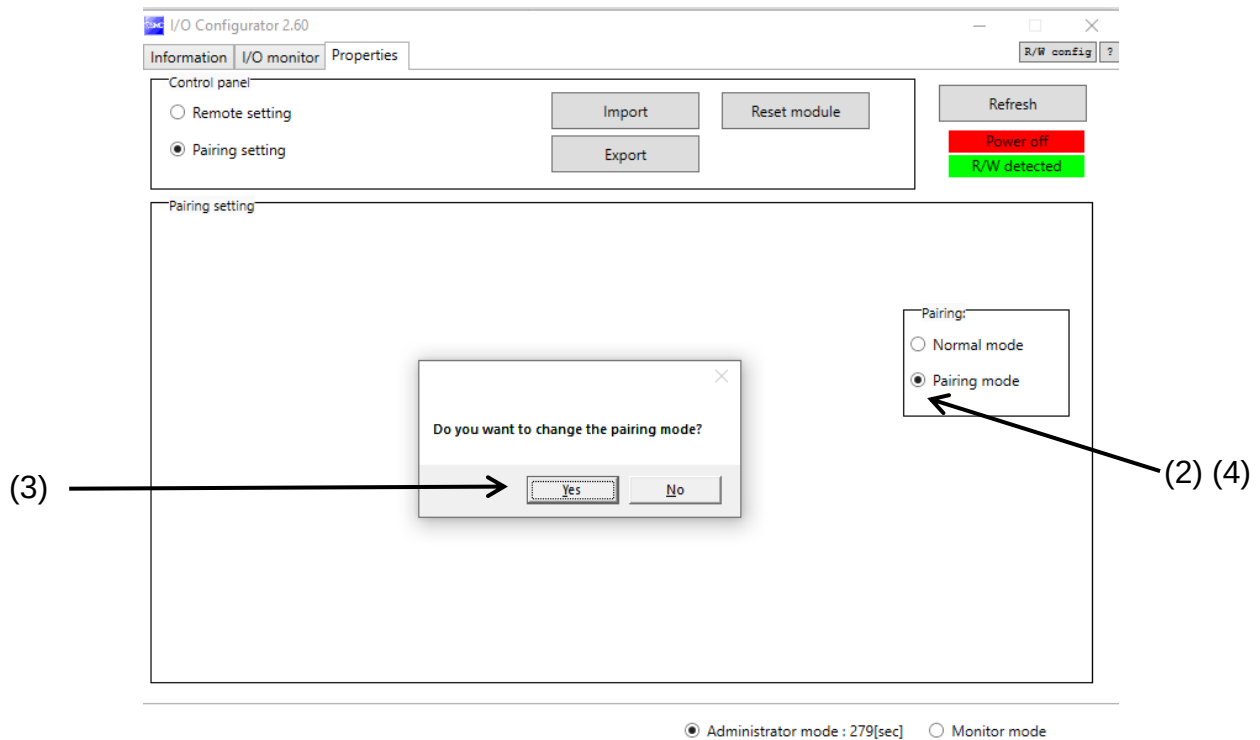
From the Remote setting window to Pairing setting (Wireless Remote (2))

(2) Click the radio button for Pairing mode.

(3) Click Yes to change to pairing mode.

*: Remote reset is requested when the mode is changed to pairing mode. The Remote cannot be reset when Power off.

(4) Confirm that the radio button "Pairing mode" is checked.



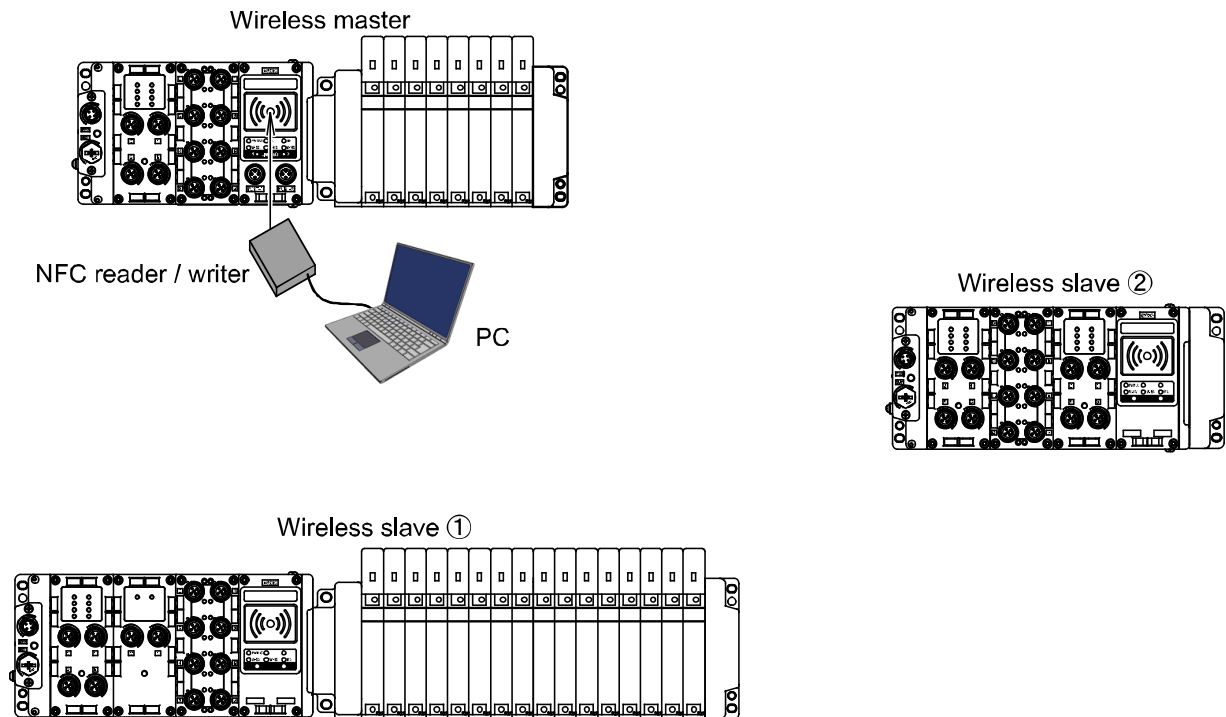
Pairing check window (Wireless Remote (2))

6.5. Set the number of occupied I/O points for the module and each parameter of the (2) "Wireless Base"

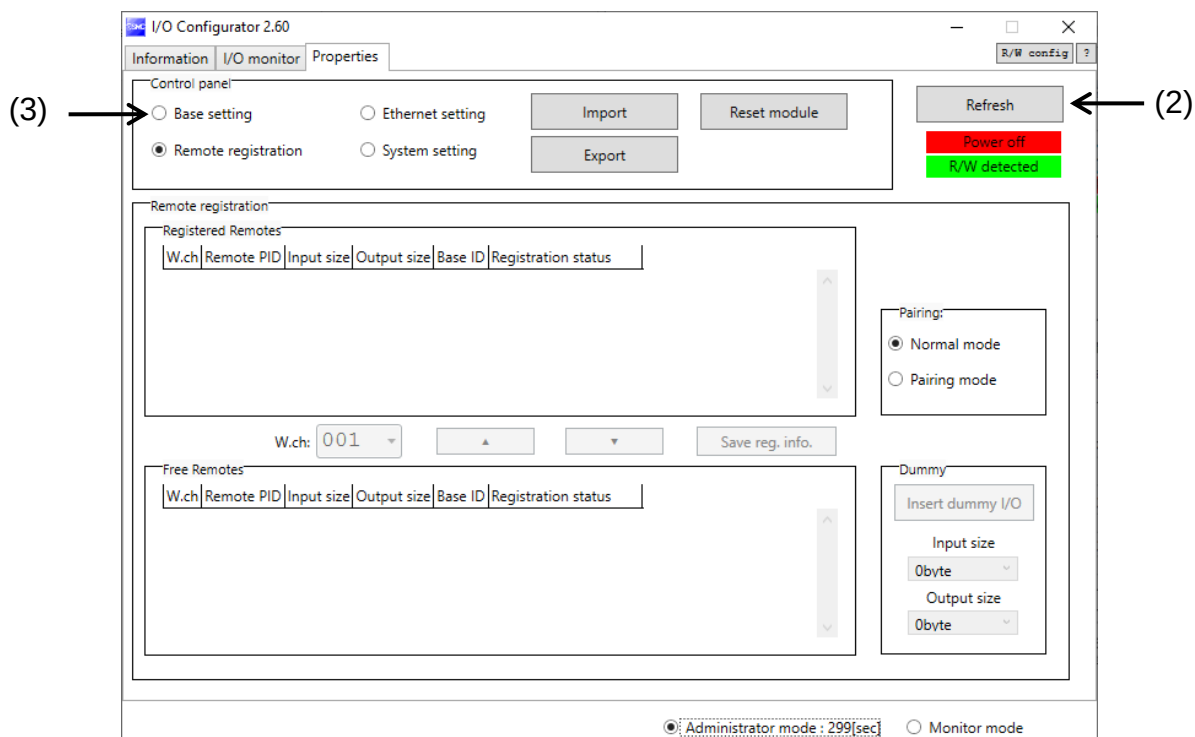
STEP 7 Change of parameter setting

STEP7 Change of parameter setting

(1) Hold the NFC reader/writer over the Wireless Base.

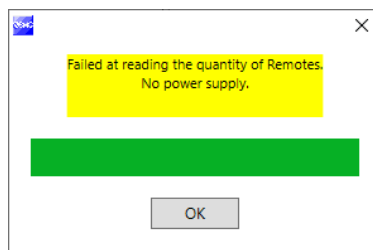


- (2) Click the "Refresh" button to update the window of the Wireless Base.
 (3) Click the radio button for the Base setting to move to the Base setting window.



Moves to Base setting

- * Caution: The Power supply check window appears when Power off.
 Base setting can be changed when Power off. Click the OK button to proceed.

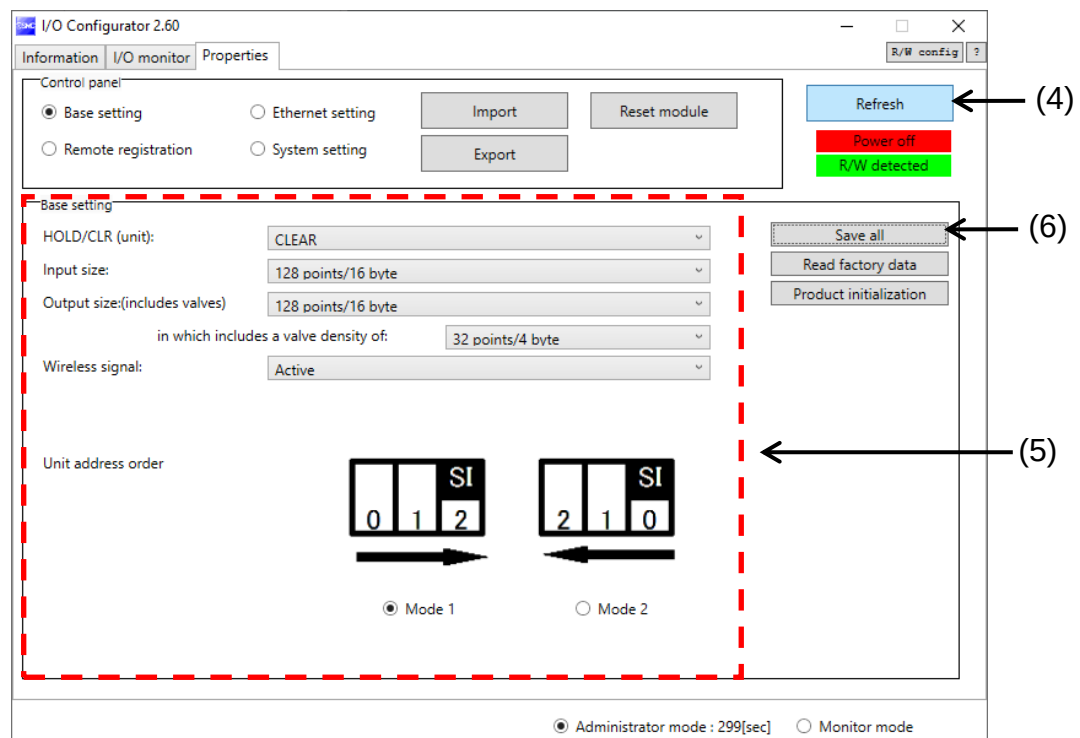


Power supply check window

- (4) Click the "Refresh" button to update the information in the Base setting window.
 (5) Change the parameter setting of the Wireless Base to the values in the table for parameter setting.
 (6) Click the "Save all" button to save the set values in the Wireless Base.

Values for parameter setting

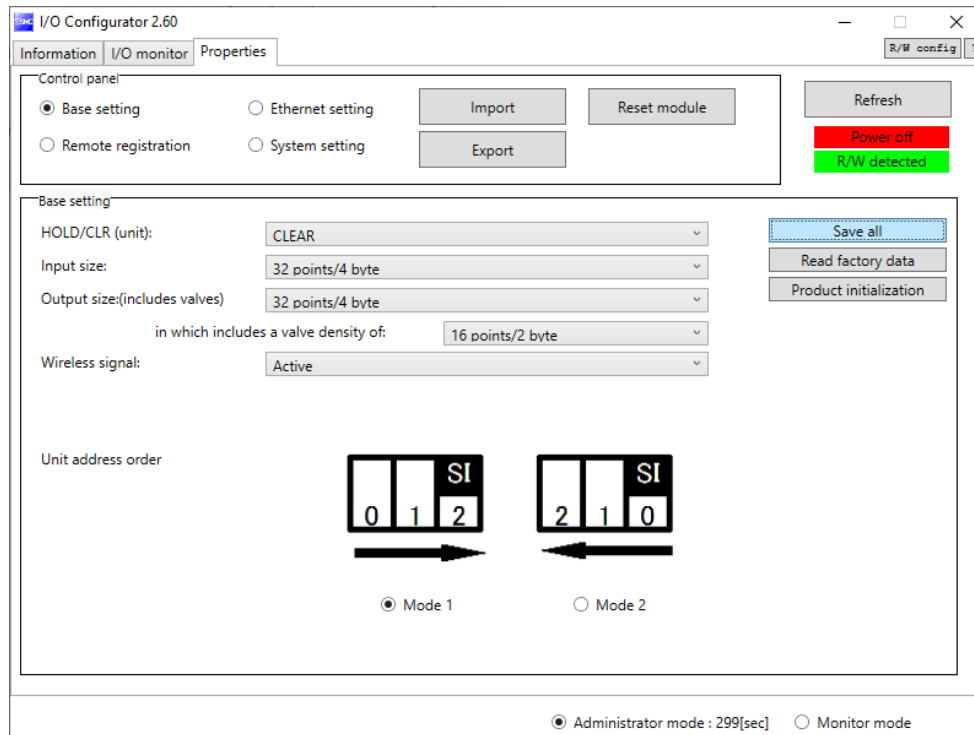
Setting items:	Set value
Hold/Clear (unit)	CLEAR
Input size (Occupied points for the module input)	32 point/4 byte
Output size (Occupied points for the module output)	32 point/4 byte
Valve density of... (Occupied points for the valve manifold output)	16 point/2 byte
Wireless signal	Active
Unit address order	Mode 1



Default image of the Base setting window

*: Refer to 3.3.3.2. Setting window (page 38) for details of parameters.

(7) The parameter setting of the Wireless Base is complete.



Base setting window after setting

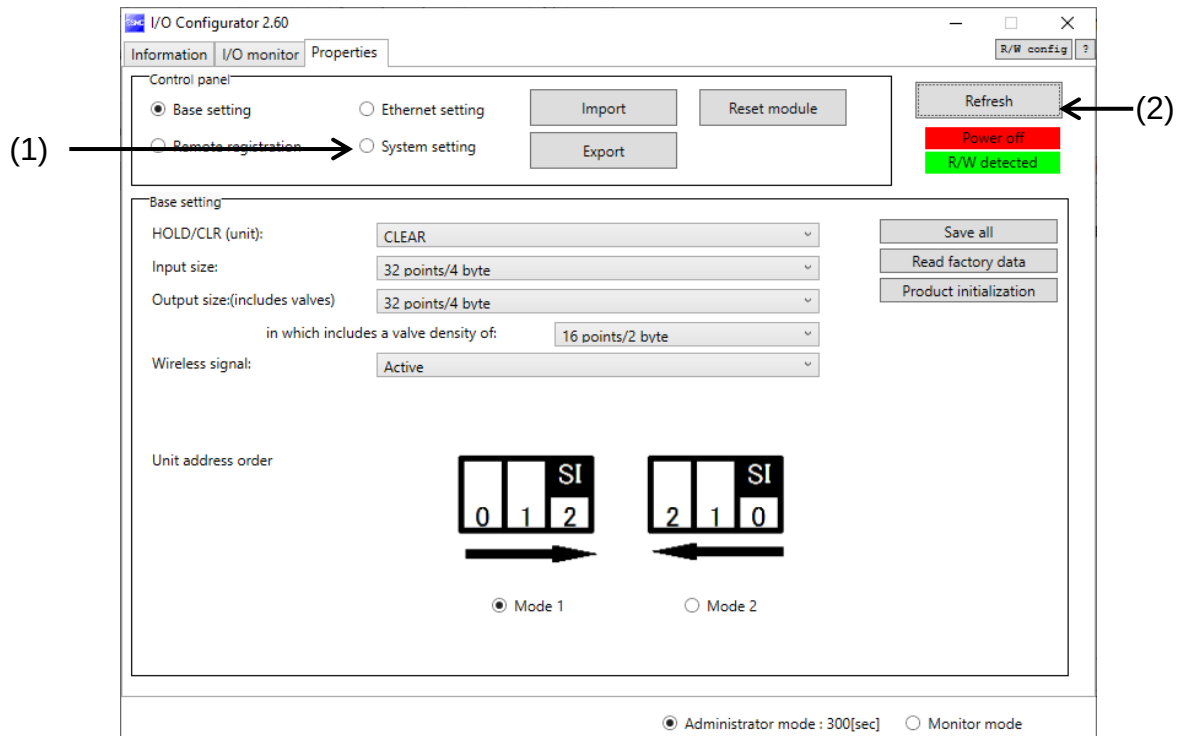
6.6. (3) Set the "Wireless Base" system

STEP 8

Change of system setting

STEP8 Change of system setting

- (1) Click the radio button for System setting to move to the system setting window.
- (2) Click the Refresh button to update the information in the System setting window.

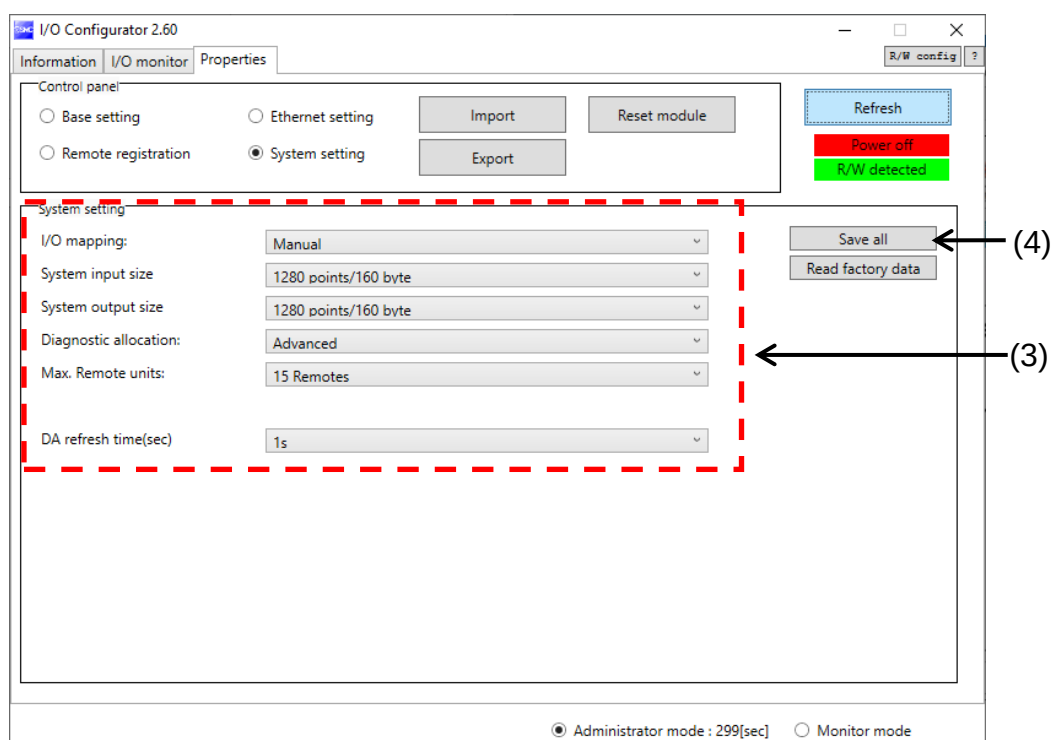


Base setting window to System setting

- (3) Change the system settings of the Wireless Base to the values in the table for system setting.
 (4) Click the "Save all" button to save the set values in the Wireless Base.

Values for system setting

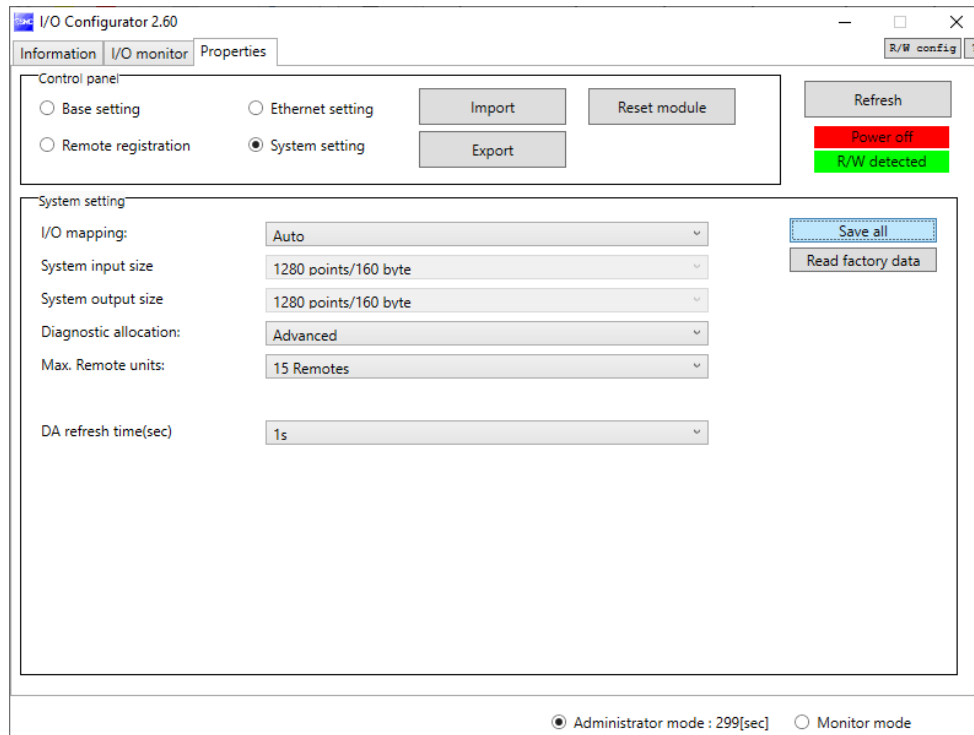
Setting items	Set value
I/O mapping	Automatic assignment
System input size	-
System output size	-
Diagnostic allocation	Details
Max. Remote units	15 pcs.
DA refresh time	1 s



Default image of the System setting window

- *: Refer to 3.3.3.2. Setting window (page 38) for details of parameters.
 *: System input and output size cannot be set when automatic I/O mapping is set.

(5) The system setting of the Wireless Base is complete.



System unit setting window after setting

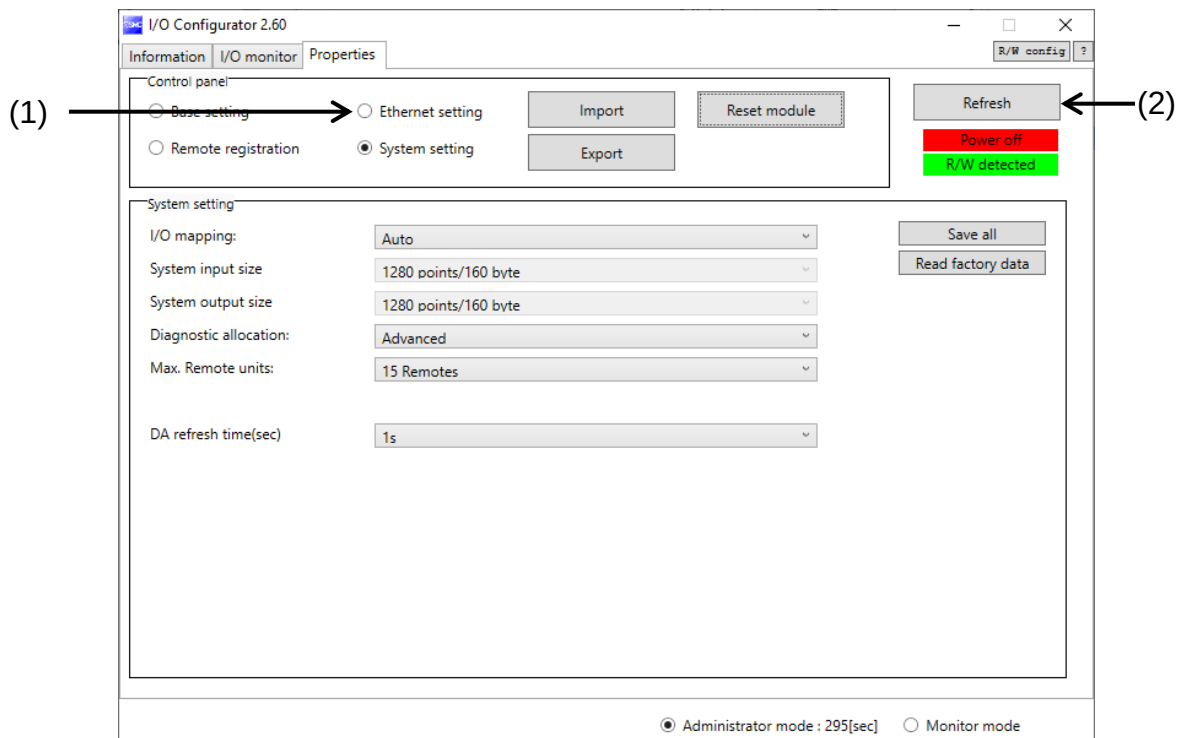
6.7. (7) Ethernet setting for the Wireless Base

STEP 9

Change of Ethernet setting

STEP9 Change of Ethernet setting

- (1) Click the radio button for Ethernet setting to move to the Ethernet setting window.
- (2) Click the Refresh button to update the information in the Ethernet setting window.



System setting window to Ethernet setting

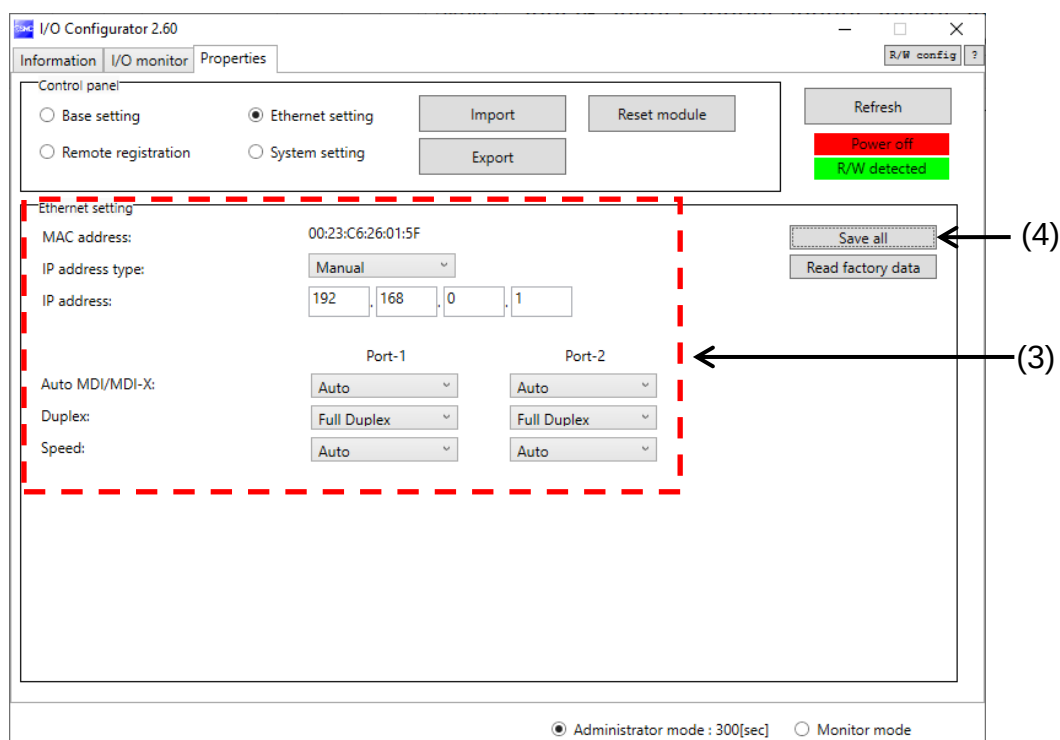
(3) Change the Ethernet setting of the Wireless Base to the Ethernet setting table.

*: Set the IP address based on the operating network environment. Set the IP address so that the address is not duplicated with other Ethernet equipment.

(4) Click the "Save all" button to save the set values in the Wireless Base.

Ethernet setting table

Setting items	Set value
IP address setting mode	Manual
IP address	(192.168.244.1)
Auto MDI/MDI-X	Port-1: Auto Port-2: Auto
Duplex	Port-1: Full Duplex Port-2: Full Duplex
Speed	Port-1: Auto Port-2: Auto



Default image of the Ethernet setting window

*: Refer to 3.3.3.2. Setting window (page 38) for details of parameters.

(5) The Ethernet setting of the Wireless Base is complete.

I/O Configurator 2.60

Information I/O monitor Properties

R/W config 2

Control panel

☐ Base setting ☒ Ethernet setting ☐ Remote registration ☐ System setting

Import Export Reset module

Refresh

Power off

R/W detected

Ethernet setting

MAC address: 00:23:C6:26:01:5F

IP address type: Manual

IP address: 192 168 244 1

Save all

Read factory data

Auto MDI/MDI-X: Port-1 Auto Port-2 Auto

Duplex: Port-1 Full Duplex Port-2 Full Duplex

Speed: Port-1 Auto Port-2 Auto

Administrator mode : 299[sec] Monitor mode

Ethernet setting window after setting

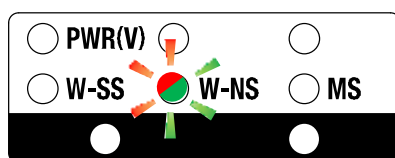
6.8. (4) Registration of Wireless Remote to the Wireless Base (pairing)

STEP 10
STEP 11
STEP 12
STEP 13

Move the Wireless Base and Remote to Pairing mode
Select the Wireless Remote to be registered
The Wireless Base gives a command to register the Wireless Remote
Check the wireless connection

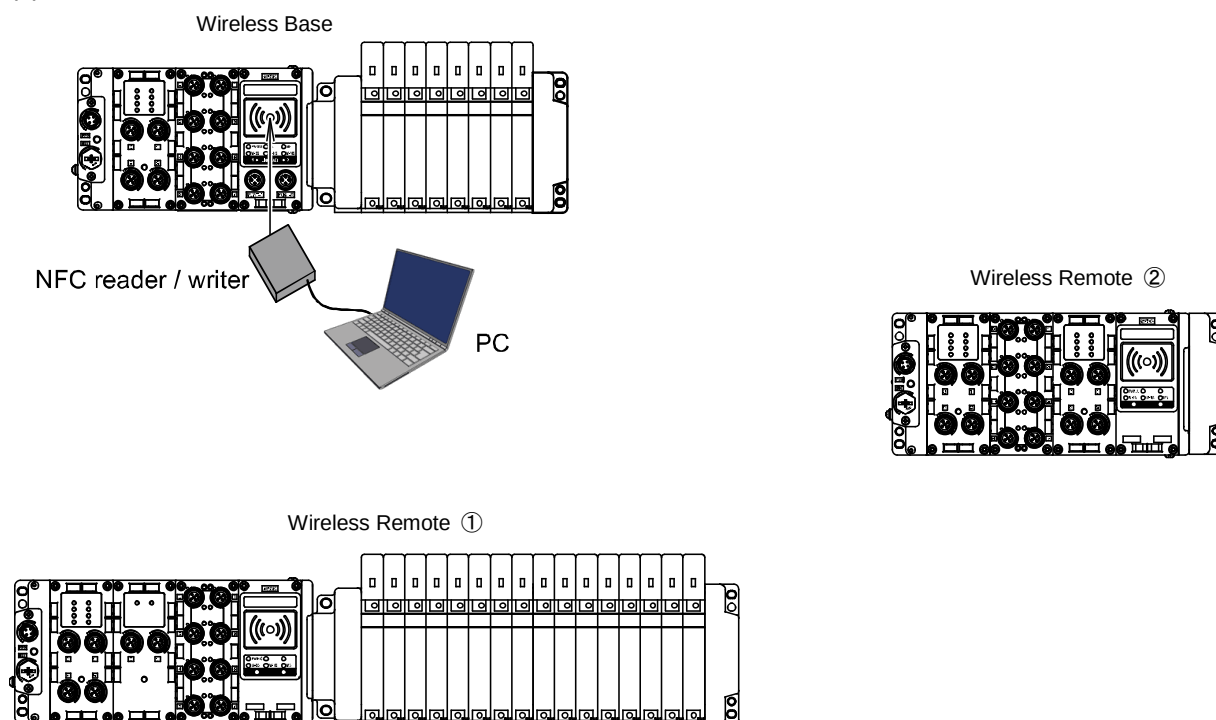
STEP 10 Move the Wireless Base and Remote to Pairing mode

- (1) Supply power to the Wireless Base and Wireless Remote ((1) and (2)).
- (2) The Pairing status of the Wireless Remote (1) and (2) can be checked by the status indication LED: W-NS. When they are in pairing mode, the status indication LED: W-NS flashes red and green in turn. When they are not in pairing mode, refer to STEP 4 or STEP 6 of 6.4. (1) Input and output size of the Wireless Remote.

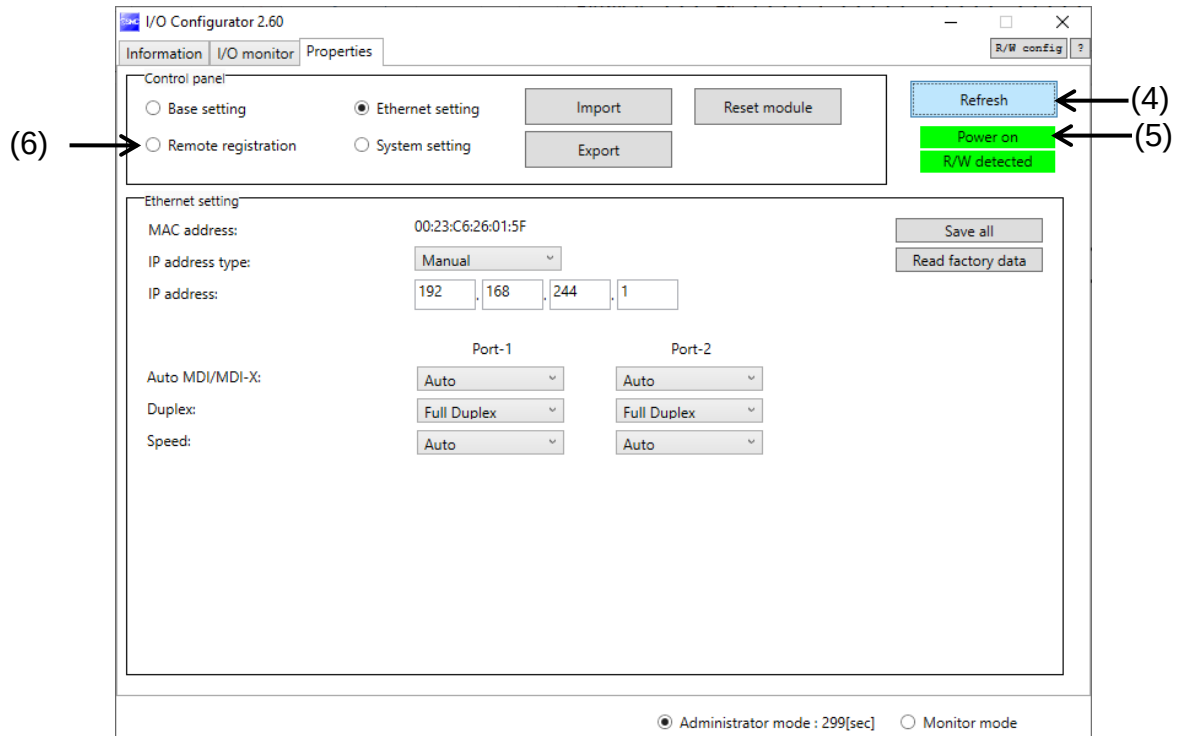


LED in pairing mode (Wireless Remote)

- (3) Hold the NFC reader/writer over the Wireless Base.

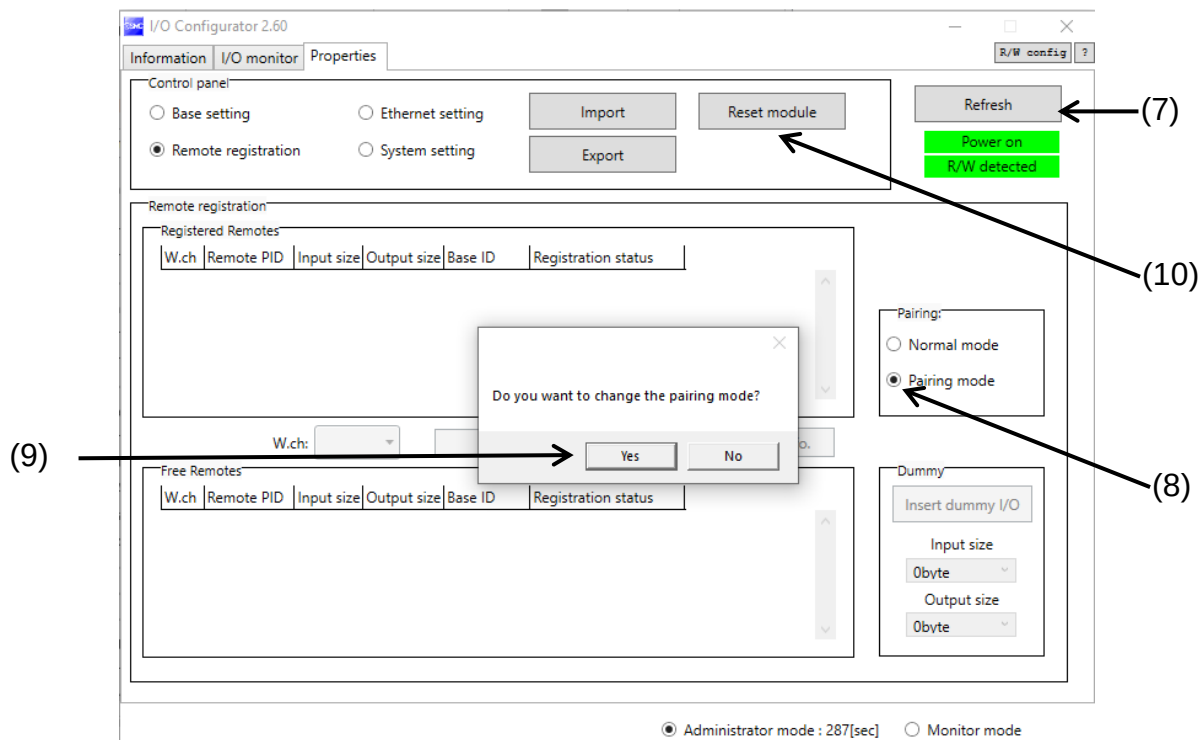


- (4) Click the Refresh button to update the information in the setting tab window.
- (5) Check that the Power on button in the power supply monitor is green.
- (6) Click the radio button for Remote registration to move to the Remote unit registration window.



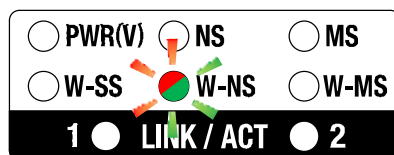
From the Ethernet setting window to Remote unit registration

- (7) Click the "Refresh" button to update the information in the Remote registration window.
- (8) Click the radio button for Pairing mode.
- (9) Click Yes to change to pairing mode.
- (10) Click the "Refresh" button to move to Pairing mode.



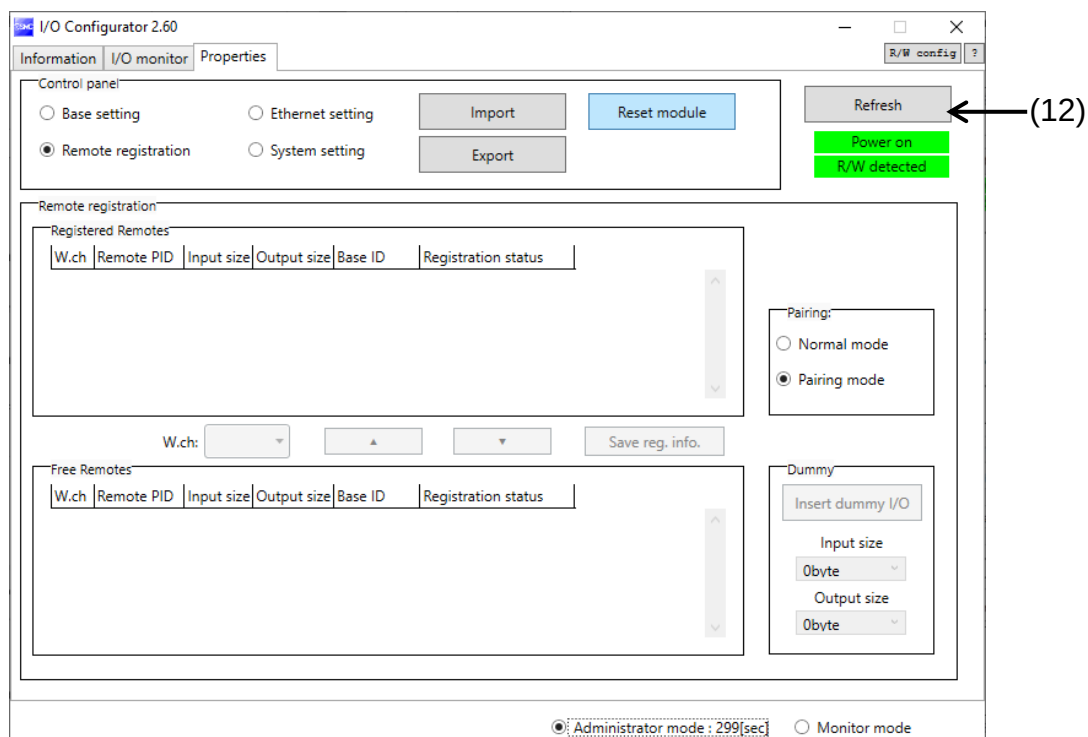
Remote unit registration window (move the Wireless Base to the Pairing mode)

- (11) The Pairing status of the Wireless Base can be checked by the status indication LED: W-NS. When they are in pairing mode, the status indication LED: W-NS flashes red and green in turn. When the mode is not changed to Pairing mode, perform the step (7) to (10) again.



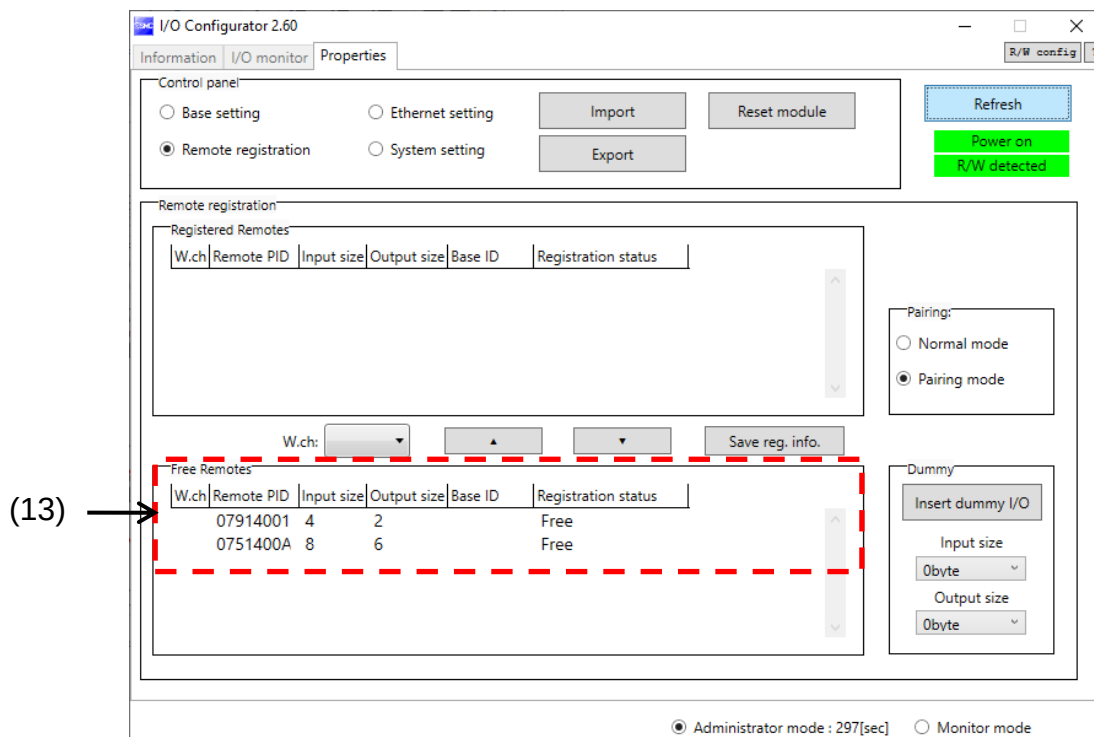
LED in pairing mode (Wireless Base)

- (12) Click the Refresh button to update the information in the setting tab window.
Click OK in the Pairing mode check window.



Update the Remote unit registration window

- (13) Confirm that the Wireless Remote is displayed in the Free Remotes area.



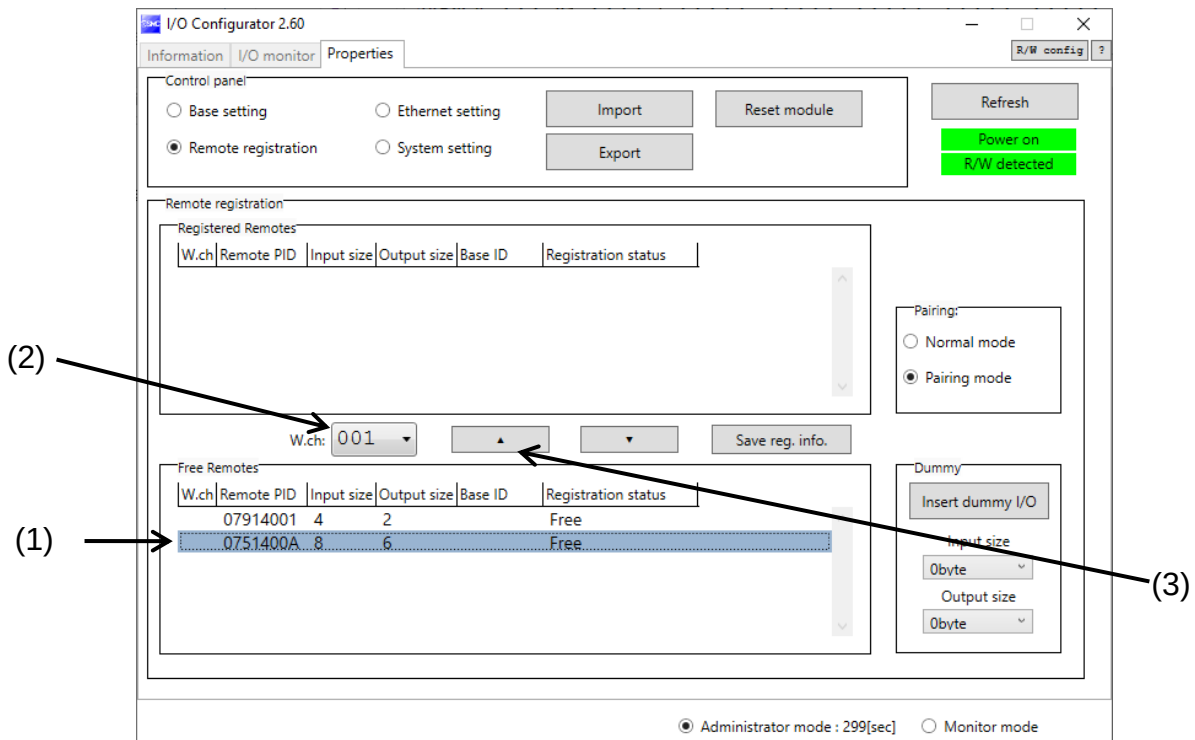
Remote unit registration window (check Free Remotes)

< Caution >

- When the Wireless Base/Remote is moved to pairing mode, the W-SS LED flashes red and green in turn. W-SS indicates the received power level of the connected Wireless Remote. When the Wireless Remote and Base are connected, the LED turns on and flashes (1Hz/2Hz). Red flashing LED indicates the Wireless Base is not identified.
- When the Wireless Remote is not displayed in the Free Remotes area, perform Refresh a few times or check the W-SS LED on the Wireless Remote. A Red flashing LED indicates that the distance is too close or too far. Adjust the distance between the Wireless Base and Remote until the LED turns on or flashes green.
- When the Wireless Remote is not displayed in the Free Remotes area, check that the communication status is Active.

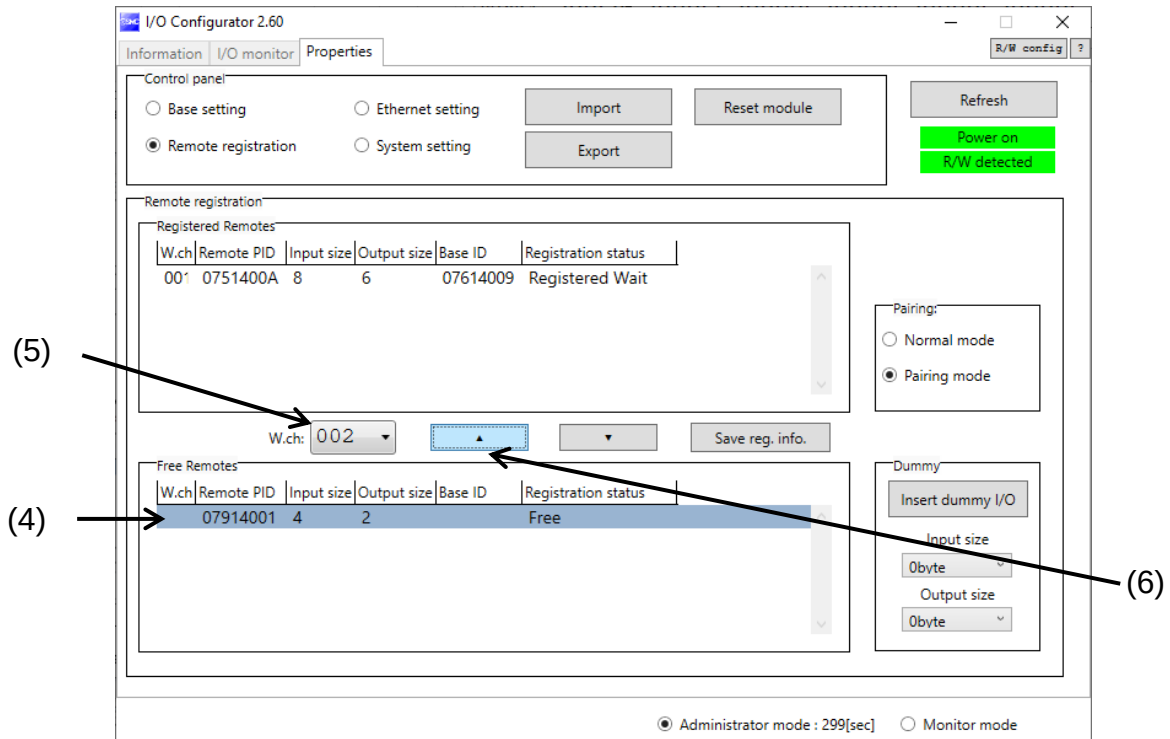
STEP 11 Select the Wireless Remote to be registered

- (1) Select the Wireless Remote to be registered (1) (PID:07914009)
- (2) Select the wireless channel (001) of the Wireless Remote(1) to be registered.
- (3) Click the "▲".



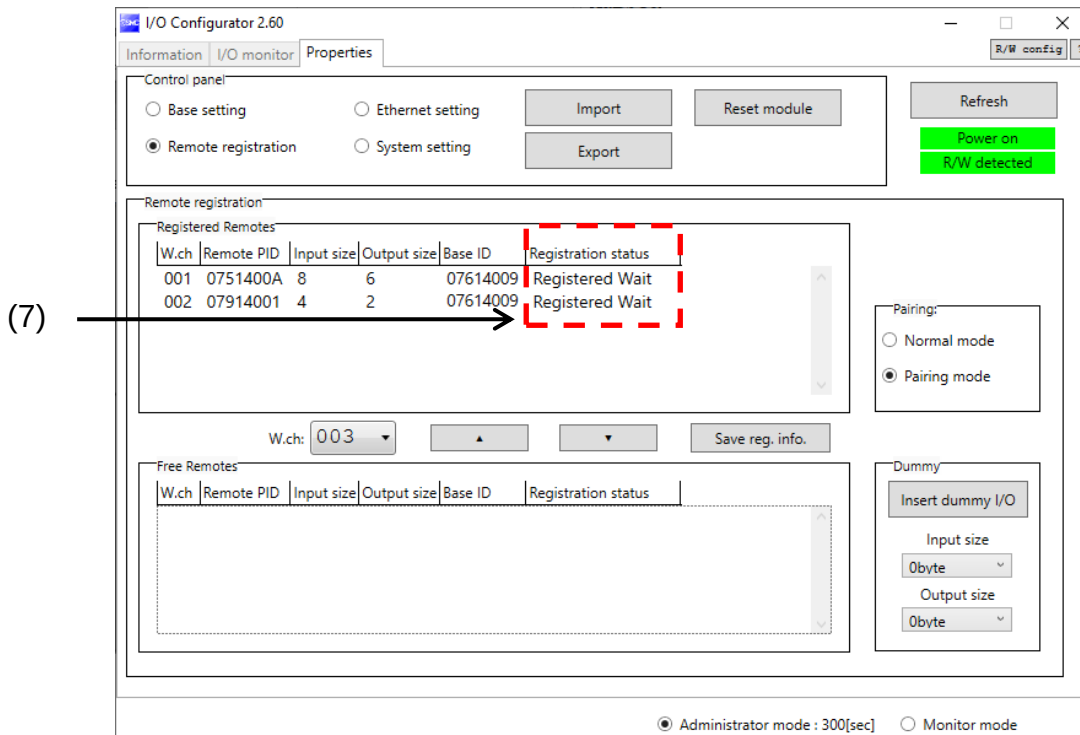
Remote unit registration window (wireless channel: 001 is selected)

- (4) Select the Wireless Remote to be registered (2) (PID: 07914002)
 (5) Select the wireless channel (002) of the Wireless Remote(2) to be registered.
 (6) Click the "▲".



Remote unit registration window (wireless channel: 002 is selected)

- (7) Make sure that the registration status is Registered Wait.

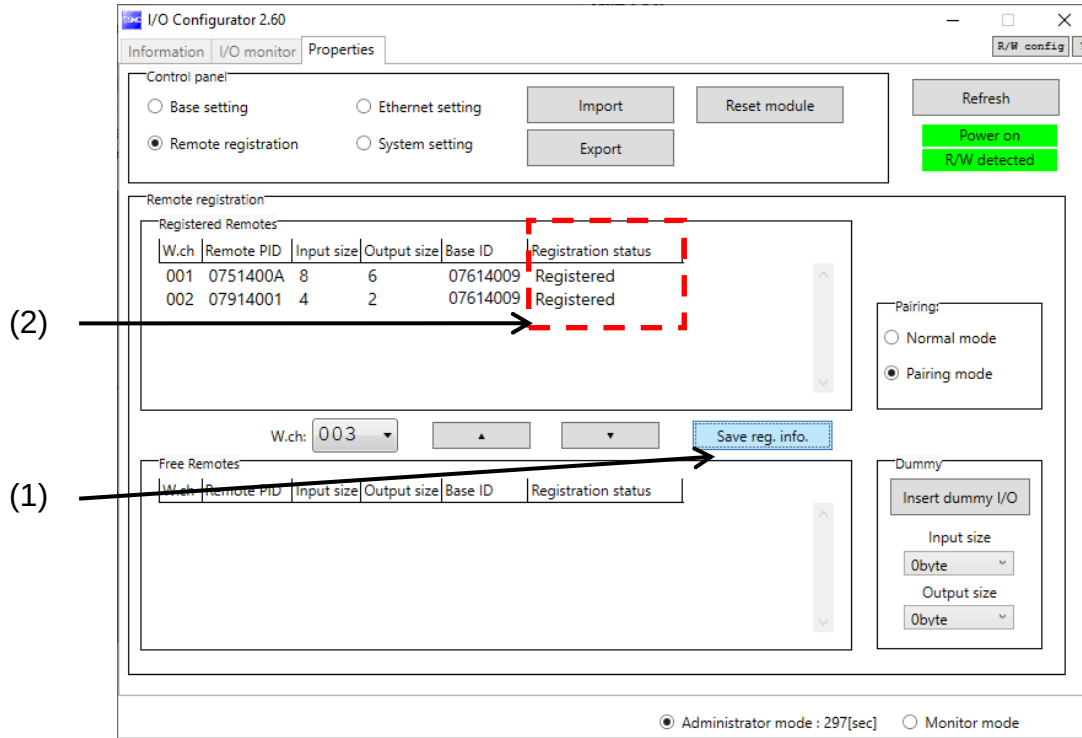


Remote unit registration window (check the registration status)

STEP 12 Wireless Base gives a command for registration

- (1) Click the "Save reg. info". button for the Wireless Base to send a command for registration.
- (2) Make sure that the registration status of the Wireless Remote is Registered.

*: The pairing mode of the registered Wireless Remote is automatically released and the Wireless Remote is reset. Pairing setting becomes unavailable.



Remote unit registration window (registration command from the Wireless Base)

< How to delete the Wireless Remote for which registration failed >

Perform pairing for the Wireless Remote which failed registration.

In order to register the Wireless Remote again, it is necessary to delete the Wireless Remote which failed registration. The procedure to delete is as follows:.

- (1) Select the Wireless Remote for which registration failed.
- (2) Click the ▼ button. The window to check the selected Remote to be deleted appears. Click Yes.
- (3) Click the "Save reg. info". button.
- (4) Confirm that Free is displayed for the Registration status of the Free Remotes.

The screenshot shows the SMC remote control interface with two tables: 'Registered Remotes' and 'Free Remotes'.

Registered Remotes Table:

W.ch	Remote PID	Input size	Output size	Base ID	Registration status
001	0751400A	8	6	07614009	Registered Failed
002	07914001	4	2	07614009	Registered

Below the tables, there is a 'W.ch:' dropdown menu set to '003', two arrow buttons (▲ and ▼), and a 'Save reg. info.' button.

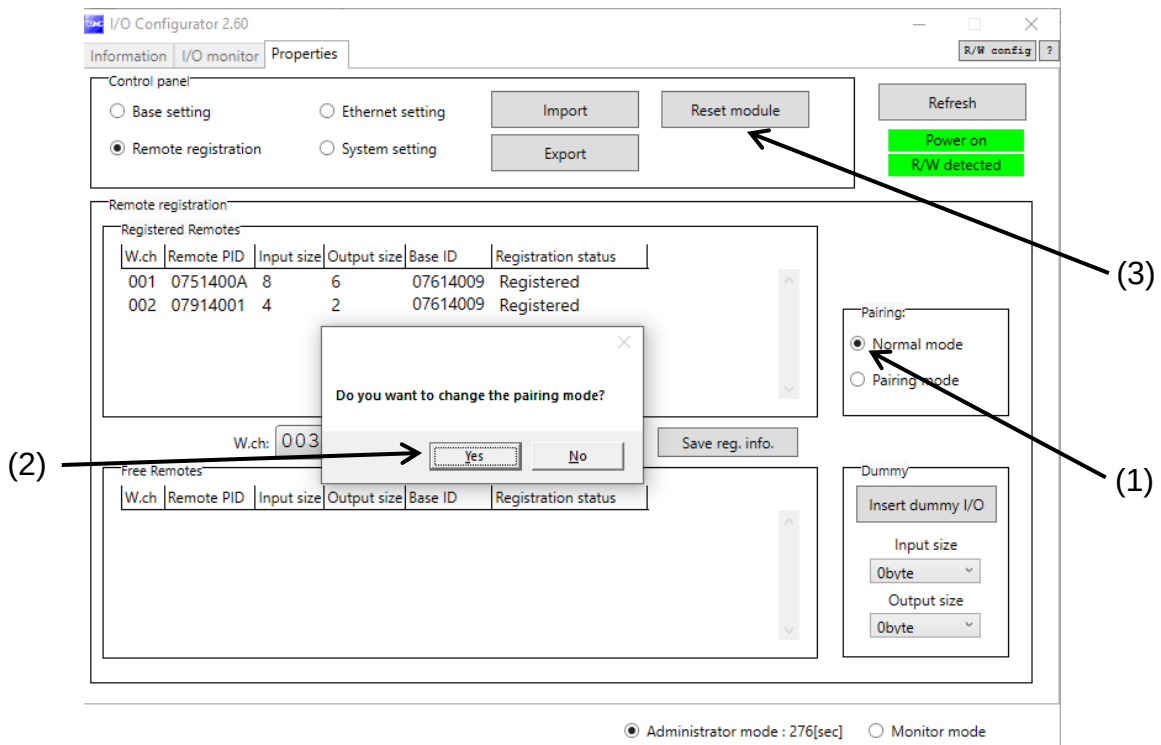
Free Remotes Table:

W.ch	Remote PID	Input size	Output size	Base ID	Registration status
0751400A	8	6			Free

Arrows indicate the sequence of steps: (1) points to the 'Registered Failed' status, (2) points to the ▼ button, (3) points to the 'Save reg. info.' button, and (4) points to the 'Free' status in the 'Free Remotes' table.

STEP 13 Check the wireless connection

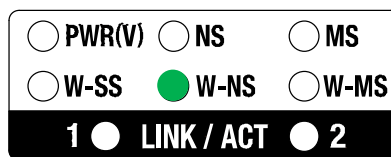
- (1) Click the Normal mode button for Pairing.
- (2) Click Yes to change to pairing mode.
- (3) Click the "Reset" button to release the pairing mode.



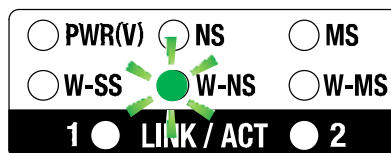
Remote unit registration window (release the pairing mode of the Wireless Base)

- (4) Confirm that wireless communication is established on the status indication LED of the Wireless Base.

•LED: W-NS turns on green when all Wireless Remotes are connected.

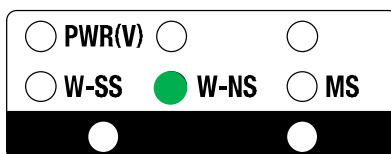


•LED: W-NS flashes green when some Wireless Remotes are connected.



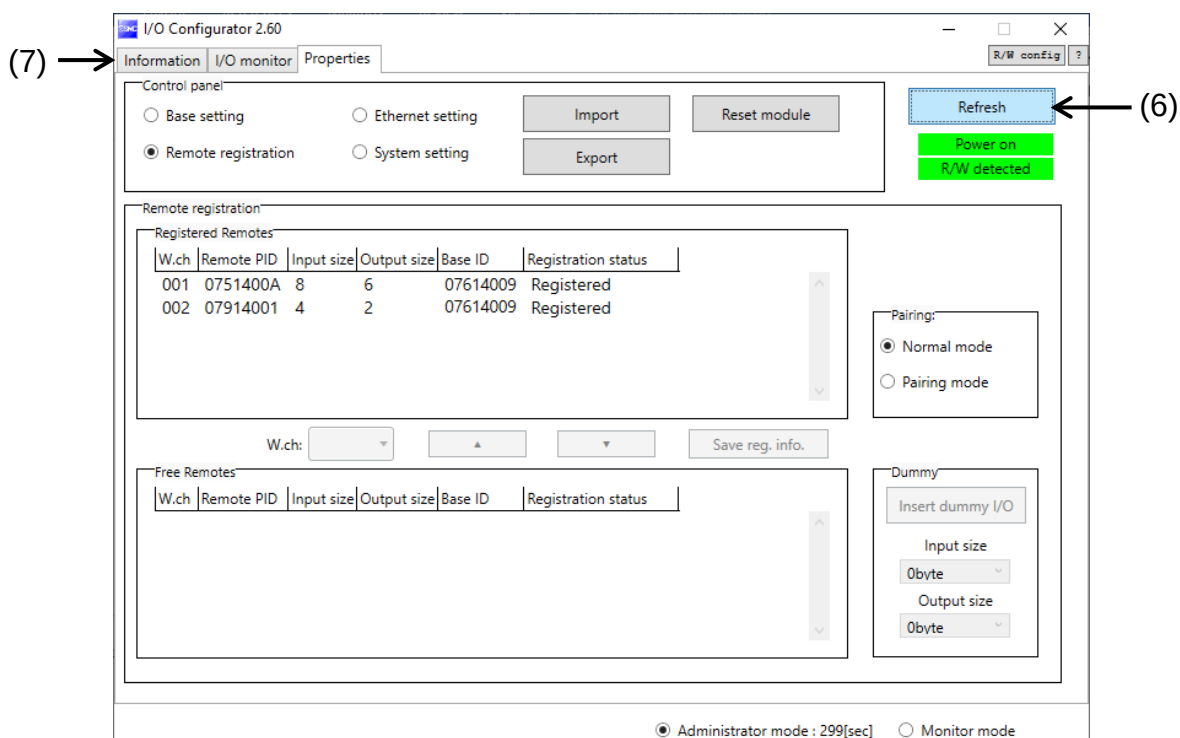
(5) Confirm that wireless communication is established on the status indication LED of the Wireless Remote.

•LED: W-NS turns on green when all Wireless Bases are connected.



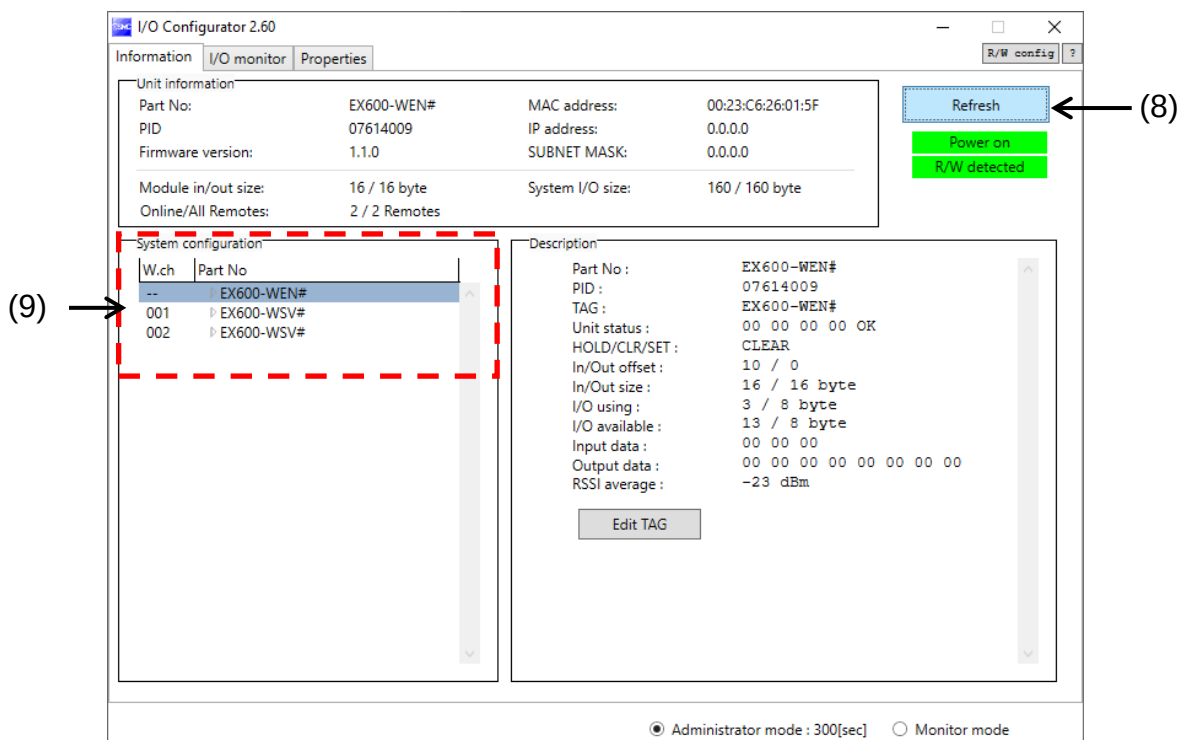
(6) Click the "Refresh" button to update the information in the Remote registration window.

(7) Select the information tab to check that the Wireless Remotes are connected.



Moves from the Remote unit registration window to information tab window

- (8) Click the Refresh button to update the information tab window.
 (9) Confirm that the registered Wireless Remote is displayed in the System configuration.



Information tab window (to check the connection of the Wireless Remote)

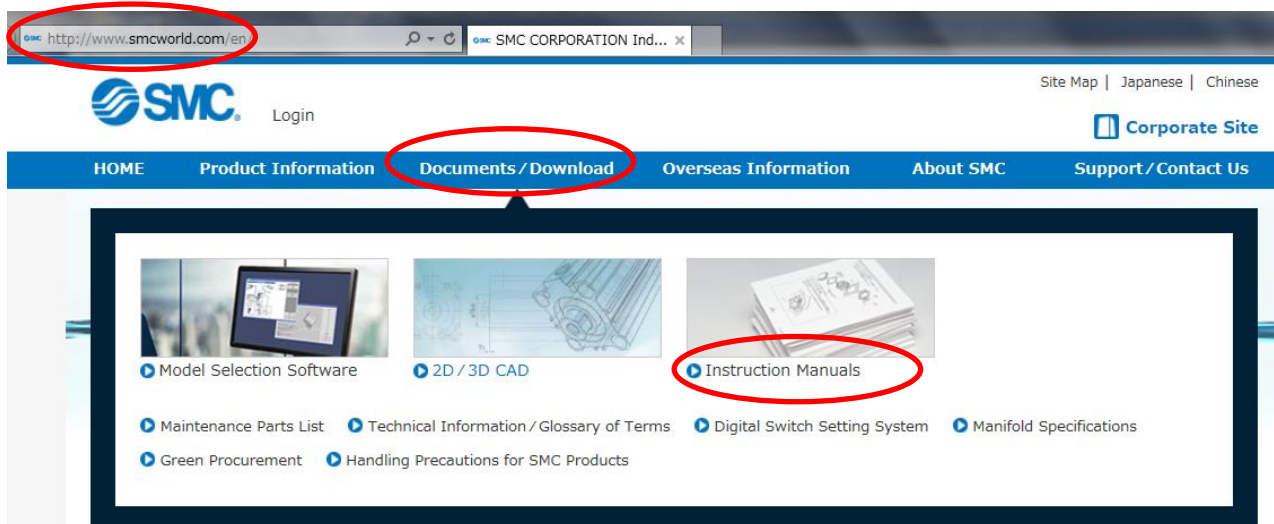
Configuration of the wireless system is complete.

6.9. Download the configuration file

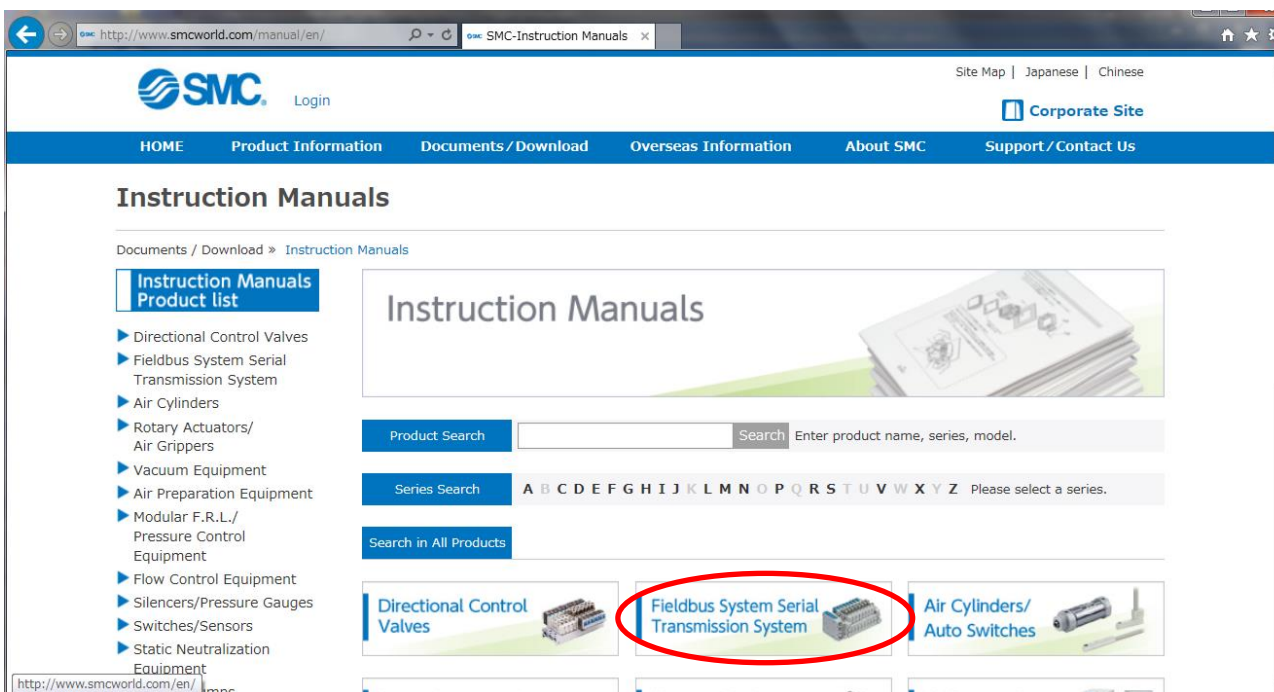
For connecting to the PLC and Ethernet, download the configuration file for the wireless system from the SMC website

< Download procedure >

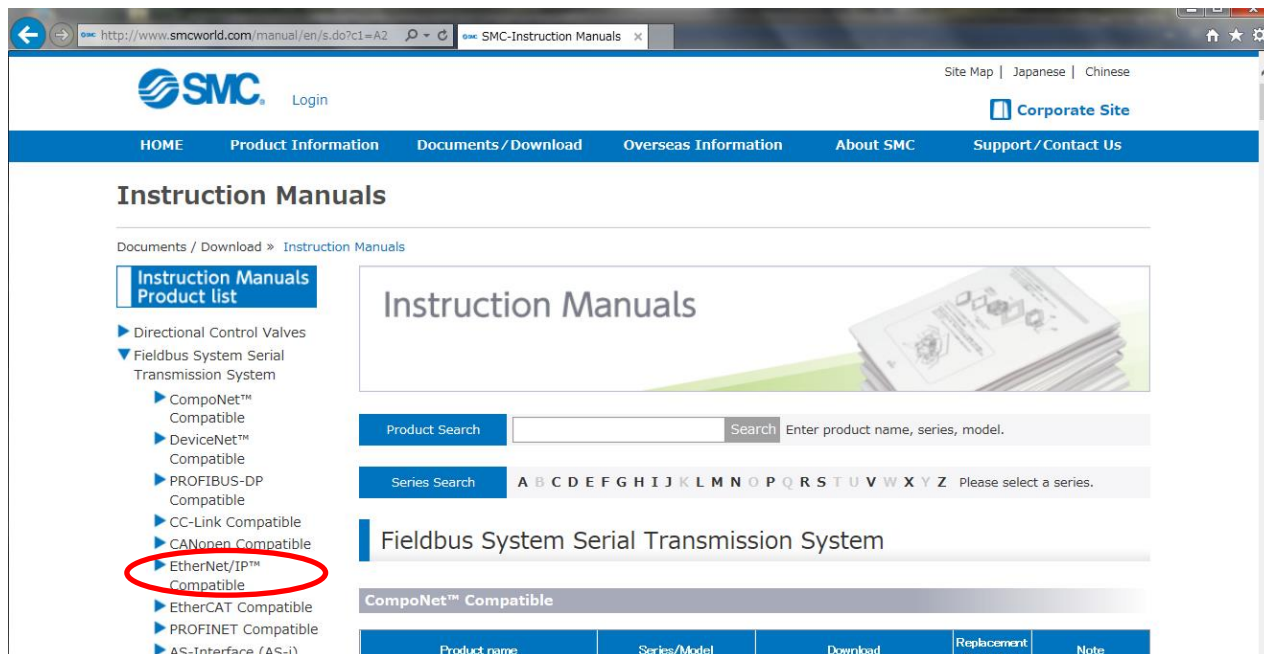
On the SMC website (<https://www.smcworld.com/>), select the Documents/Download and select the Instruction Manuals.



Select the Fieldbus System Serial Transmission System.



Select the Fieldbus protocol. (Example: EtherNet/IP™ compatible)



Scroll down the page of the Fieldbus System Serial Transmission System and select the Configuration File for SMC Wireless System EtherNet/IP™ Compatible. Downloading of the configuration file will begin.

▶ Electric Actuators ▶ Pneumatic Instrumentation Equipment Information on Addition/Updates	EtherNet/IP™ Compatible		Configuration File		
	SI Unit (Compatible input and output) EtherNet/IP™ Compatible	EX600-SEN4	English Quick Guide Configuration File		
	GW Unit EtherNet/IP™ Compatible Compatible version : 1.0	EX500-GEN1	English Quick Guide Configuration File		Updating of the setup file
	GW Unit EtherNet/IP™ Compatible	EX500-GEN2	English Quick Guide Configuration File		
	SMC Wireless System EtherNet/IP™ Compatible	EX600-WEN/EX600-WSV	English Quick Guide Configuration File		
	I/O Configurator for NFC (SMC Wireless System EX600-WEN/SV)	EX600-WEN/EX600-WSV Initial setting application	Configuration File		

7. Wireless system parameter list

•Wireless Base unit (EX600-WEN#) setting parameters

Classification	Parameter name	Set value	Default	Setting when Power off	Note
Base setting	a) Hold/Clear (unit)	Clear/Hold/Software control	CLEAR	Available	Setting of output operation status when the Fieldbus communication is disconnected.
	b) Input size	0 to 128 points (0 to 16 bytes) Increase and decrease by 16 points (2 bytes).	128 points/ 16 byte	Available	
	c) Output size	0 to 128 points (0 to 16 bytes) Increase and decrease by 16 points (2 bytes).	128 points/ 16 bytes	Available	
	d) Valve manifold output size	0 to 32 points (0 to 4 bytes) Increase and decrease by 8 points (1 byte).	32 points/ 4 bytes	Available	The valve output size is included in the output size of each station. The number of effective points is limited within the set range of the output size.
	e) Wireless communication	Active/Idle	Active	Available	If it is set to "Idle", the wireless communication is disconnected.
	f) Unit address order	Mode 1/Mode 2	Mode 1	Available	Mode 1: Allocation to the right from the end plate. Mode 2: Allocation to the left from the wireless unit.
Ethernet setting	a) IP address type	Manual/BOOTP, DHCP	Manual	Available	The IP address can be input manually only when "Manual" is selected.
	b) Auto MDI/MDI-X	Auto MDI/MDI-X	Auto	Available	
	c) Duplex	Full duplex/Half duplex	Full duplex	Available	
	d) Speed	Auto/100 Mbps/10 Mbps	Auto	Available	
System setting	a) I/O mapping	Auto mapping/fixed mapping	Fixed mapping	Available	When the total size (byte) of the I/O mapping is an odd number, 1 byte will be added automatically so that an even number will be allocated.
	b) System input size	16, 128 to 1280 points (2, 16 to 160 bytes) Increase and decrease by 128 points (16 bytes).	1280 points/ 160 byte	Available	This is not settable when the I/O mapping is set to "Auto".
	c) System output size	16, 128 to 1280 points (2, 16 to 160 bytes) Increase and decrease by 128 points (16 bytes).	1280 points/ 160 byte	Available	This is not settable when the I/O mapping is set to "Auto".
	d) Diagnostic allocation	None/Simple/Detailed	Detailed	Available	Diagnostic information is allocated to the head of the input data of the I/O map.
	e) Max Remote units	0/15/31/63/127 pcs.	15 pcs.	Available	The wireless channel equivalent to the number of set units is valid.
	f) DA refresh time	0.1/0.2/0.5/1/2/5/10/30/60 s	1 s	Available	Set the sampling frequency of the analogue output equipment.

•Wireless Base unit (EX600-WPN#) setting parameters

Classification	Parameter name		Set value	Default	Setting when Power off	Note
Base setting	a)	Hold/Clear (unit)	Clear/Hold/Software control	CLEAR	Available	Setting of output operation status when the Fieldbus communication is disconnected.
	b)	Input size	0 to 128 points (0 to 16 bytes) Increase and decrease by 16 points (2 bytes).	128 points/ 16 byte	Available	
	c)	Output size	0 to 128 points (0 to 16 bytes) Increase and decrease by 16 points (2 bytes).	128 points/ 16 bytes	Available	
	d)	Valve manifold output size	0 to 32 points (0 to 4 bytes) Increase and decrease by 8 points (1 byte).	32 points/ 4 bytes	Available	The valve output size is included in the output size of each station. The number of effective points is limited within the set range of the output size.
	e)	Wireless communication	Active/Idle	Active	Available	If it is set to "Idle", the wireless communication is disconnected.
	f)	Unit address order	Mode 1/Mode 2	Mode 1	Available	Mode 1: Allocation to the right from the end plate. Mode 2: Allocation to the left from the wireless unit.
System setting	a)	I/O mapping	Auto mapping/fixed mapping	Auto mapping	Available	When the total size (byte) of the I/O mapping is an odd number, 1 byte will be added automatically so that an even number will be allocated.
	b)	System input size	-	-	-	This is not settable when the I/O mapping is set to "Auto".
	c)	System output size	-	-	-	This is not settable when the I/O mapping is set to "Auto".
	d)	Diagnostic allocation	None/Simple/Detailed	Detailed	Available	Diagnostic information is allocated to the head of the input data of the I/O map.
	e)	Max Remote units	0/15/31 pcs.	15 pcs.	Available	The wireless channel equivalent to the number of set units is valid.
	f)	DA refresh time	0.1/0.2/0.5/1/2/5/10/30/60 s	1 s	Available	Set the sampling frequency of the analogue output equipment.

•Wireless Remote unit setting parameters

Classification	Parameter name		Set value	Default	Setting when Power off	Note
Remote setting	a)	Hold/Clear (unit)	Clear/Hold/Software control	Clear	Available	Setting of output operation status when the Fieldbus communication is disconnected.
	b)	Input size	0 to 128 points (0 to 16 bytes) Increase and decrease by 16 points (2 bytes).	128 points/ 16 bytes	Available	
	c)	Output size	0 to 128 points (0 to 16 bytes) Increase and decrease by 16 points (2 bytes).	128 points/ 16 bytes	Available	
	d)	Valve manifold output size	0 to 32 points (0 to 4 bytes) Increase and decrease by 8 points (1 byte).	32 points/ 4 bytes	Available	The valve output size is included in the output size of each station. The number of effective points is limited within the set range of the output size.
	e)	Wireless communication	Active/Idle	Active	Available	If it is set to "Idle", the wireless communication is disconnected.
	f)	AD refresh time	0.1/0.2/0.5/1/2/5/10/30/60 s	1 s	Available	Set the sampling frequency of the analogue input equipment.
	g)	Unit address order	Mode 1/Mode 2	Mode 1	Available	Mode 1: Allocation to the right from the end plate. Mode 2: Allocation to the left from the wireless unit.
Pairing setting	a)	Pairing	Pairing disable/ Pairing enable	Pairing disable	Unavailable	Pairing disable: Wireless Remote cannot be registered (wireless communication to the registered Wireless Remote will be established). Pairing enable: Wireless Remote can be registered.

•Common parameter of Wireless Base unit and the Wireless Remote unit

Classification	Parameter name	Set value	Default	Setting when Power off	Note
Information	TAG	Max. 15 letters	Product No. (EX600-WEN#) (EX600-WPN#) (EX600-WSV#)	Available	Letters which can be input are half-width characters (alphabets, numbers, symbols) that correspond to ASCII code.

8. Error Codes

Error Message	Content
Short-circuit detection of load	Short circuit of the power supply or load is detected.
Detection of unconnected load	The valve manifold/output unit load is not connected.
Contact operation exceeded the upper limit	The upper limit of the unit operation cycle has been exceeded.
Exceed the upper limit of the range	The upper limit of analogue input range has been exceeded.
Exceed the lower limit of the range	The lower limit of analogue input range has been exceeded.
Exceed the user set upper limit	The analogue input/output value has exceeded the user set upper limit.
Exceed the user set lower limit	The analogue input/output value has exceeded the user set lower limit.
System initial error	Reading of NFC from the micro computer (PC) has failed.
Connection error	Connection problem has occurred between the Wireless Base/Remote and connected units.
Abnormal power supply for control/input	The power supply level for control or input is not correct.
Abnormal power supply for output	Power supply voltage for output is not correct.
Other error	An undefined error has occurred.
Input/output size error	Module size has been exceeded.
Abnormal number of system input/output points setting error	The number of system input/output points has exceeded the set value for the system.
Abnormal setting for the connected Wireless Remote	An invalid channel for setting the number of registered Remotes has been used.
Number of system input/output points has exceeded the upper limit	The number of system input/output points has exceeded the set value for the system.
Wireless registration data failed	An error occurred in reading the wireless registered data.
Detection of wireless hardware error	A hardware error for wireless communication has been detected,

9. Troubleshooting

Problem No.	Problem	Possible causes	Investigation and countermeasures
1	The Wireless Base/Remote unit information cannot be read even when the Refresh button is clicked.	1. The NFC reader/writer has moved away from the antenna of the Wireless Base/Remote unit. 2. The PC does not identify the NFC reader/writer.	1: Adjust the NFC reader/writer so that it is positioned at the centre of the NFC antenna (circled part). 2-1: Remove the NFC reader/writer from the USB terminal of the PC once and connect it again. 2-2: Uninstall the driver for the NFC Port/PaSoRi and then install it again. 2-3: Install the NFC port software for the driver connected to the NFC reader/writer again.
2	Logged in from Administrator mode, but the I/O setting or pairing setting cannot be performed.	The mode has been switched to Monitor mode. Mode automatically changes to Monitor mode when there is no movement of the mouse for 300 seconds on the I/O Configurator.	Log in again from Administrator mode.
3	Forgot the password.	-	Delete the password by entering the master key. Refer to 3.1.1 Login to administrator mode (page 13) for details.
4	The Wireless Remote unit is registered to the Wireless Base unit, but a communication error was confirmed in the information tab.	1. The radio wave does not reach between the Wireless Base and Remote. 2. The Wireless Remote settings might have been changed after registration.	1. Check the LED. 2. Release pairing once, and perform pairing again.
5	The set parameters were changed by the Wireless Base (Remote) or System settings, but the changes are not reflected.	Reset was not performed after saving the set parameters.	Turn off the power supply and on again or click the "Reset" button.
6	The analogue output unit voltage (current) was specified numerically in forced output mode, but the correct value is not output.	1. The set value is outside of the range. 2. Scaled data format has been selected for analogue format.	1. Enter a value within the range or change the unit using the I/O Configurator (WEB). 2. The value must be a hexadecimal number. Refer to the Operation Manual for details.

Problem No.	Problem	Possible causes	Investigation and countermeasures
7	Not possible to change to forced output mode.	1. Connected with a higher unit. 2. Mode is Monitor mode.	1. Disconnect the unit from the higher unit. 2. Login from the Administrator mode.
8	The Wireless Remote unit does not operate with the set input/output size.	The Wireless Remote operates with the input/output size set when the Wireless Remote was registered.	The Wireless Remote follows the input/output size when it was registered to the Wireless Base. Check the Wireless Remote input/output size from the Wireless Base. If the size is not consistent, register the size again.
9	The location and the type of error being generated is unknown.	-	Check the system configuration on the Information tab of the Wireless Base to identify the unit with an error. Check the diagnostic information from the Description to identify the error. For diagnostic information of each unit and details, refer to section 3.4.1 Information tab (page 41).
10	Free Remotes is not displayed when registering the Remote.	1. The Wireless Remote is not in pairing mode. 2. The Wireless Remote is already registered. 3. Another Wireless Base is in pairing mode.	1. Check that the Wireless Remote is in registration mode. 2. When the Wireless Remote is already registered, it needs to be deleted to register it again. 3. When another Wireless Base is in pairing mode, the Wireless Remote will be displayed for the Base. Keep one Wireless Base in pairing mode.

10. Release Notes

Revision No.	Compatible Unit	Notes
2.0.0	EX600-WEN※ EX600-WSV※	First edition
2.1.0	EX600-WPN※ EX600-WSV※	Version for EX600-WPN※
2.2.0	EX600-WEN※ EX600-WPN※ EX600-WSV※	Common version for EX600-WEN※ and EX600-WPN※ Advanced Card Systems Ltd. reader / writer has been added to verified NFC reader / writer.
2.6.0	EX600-WEN※ EX600-WPN※ EX600-WSV※	Added "Remote control" as a mode of setting IP address. Changed wireless units' names to Base and Remote.

Revision history

A: Contents revised in several places.
[August 2018]
B: Contents are added. [August 2018]
C: Contents revised in several places.
[November 2019]

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Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
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