Ezi-IO®
Input/Output Module

RS-485
DIO

User Manual

User Program (GUI) Function

(**Rev.03**)

FASTECH

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This manual describes how to operate User Program(GUI).

For more information, refer to related manuals as following.

(1) User Manual-Text

(2) User Manual-Communication Function

1 . Installation and Connection of the Program

This chapter describes the user program used for installation and running test of the controller. Also, Ezi-IO RS-485 uses RS-485 communication, so RS-232C communication or USB communication of PC should be converted to RS-485 communication.

1 - 1 . Installable PC environment

Type : PC/AT compatible machine

RS-232C port or USB port

Hard disk capacity required : 10MB or more

Screen SVGA(1024×768 or more)

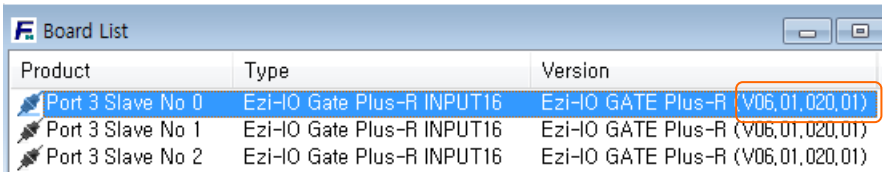
CPU Pentium4 2.0GHz or more

OS : PC with Windows 7/8/10 (32/ 64Bit)

1 - 2 . User Program Version

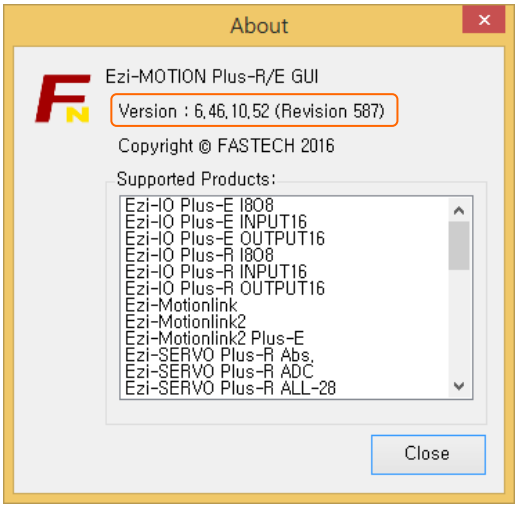
(1) Firmware version of the drive:

After connecting the drive to the user program(GUI), check the version on the 'Board List'.



(2) User program (GUI) version :

After connecting the drive to the user program, click 'About Plus-R GUI...' in 'Help' menu to check the version.



Version of firmware and user program should match in order to connect the drive to PC. Please refer to the table below.

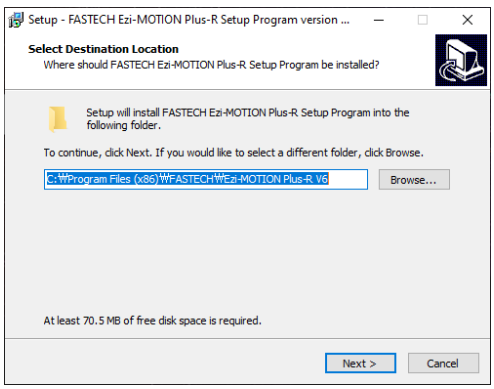
Firmware Version	Compatible with	GUI Version
V06 (V06.0x.0xx.xx)	<->	Version 6 (6.xx.x.xxx)
V08 (V08.xx.0xx.xx)	<->	Version 8 (8.xx.x.xxx)

Warning	**Do not mix the drives with different firmware versions on the same communication network.**

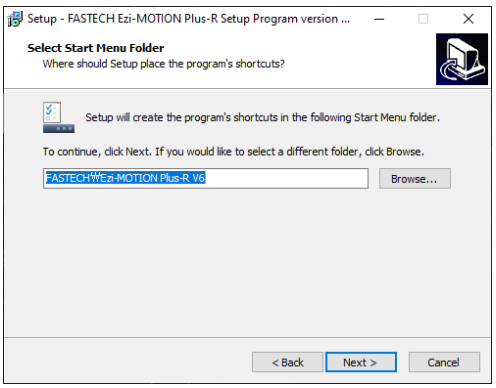
1 - 3 . User Program(GUI) Installation

Download [Ezi-MOTION_Plus-R_SETUP] Program on FASTECH website and Install as shown below.

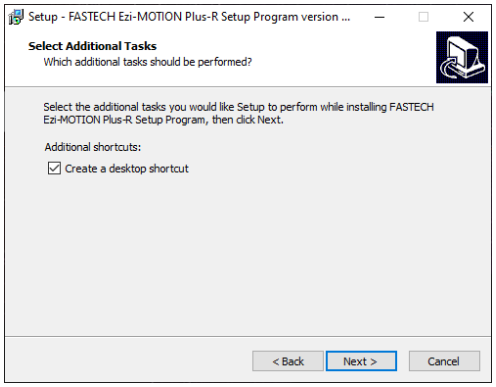
Select a folder where the program is installed, and click 'Next'



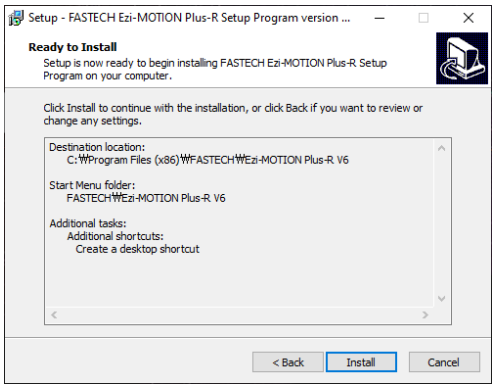
Select start menu folder and click 'Next'.



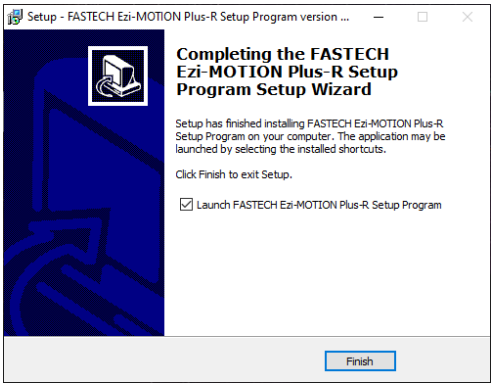
Choose whether to create a desktop icon and click 'Next'.



Check the installation environment, then click 'Install'.



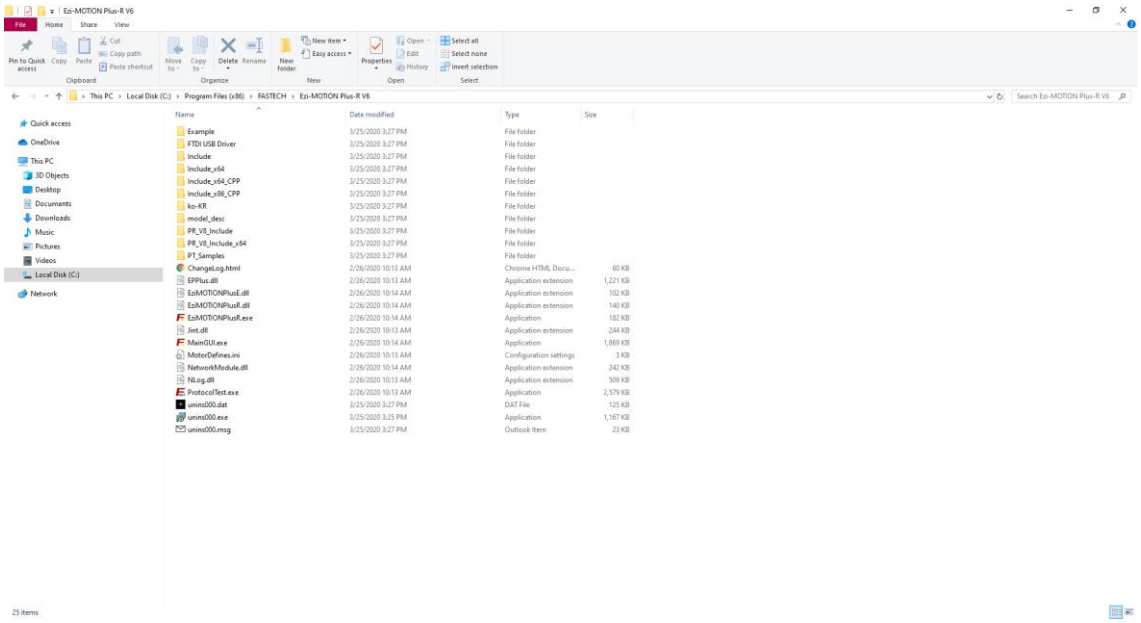
Installation complete



When installation is completed in the designated folder, you can check GUI and required files in the designated folder as shown below.

Version 6 GUI will be installed at 'Program Files (x86)₩FASTECH₩Ezi-MOTION Plus-R V6'.

Version 8 GUI will be installed at "Program Files (x86)₩FASTECH₩Ezi-MOTION Plus-R V8'.

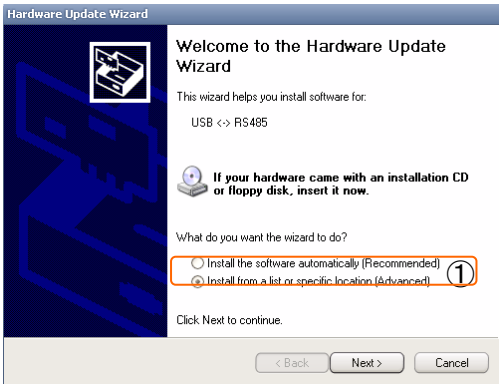


1) Include folder : *.dll, *.lib, *.h files
2) Example folder : Sample source code
3) PT_Samples folder : Sample data files for position data test (for Drive)
4) FTDI USB Driver folder : USB converter driver installing program.

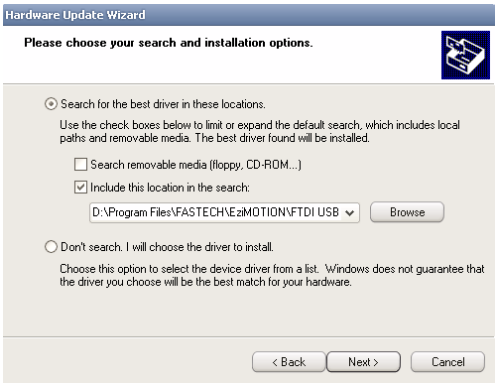
1 - 4 . Installing USB to RS-485 Converter

When the converter is first connected to the PC, the new hardware is recognized and the following window appears. Just follow the instructions to install it

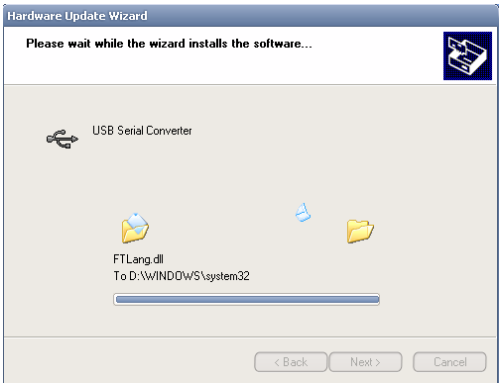
Select ① and click 'Next" button.
If PC is connected to internet, it can be installed by selecting 'Install the software automatically'.



After selecting the 'FTDI USE Driver' folder within User Program folder,
Click 'Next' button.



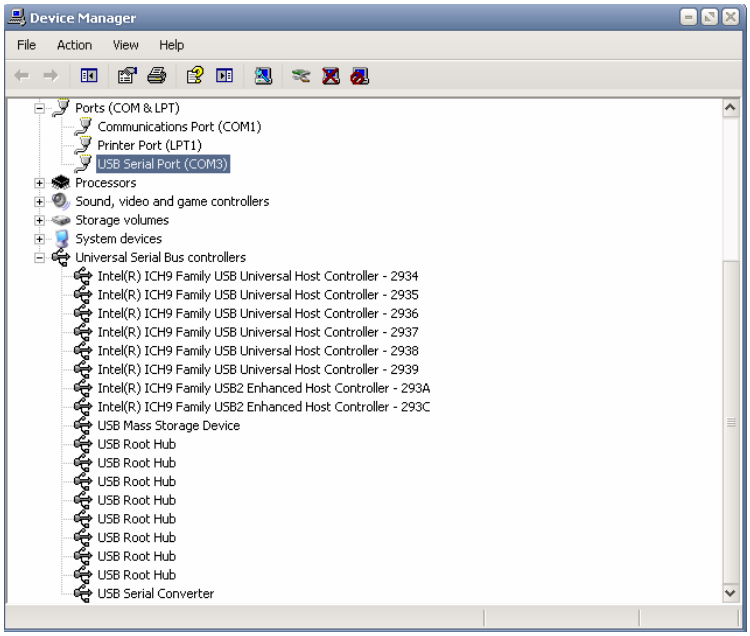
Installing.



Installing is finished.



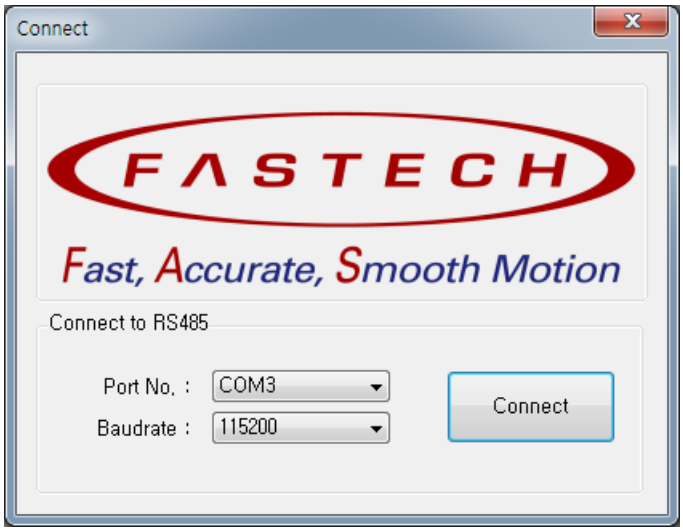
You can check the installed converter in Device Manage Window.



1 - 5 . Connecting PC with Drive Module

(1) To connect communication between PC and drive module, prepare the communication converter and communication cable.
For details, refer to 「User Manual_Text.

After running Ezi-MOTION Plus-R V6, you will see the window below.



Name	Description
Port No.	Specifies the port number of the RS-232 or USB to connect to the drive among the communication ports of the PC.
Baudrate	As a function to select the communication speed for connecting the drive and RS-485 communication, it must match the setting of the controller's communication speed switch (SW2). (Default : 115,200[bps])

설
저

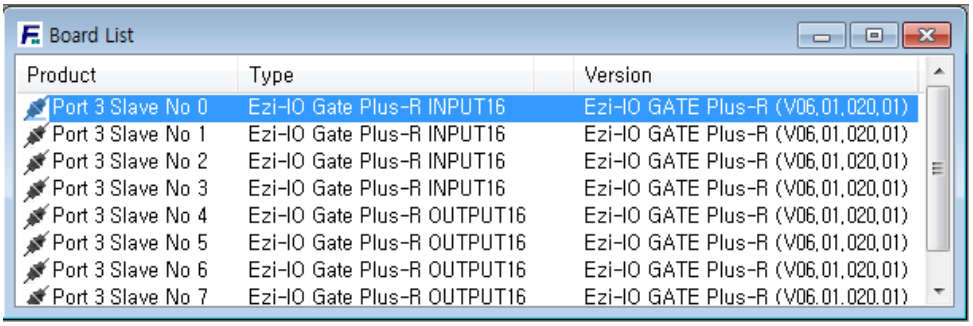
After completing the setting, click the 'Connect' button to try to connect all drives of the same version from ID No. 0 to 15 at the speed set through the corresponding communication port.

⚠ 주의	**1. The communication speed values of drive modules connected in one segment must be set to the same value.** **2. If connection to the drive fails, check the port No. or baudrate.**

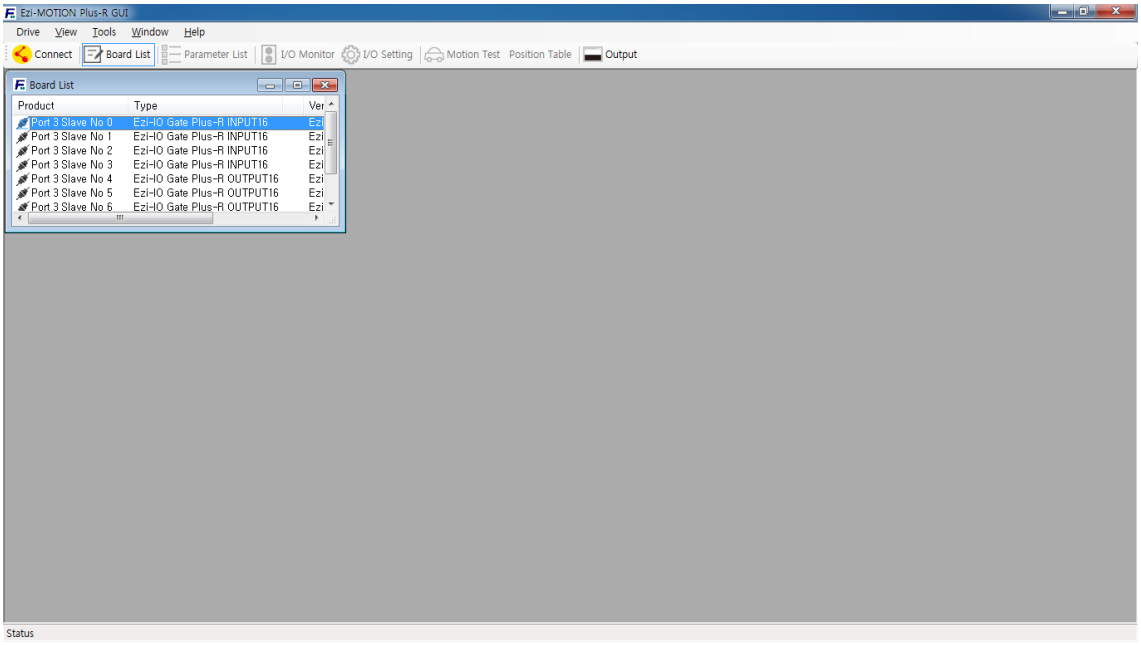
(2) After drive is connected, you can check the followings.

1) Types of all products connected.

2) Firmware Version.



2 . Main Window

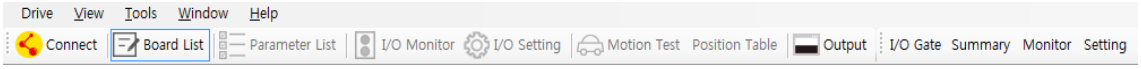


This is the basic window to operate the program. Each window is displayed in this window.

The user can open each window with a toolbar.

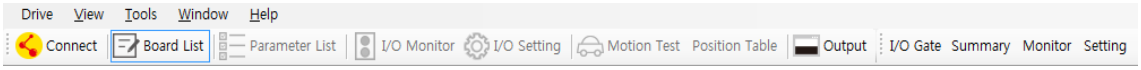
Toolbar icon is enabled or disabled according to the type of connected board.

2 - 1 . Menu



There is a 'View' menu that simply shows a different screen, and a 'Drive' menu where you can choose to connect or disconnect the communication.

2 - 2 . Toolbar



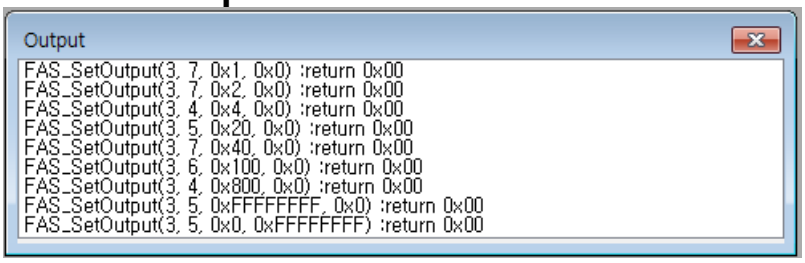
Toolbar icon is enabled or disabled according to the type of connected board.

In case of Ezi-IO RS-485 product, Connect, Board List, Output, Summary, Monitor and Setting icons are enabled.

Click each button to execute the following functions.

Button	Description
Connect	To connect or disconnect with the drive
Board List	To display connected module information and communication status
Parameter list	To set parameter values related to the operation control such as position command
I/O Monitor	
I/O Setting	
Motion Test	
Position Table	To input and execute data for the position table.
Output	To display DLL function corresponding to the command being executed
Summary	To check the entire digital I/O of the connected Ezi-IO.
Monitor	Check the digital I/O and other functions of one Ezi-IO module.
Setting	You can set / save / load Ezi-IO's digital I/O levels.

2 - 3 . Output



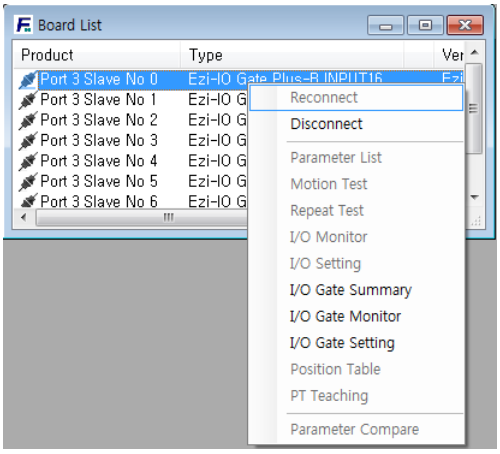
Click 'Output' at the Toolbar or check [Menu] – [View] – [Output], and the above window will be displayed.

This window includes commands used for the controller. The user can check that which function is used, how parameter values are inputted, and how they are normally processed.

The above window displays functions which the user inputs or functions used when the user clicks each button. For more information of commands, please refer to 「User Manual-Communication Function」

2 - 4 . Board List

To check the board list connected with communication. The user can check information of each board. Select the connected board and Right-click. Then there are buttons to go to windows for function setting or testing.



Type of Information :

1) Module IP Address and Type.
2) Module Firmware Version number.

- **Disconnect**

  Disconnect : Disconnect the drive.

- **Ezi-I/O Gate Monitor**

  Input (I16x type board) : Input / Latch information monitoring and Latch related control.
  Output (O16 type board) : Control and monitor the Output.
  InputOutput(I8xO8 type board) : Input / Latch information and Latch related control. Also, control and monitor the Output.

- **Ezi-I/O Gate Setting**

  Input (I16x type board) : Active Level setting / load / save of Input.
  Output (O16 type board) : Active Level setting / load / save of Output.
  InputOutput (I8xO8 type board) : Active Level setting / load / save of Input and Output.

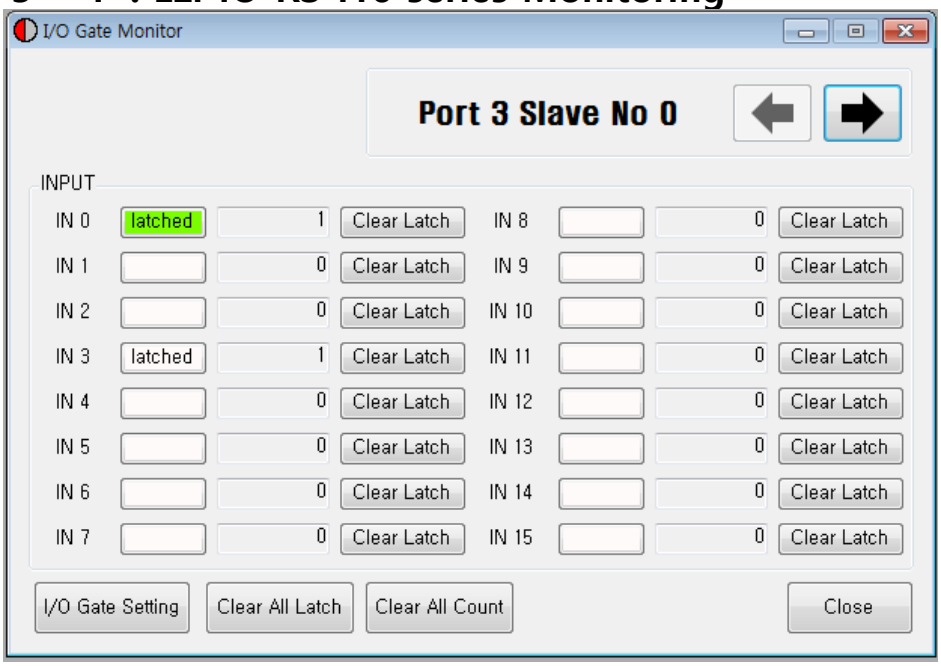
- **Ezi-I/O Gate Summary**

  You can monitor the Input / Output status of the connected Input / Output Board at once. If it is O16 module, you can control and monitor it. If it is I8xO8 module, you can control and monitor Output 8 to 15.



3 . I/O Monitoring and I/O Logic Setting

3 - 1 . Ezi-IO-RS-I16 series Monitoring



1) Input Signal :

Displays the current input status.

Input signal [ON] : Green

Input signal [OFF] : White

Displays the current latch status.

Latch [ON] : Displays 'latched'

Latch [OFF] : 'Latched' is not displayed

Click 'Clear Latch' to clear 'latched'

2)Latch count :

Count the number of times the input is turned on.

Counts even when the input changes (Off-> On) in the 'latched' state.

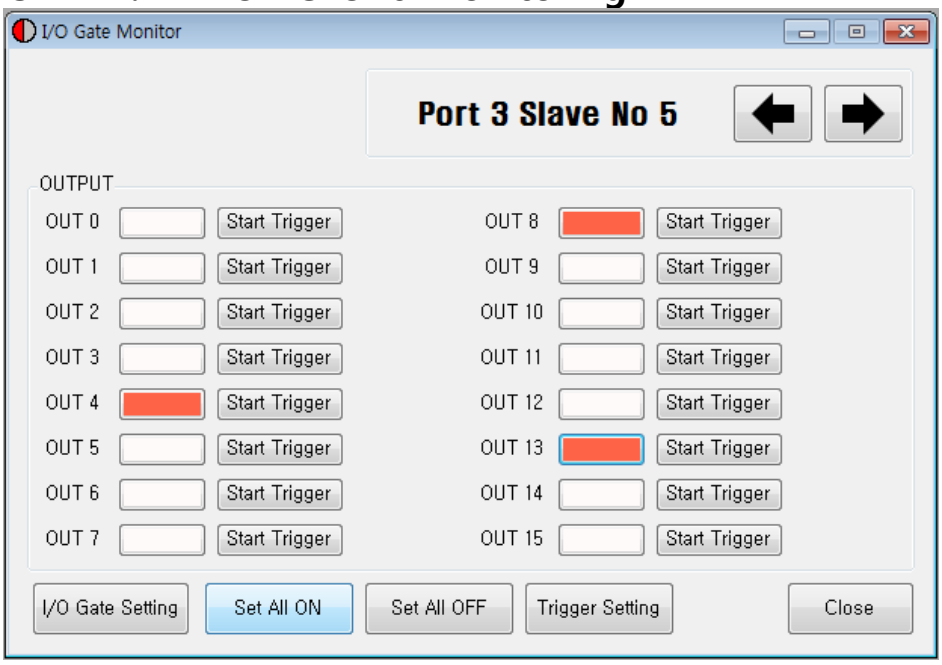
3)Clear All Latch :

Clear 'latched' of all inputs(IN0~IN15).

4)Clear All Count :

Initialize (0) the latch count of all inputs(IN0~IN15).

3 - 2 . Ezi-IO-RS-O16 Monitoring



1) Output Signal :

Click the white button corresponding to 'OUT0' ~ 'OUT15' to change the signal of the corresponding pin to [ON] / [OFF].

Output signal [ON]: Red

Output signal [OFF]: White

2) Strat Trigger :

Run the trigger set in the Trigger Setting.

3) Trigger Setting :

Activates the window for inputting information about the trigger output and inputs the information.

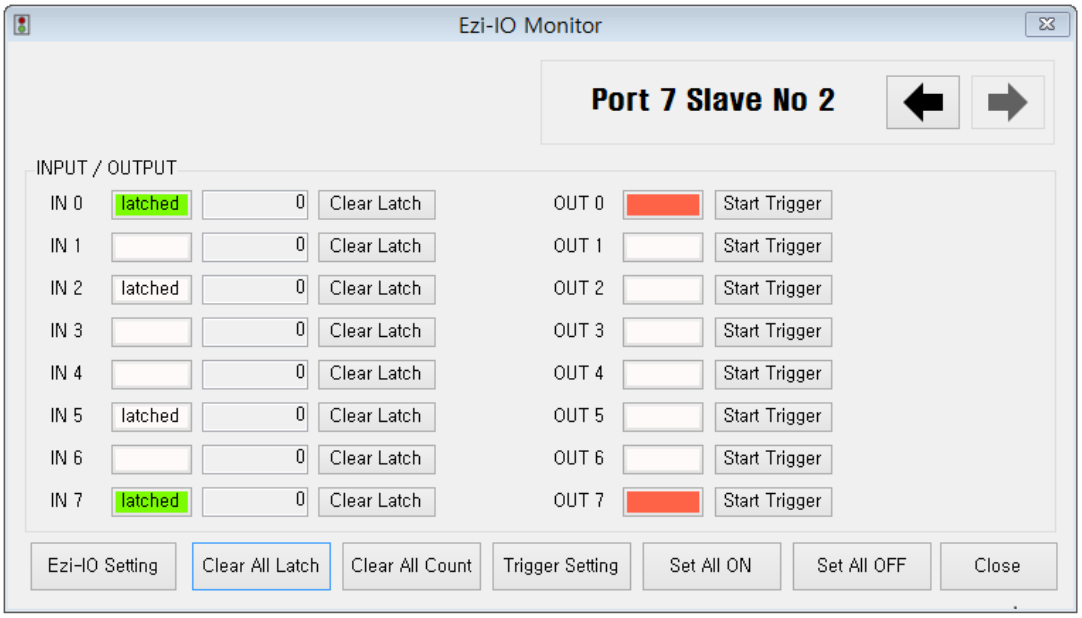
4) Set All ON :

Turns all of 'OUT0'~'OUT15' outputs [ON].

5) Set All OFF :

Turn off of 'OUT0'~'OUT15' outputs [OFF].

3 - 3 . Ezi-IO-RS-I8O8 series Monitoring



1) Input Signal :

Displays the current input status.

Input signal [ON] : Green

Input signal [OFF] : White

Displays the current latch status.

Latch [ON] : Displays 'latched'

Latch [OFF] : 'Latched' is not displayed

Click 'Clear Latch' to clear 'latched'

2) Latch count :

Count the number of times the input is turned on.

Counts even when the input changes (Off-> On) in the 'latched' state.

3) Clear All Latch :

Clear 'latched' of all inputs(IN0~IN7).

4) Clear All Count :

Initialize the latch count of all inputs(IN0~IN7).

5) Output Signal :

Click the white button corresponding to 'OUT0' ~ 'OUT7' to change the signal of the corresponding pin to [ON] / [OFF].

Output signal [ON]: Red

Output signal [OFF]: White

6) Strat Trigger :

Run the trigger set in the Trigger Setting.

7) Trigger Setting :

Activates the window for inputting information about the trigger output and inputs the information.

8) Set All ON :

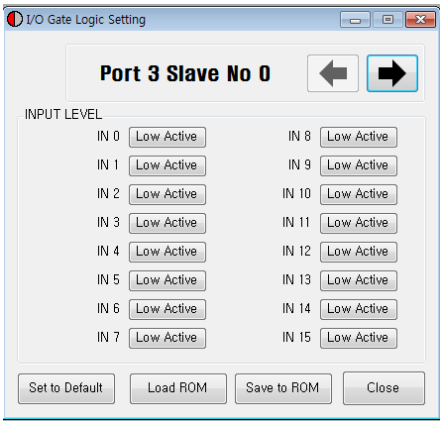
Turns all of 'OUT0'~'OUT7' outputs [ON].

9) Set All OFF :

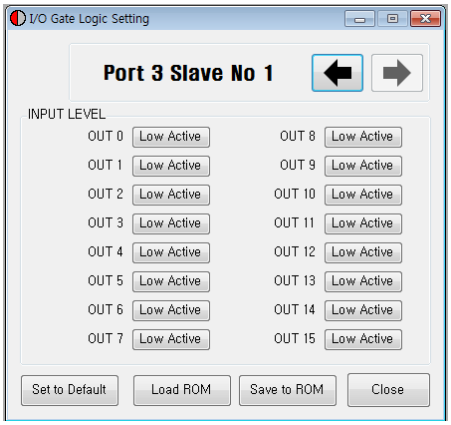
Turn off all of 'OUT0'~'OUT7' outputs [OFF].

3 - 4 . I/O Logic Setting

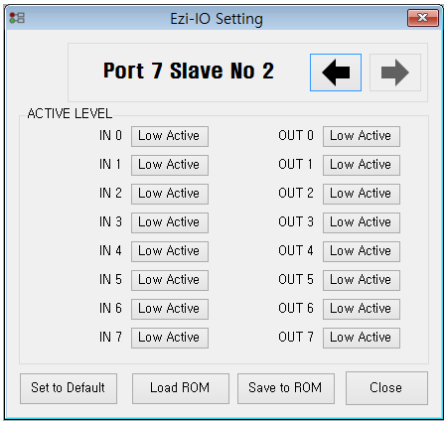
If you click the 'I / O Logic Setting' button on the 'I / O Monitor' screen above, the following screen will appear.



Ezi-IO-RS-I16 series



Ezi-IO-RS-O16 series



Ezi-IO-RS-I8O8 series

1) Signal Level Setting :

The function to select the actual signal level to recognize the signal as [ON] is provided, and the setting is set by clicking the button to the right of the signal name.

* Low Active: It is [ON] when 0 volt is input.
* High Active: [ON] when 24 volt is input.

2) Save to ROM :

By default, all changes are temporarily saved in RAM, and you must click the 'Save to ROM' button to save to ROM.

3) Load ROM :

Load the setting value saved in ROM to RAM.

4) Set to Default :

Change the entire Level to [Low Active].

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