

IOGuidePro User Manual

Version 1.1

2020 CREVIS Co.,Ltd

Revision history				
REV	PAGE	REMARKS	DATE	EDITOR
1.0	New Document		16/11/01	YSKIM
1.1	4	System requirement	20/09/15	Rachel
	6	Automatic scan - select the lan card		

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*** System Requirements ***

- OS : Windows NT 4.0 (SP>3), Windows, XP, 7,8 and Vista
- CPU : 200MHz
- Memory : 64MB RAM
- Hard Disk : 60 MB of free hard disk space
- Communication : Ethernet Port, Serial Port
- Online/ Offline Support
- Depending on the type of Network Adapter, Online mode can be supported or not.

1. Automatic Scan

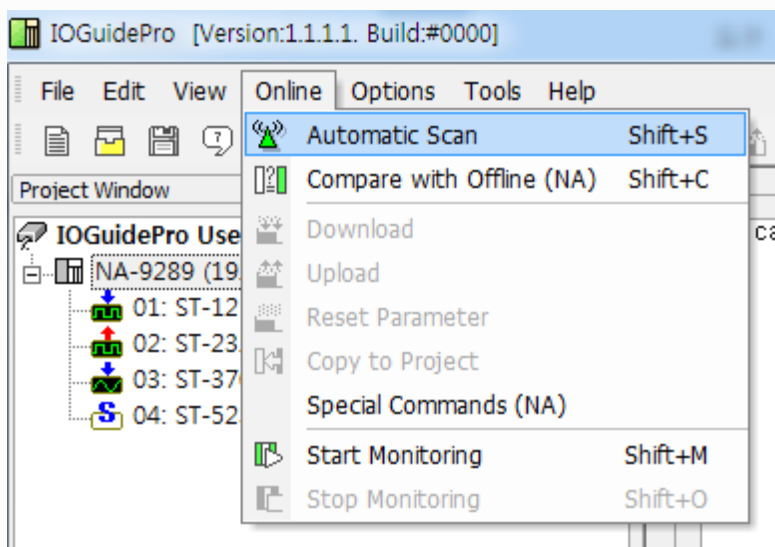
Users can have suitable programs that can be easily uploaded through Automatic Scan.

IO Guide Pro applies to Modbus protocol products. Automatic Scan has two options to choose, TCP/IP and Serial. See below for more details.

How to run Automatic Scan

1. Click the below Toolbar.

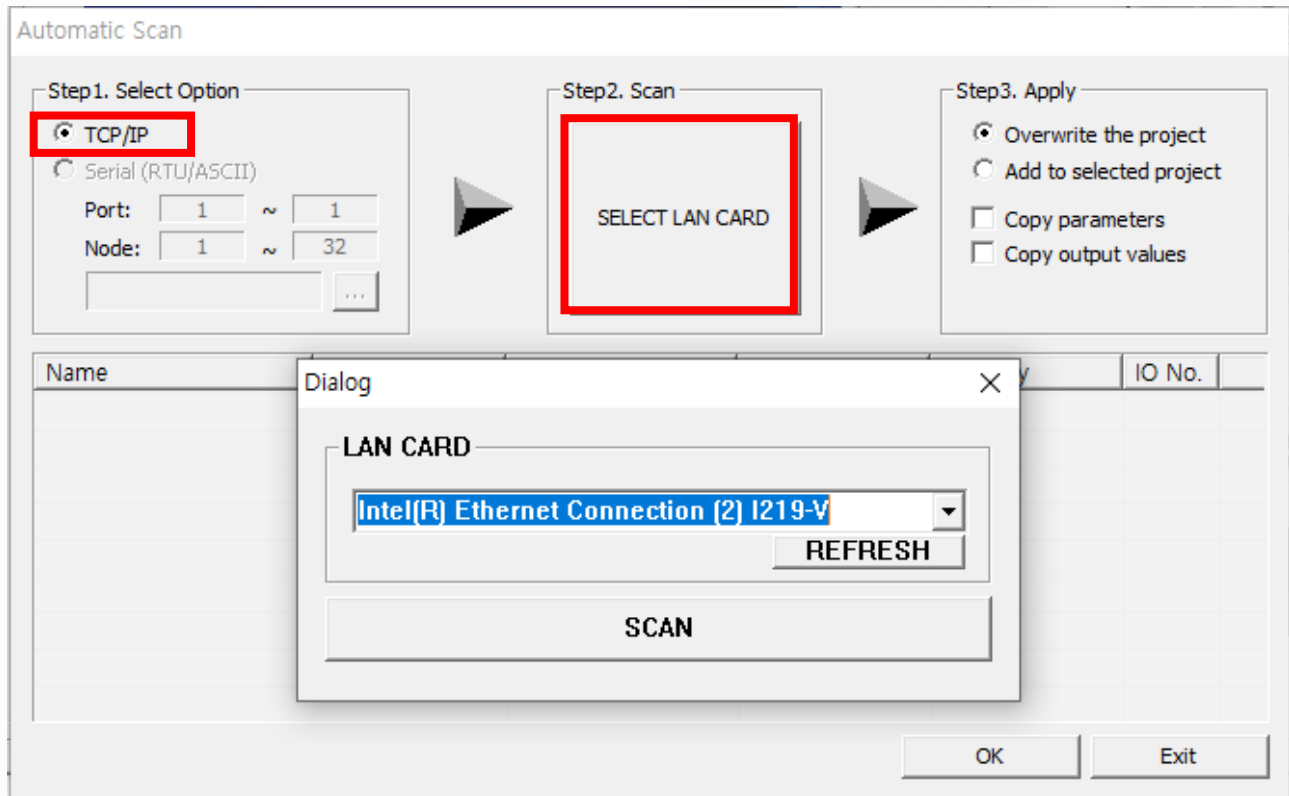
Main Menu -> Online -> Click 'Automatic Scan' (Hot key: Shift+S)



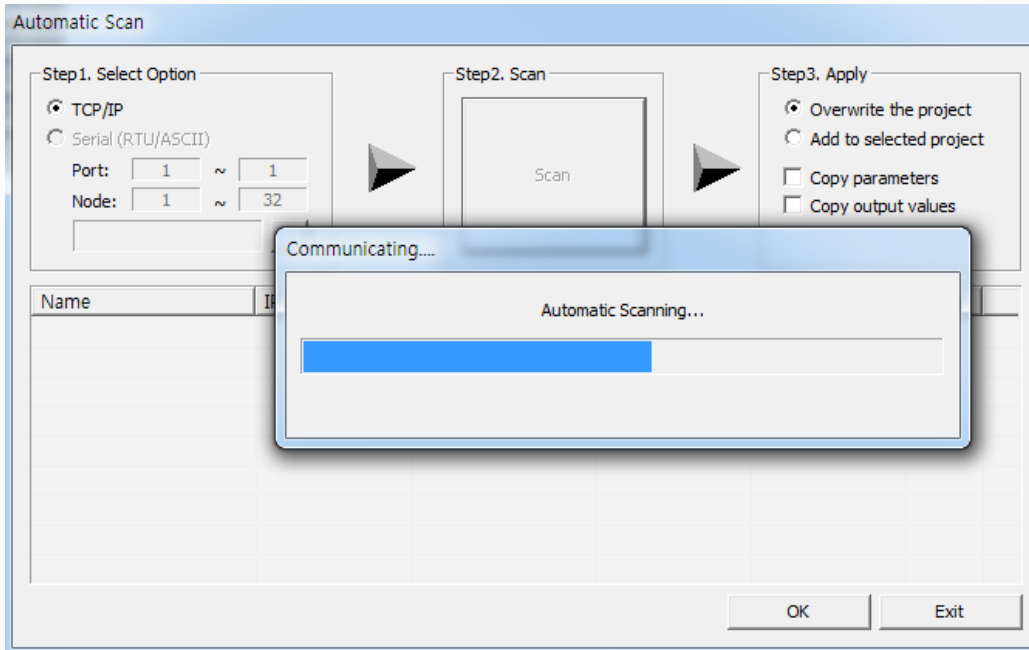
1.1. TCP/IP

Step 1. Select TCP/IP in Select Option and 'Click the SELECT LAN CARD' button.

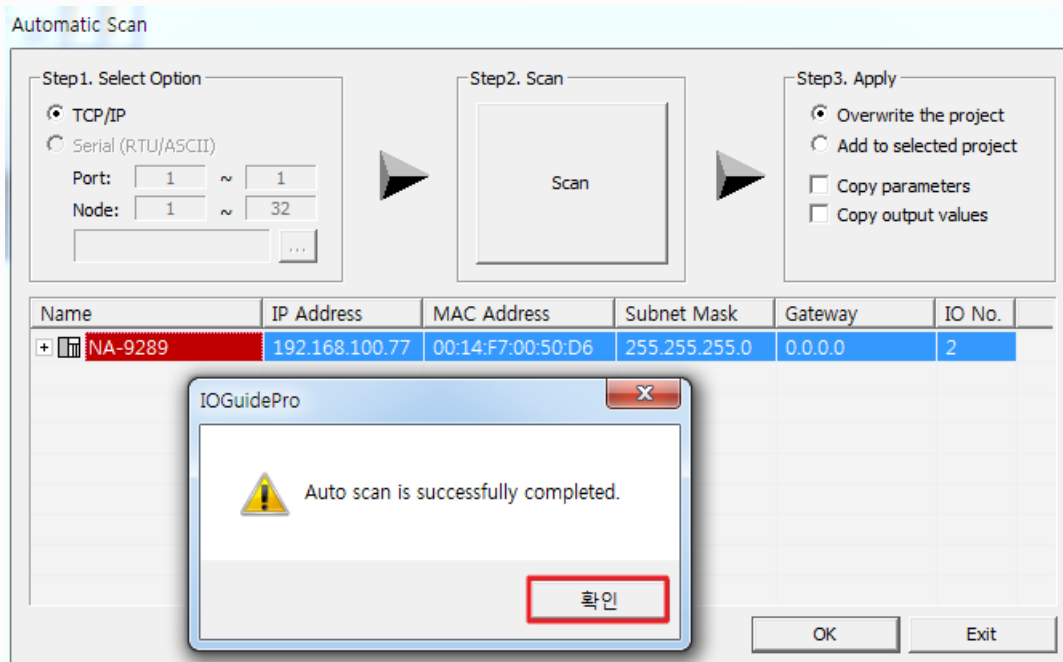
Select the lan card and click the scan button.



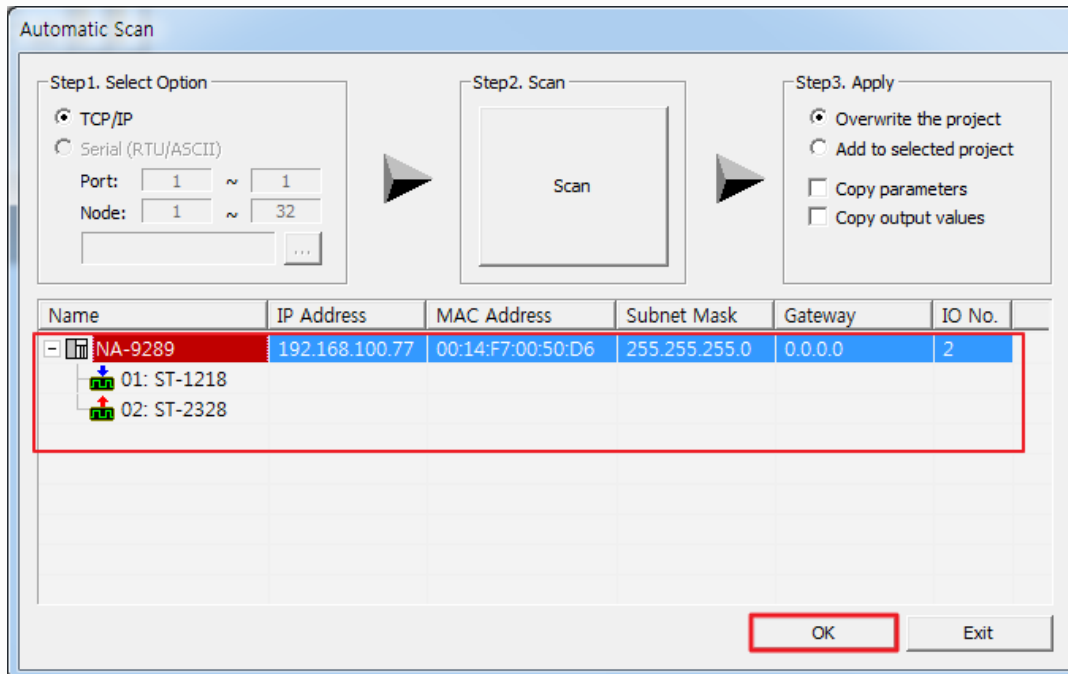
Step 2. When the Communicating message box is created, Wait till Automatic Scanning is completed.



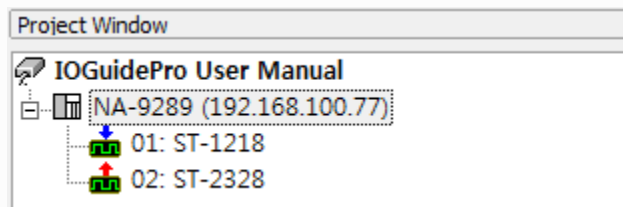
Step 3. When Automatic Scanning is successfully completed, You will see the pop-up message that says 'Auto scan is successfully completed.'. Then, click the OK button.



Step 4. Check if NA and I/O (already set up) is successfully scanned. Click the OK button.

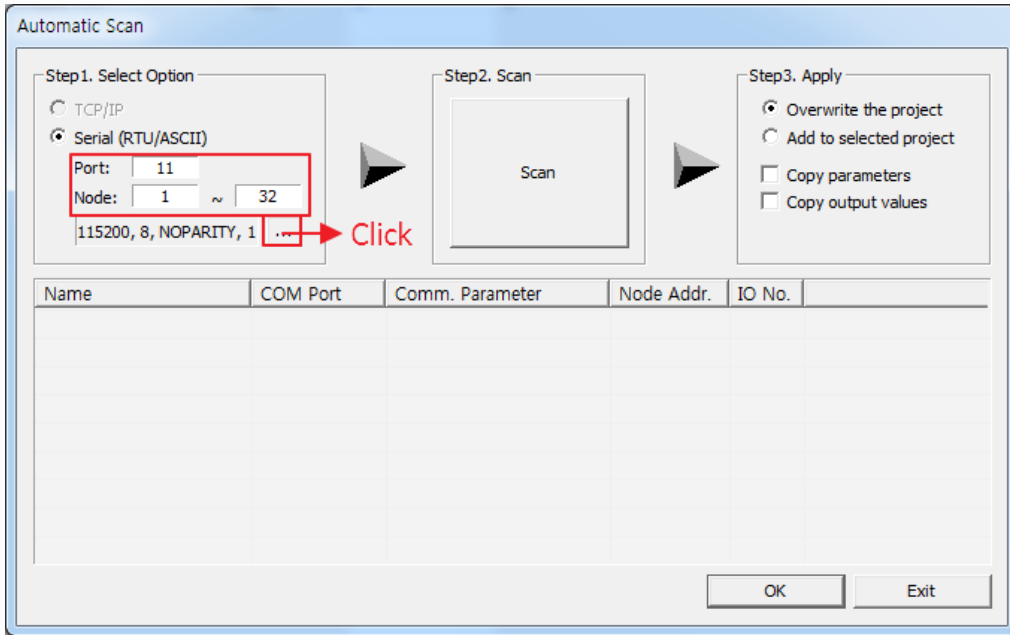


Step 5. You can find the products that you have set up in Project Window

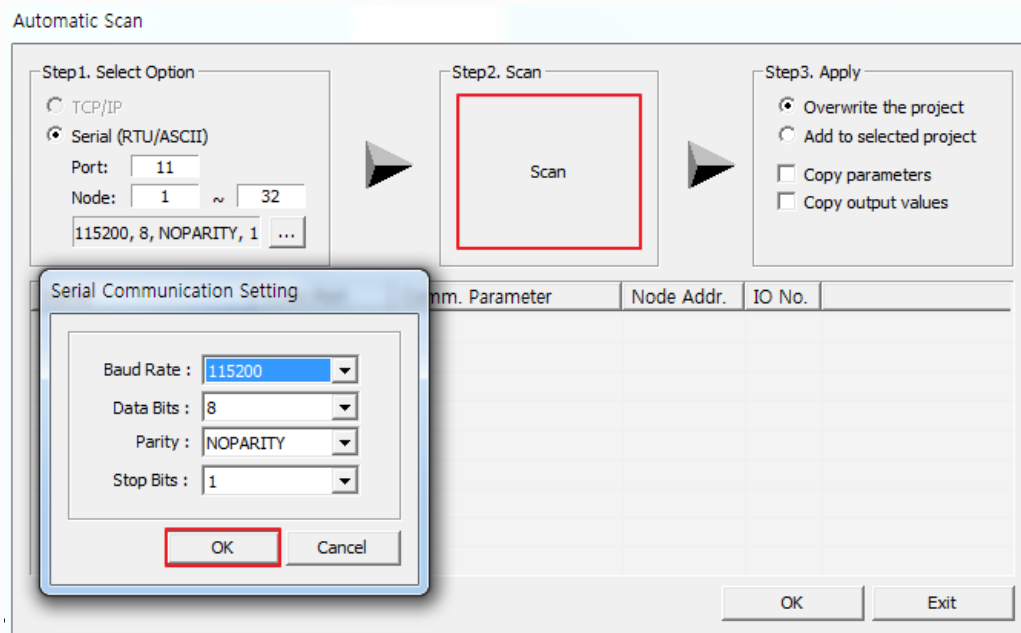


1.2. Serial

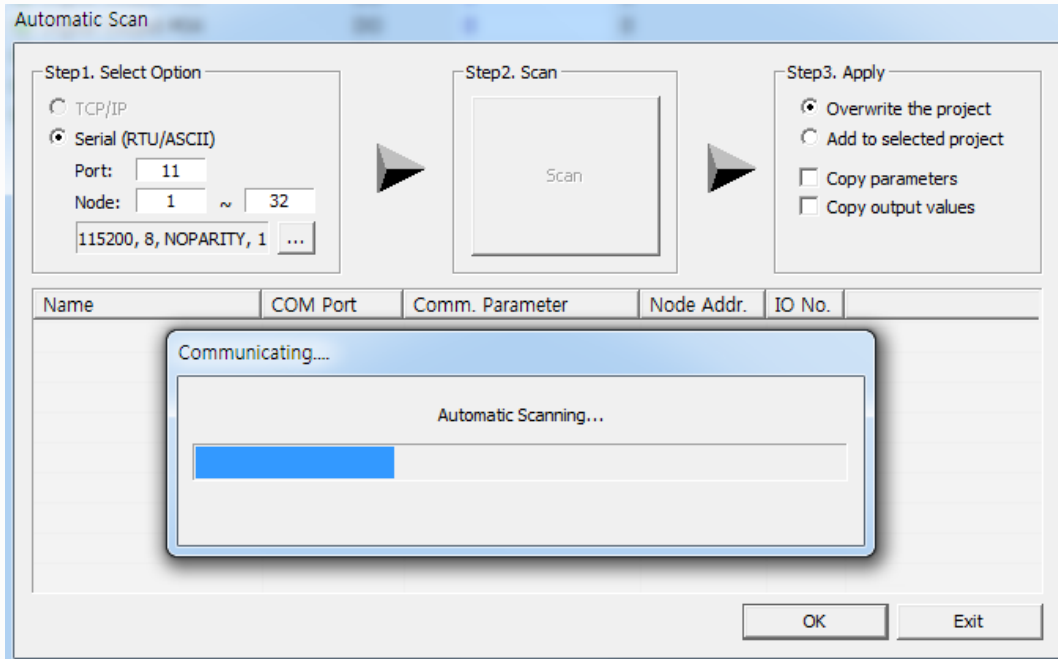
Step 1. Select 'Serial' in Select Option and enter the Port number. Click 'Serial Communication Setting' to set up Serial Communication.



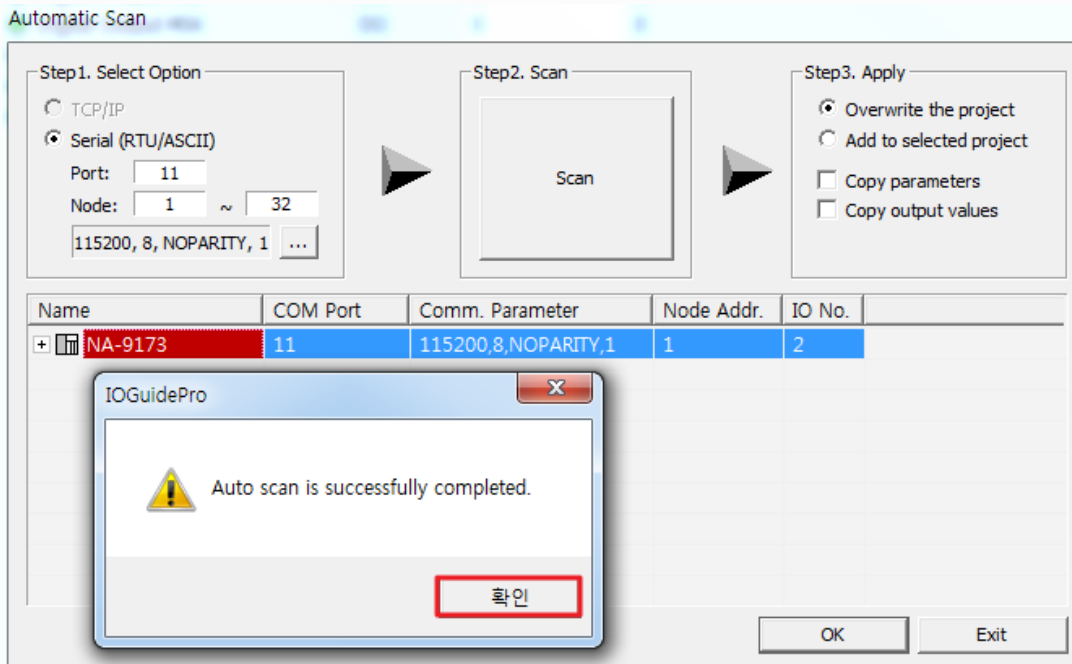
Step 2. Set up according to the spec and Click the OK button. Click the Scan button



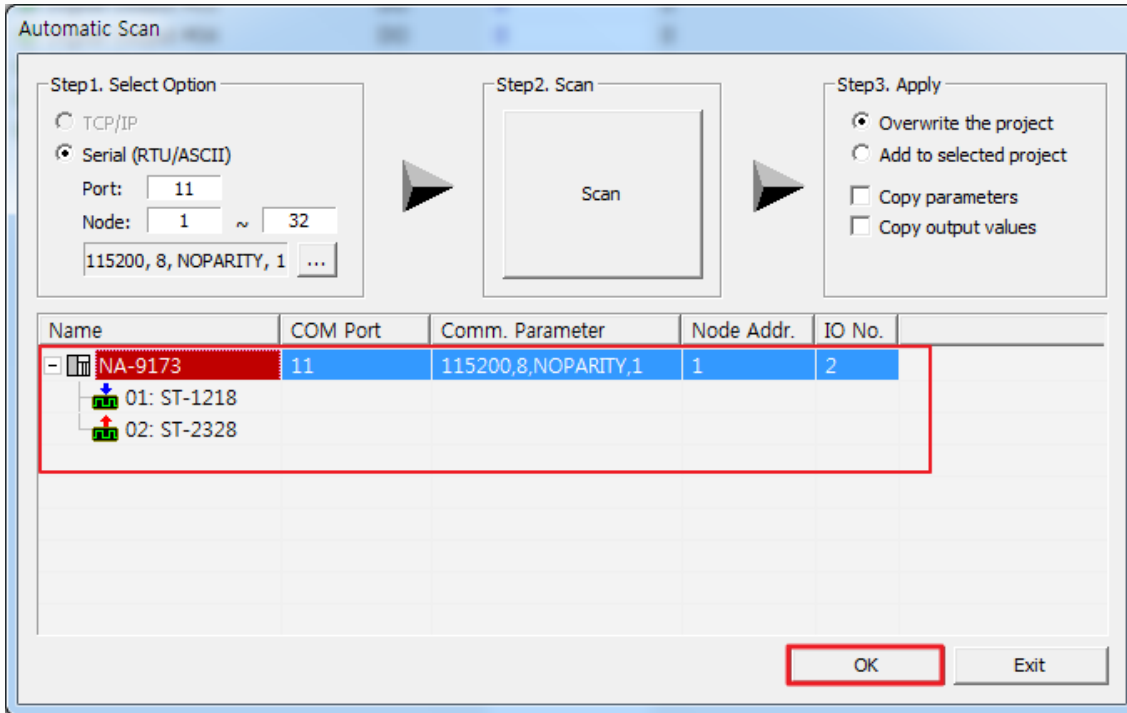
Step 3. When Communicating message box is created, Wait till Automatic Scanning is completed.



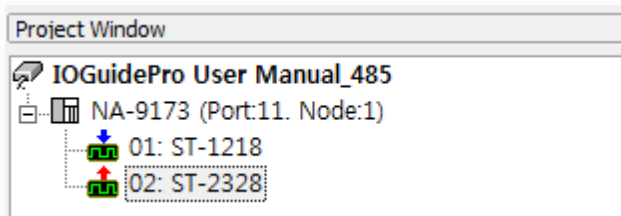
Step 4. When Automatic Scanning is successfully completed, You will see the pop-up message that says 'Auto scan is successfully completed.'. Then, click the OK button.



Step 5. Check if NA and I/O (already set up) is successfully scanned. Click the OK button.



Step 6. You can find the products that you have set up in Project Window.



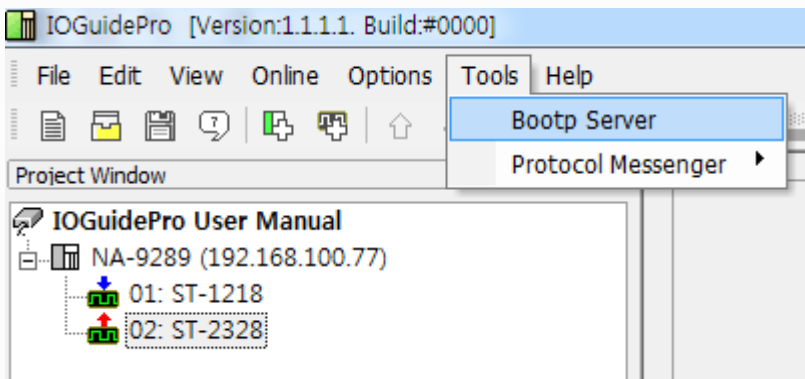
2. Bootp Server

IO Guide pro supports for the Bootp Server of MODBUS TCP and Ether Net IP module.

The server has Automatic Setting and Manual Setting. See below for more details.

How to run Bootp Server

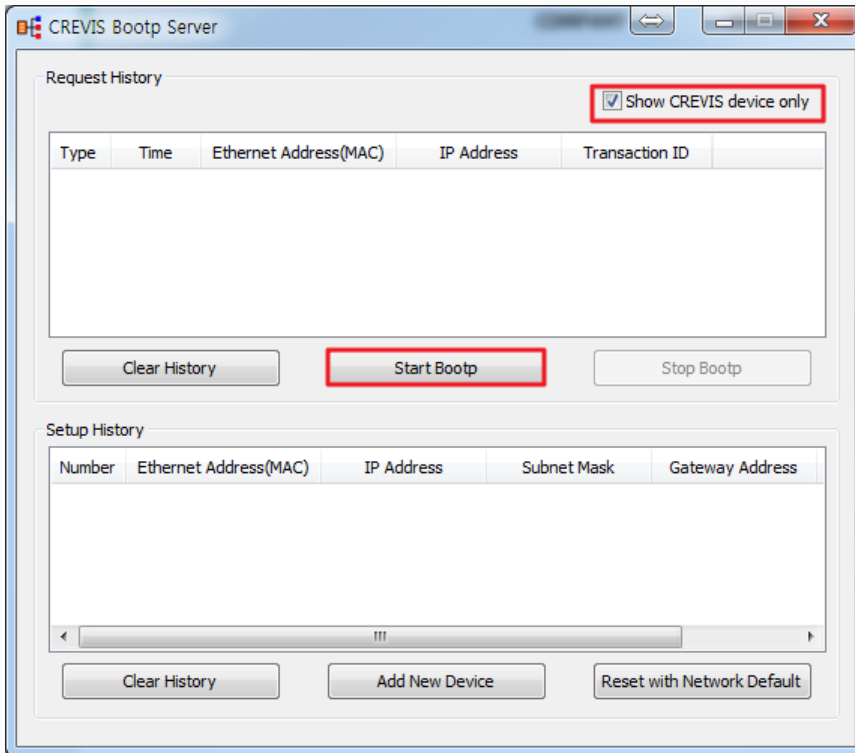
Main Menu -> Tools -> Click 'Bootp Server'



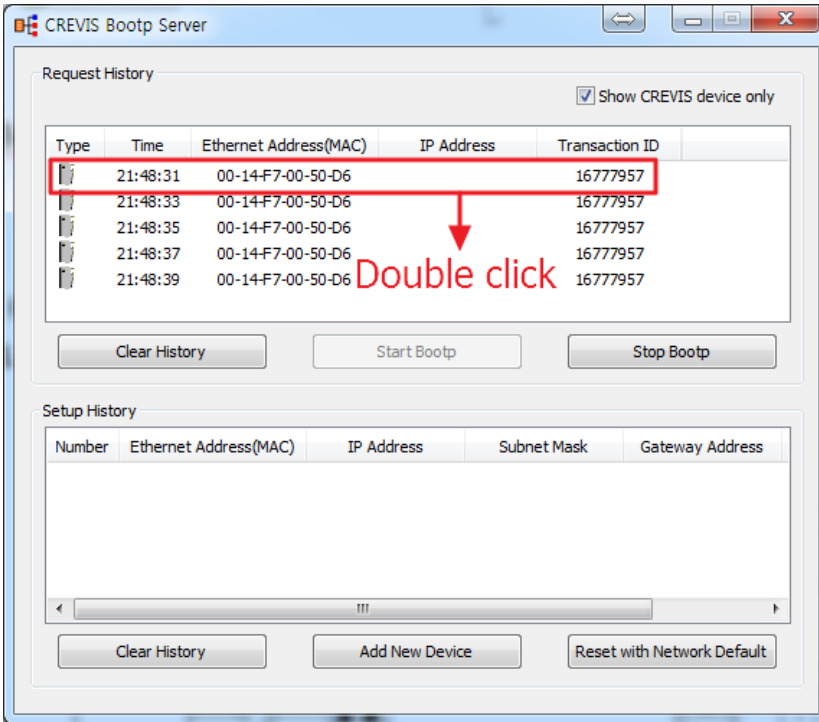
2.1. Automatic Setting

Step 1. Click 'Start Bootp' and turn on the product.

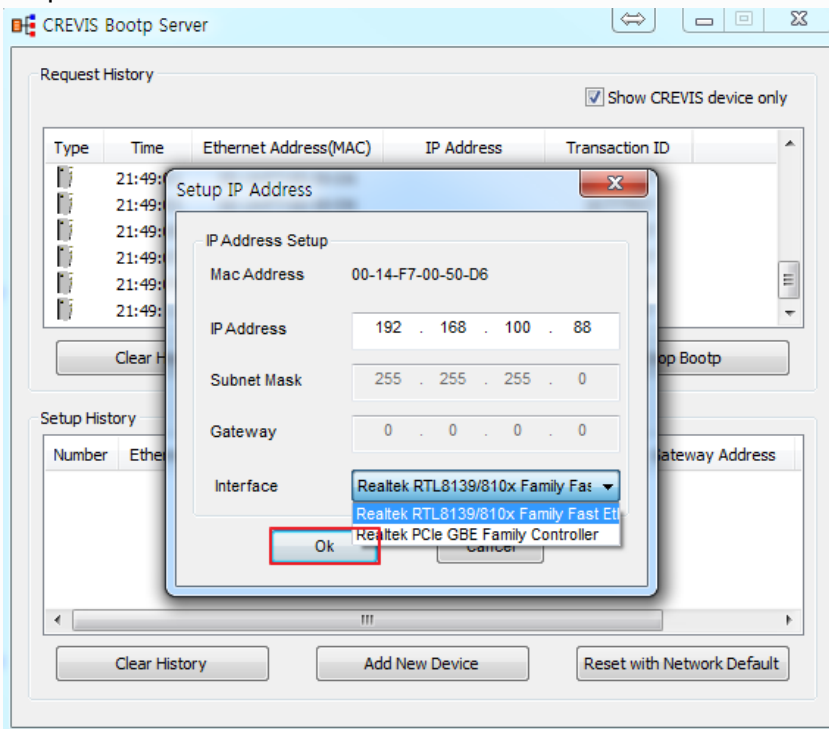
※ When you tick the box 'Show CREVIS device only', you will see only CREVIS ones on Request History.



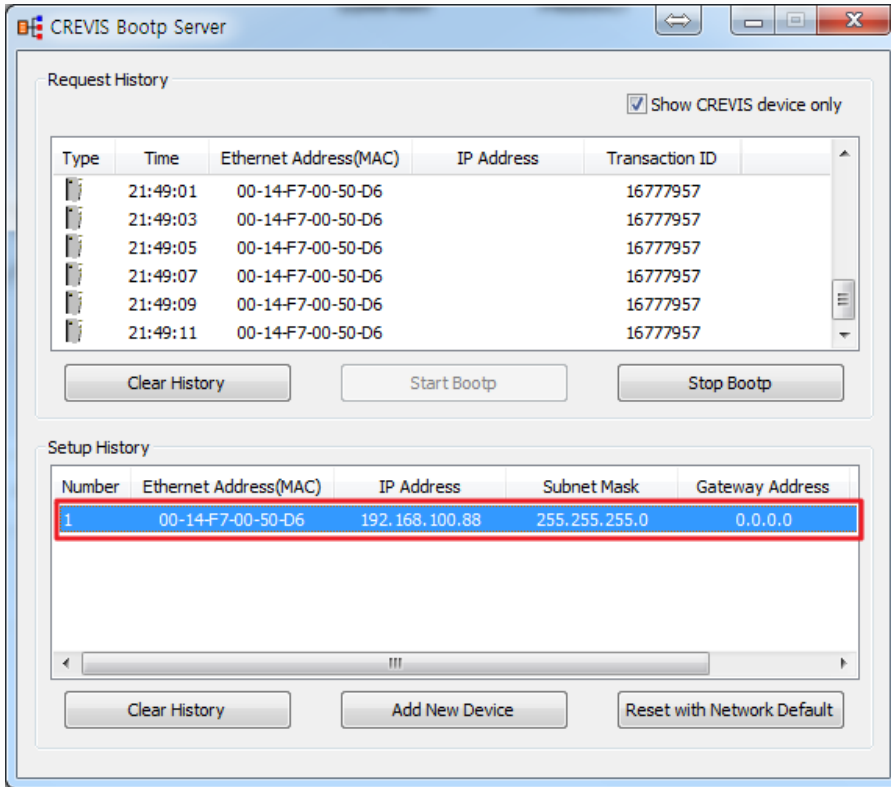
Step 2. Check MAC Address of products uploaded on Request History and double-click on the one.



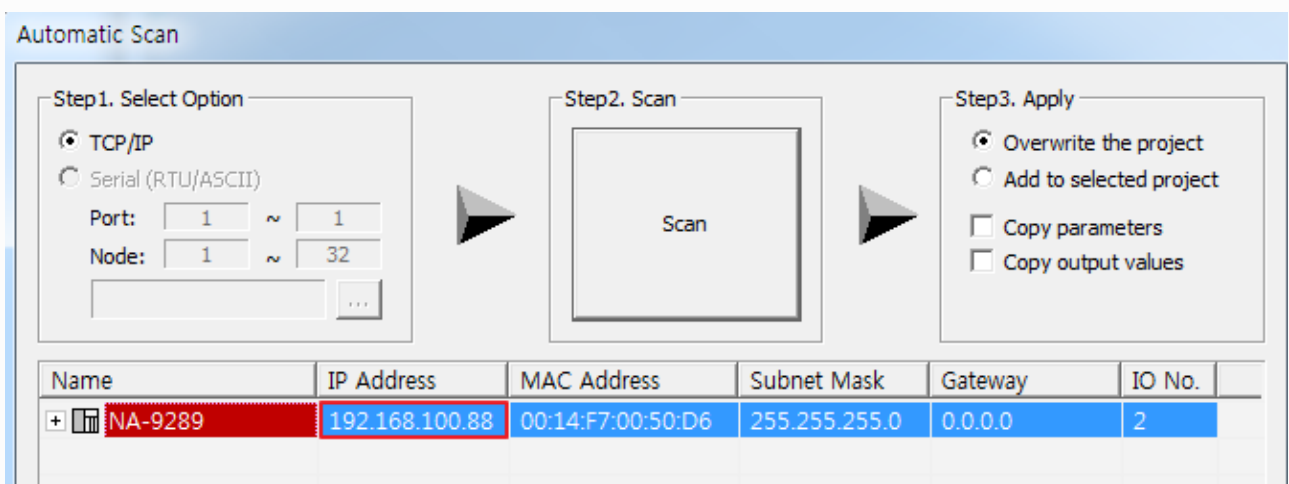
Step 3. Select the Interface(LAD Card), enter IP Address and click the OK button.



Step 4. When IP setting is successfully completed, Check IP Address set on Setup History and turn Off/On the power.

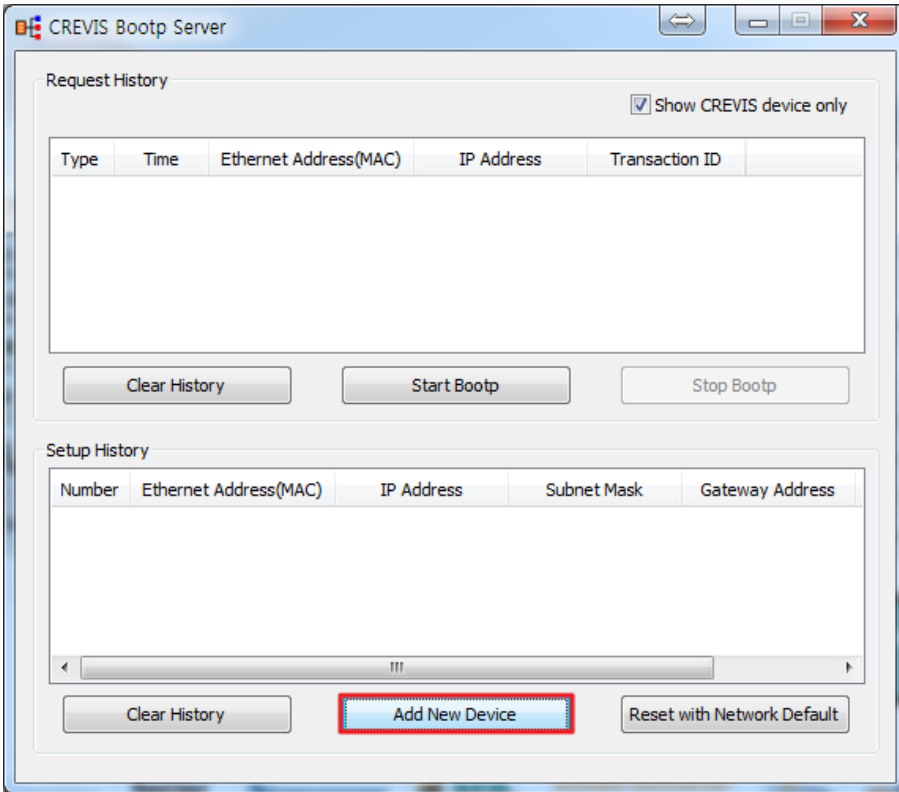


Step 5. Turning Off/On the power and scan again, you will see the IP Address changed.



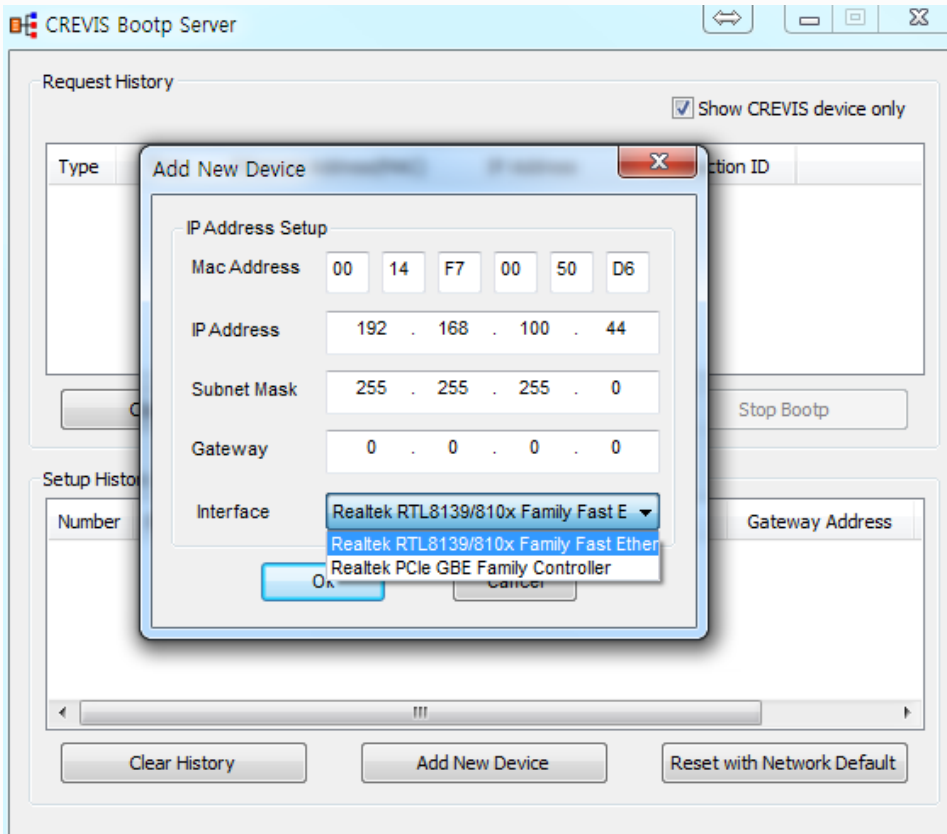
2.2. Manual Setting

Step 1. Click 'Add New Device'.

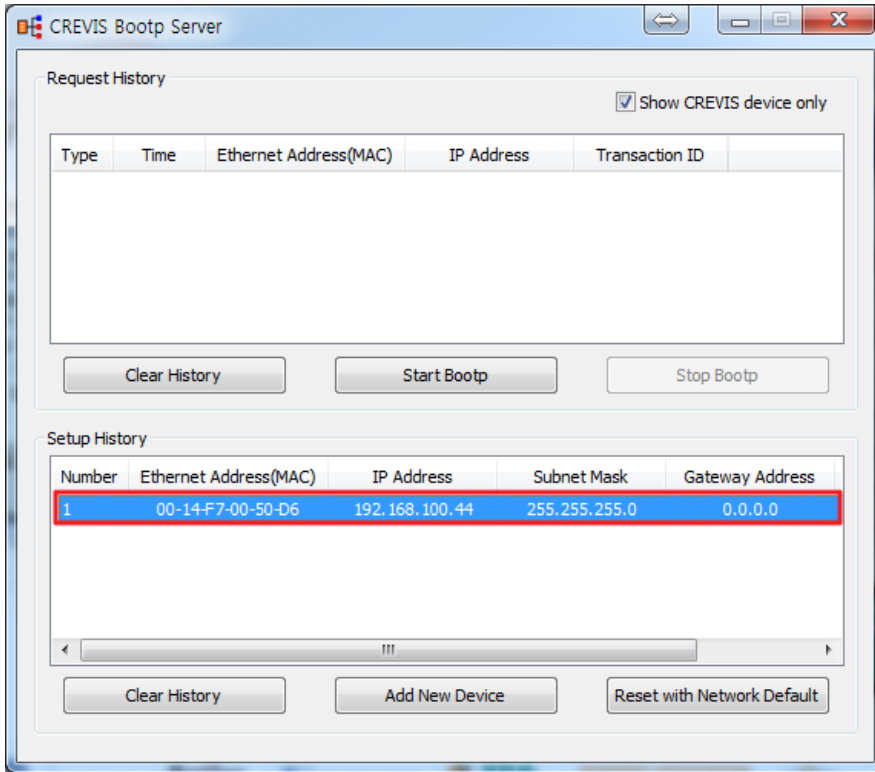


Step 2. Selecting the Mac Address, IP Address, Subnet Mask, Gateway and Interface(LAD Card), click the OK button.

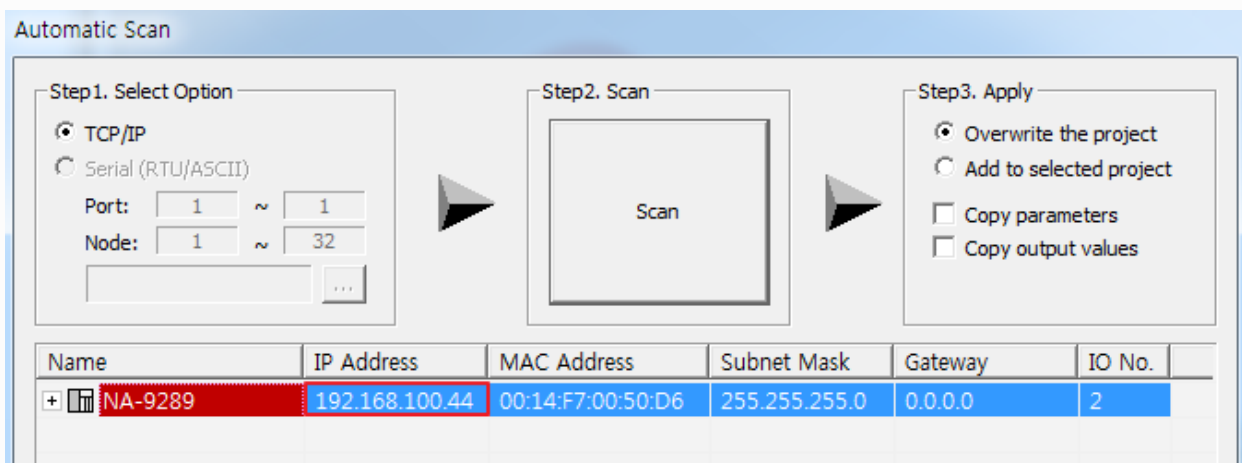
※ Mac Address can be found on MAC labels which is attached on products.



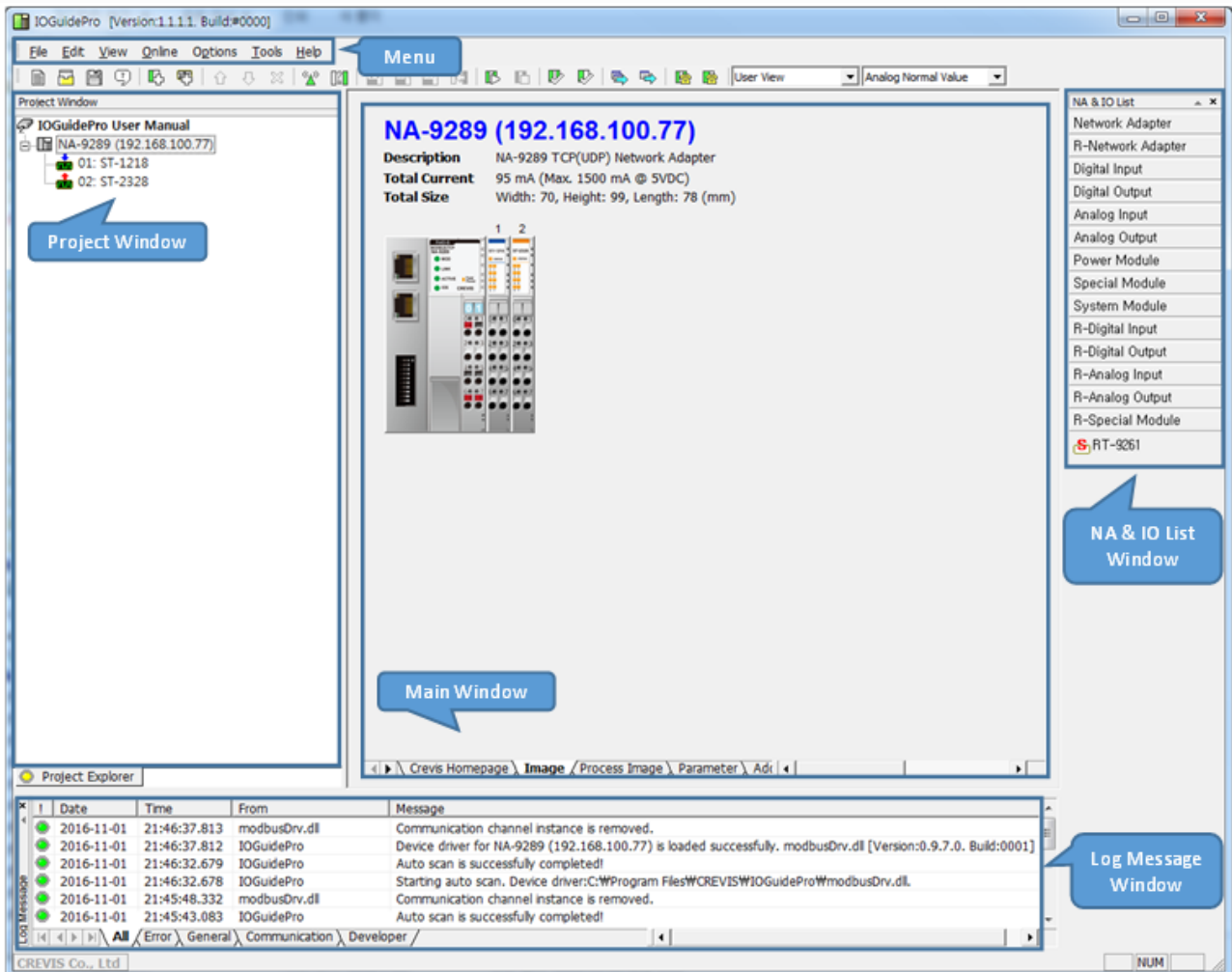
Step 3. When IP setting is successfully completed, Check IP Address set on Setup History and turn Off/On the power.



Step 4. Turning Off/On the power and scan again, you will see the IP Address changed.



3. User Interface



IO Guide Pro consists of the five user interface and see below for more details.

Menu : General menu for IO Guide Pro

Project Window : Shows project name and product name and info.

Log Message Window : Shows Log about errors, operation info, communication info.

Main Window : Shows products group, in/output or parameter value and Address Map etc. Users can set the important info on the actual operation.

NA & IO List Window : shows product family list and the spec of the product.

3.1. Main Menu

Refer to the following tables for more details.

■ File

Menu	Sub Menu	Description
Project File	New	Create new project
	Open	Open the saved project
	Close	Close current project
	Save	Save as current project
	Save as	Save current project as new name
Documentation	Project	Make documentation as desired in the selected Project
	Network Adapter	Make documentation as the setting of selected NA
Inquiry	Project	Provides info. how many quantities used in the project
	Selected Network Adapter	Provides info. how many quantities used in the selected NA
Recent File	-	Displayed the latest activated project file
Exit	-	Close the program

■ Edit

Menu	Sub Menu	Description
Add	Network Adapter	Add network adapter to the selected project
	Module	Add IO module to the selected NA
Move up	-	Move up the selected IO module
Move down		Move down the selected Project, NA and IO module
Delete	-	Delete the selected Project, NA and IO module

Rename	-	Change the name of the selected IO module or NA
Properties	-	Check properties information in the selected NA and IO module
Check Validation	Project	Check setup error in the selected project
	Network Adapter	Check setup error in the selected NA
Reset to Factory Default	-	Change parameter of NA and IO module into default. which is subject to Project value and no change in Online

■ View

Menu	Sub Menu	Description
View Address Map	-	Displayed address map of the selected NA
NA & IO List	-	Choose to activate NA & IO list Window
Project Window	-	Choose to activate Project Window
Log Message	-	Choose to activate Log Message
Toolbar	-	Choose to activate Toolbar
Status Bar	-	Choose to activate Status Bar

■ Online

Menu	Sub Menu	Description
Automatic Scan	-	Search NA which is connectable and upload searched NA and IO information.
Compare with Offline (NA)	-	Comparing Project NA in editing with Online NA at the point of structure between NA and parameter information .
Download	-	Download IO and Parameter Value modified in Project into Online NA.
Upload	-	Upload IO and Parameter Value of Online NA. At that time set value of Project does not changed.

Reset Parameter	-	Reset Parameter Value of Online NA or IO with Factory Default.
Copy to Project	-	Change Project value into NA or IO value of Online NA or Parameter Value.
Special Commands(NA)	-	Transfer Reboot or Reset Error result to Online NA.
Start Monitoring	-	Begin to monitor whole of NA in Project.
Stop Monitoring	-	Close to monitor whole of NA in Project.

■ Option

Menu	Sub Menu	Description
Configuration	-	Change parameter of IOGuidePro program

■ Tools

Menu	Sub Menu	Description
Bootp Server	-	Set IP Address of the product which supports Bootstrap Protocol
Protocol Messenger	Modbus	Low Level Communication in the selected protocol.





■ Help

Menu	Sub Menu	Description
IOGuidePro	-	Show manual of IOGuidePro
FnIO Technical Data	-	Show technical data of FnIO products
About IOGuidePro	-	Show version information of IOGuidePro.



3.2. Toolbar

Refer to the following tables for more details.




■ [Standard] Toolbar

Icon	Title	Menu	Description
	New	File -> Project File -> New	Create new project
	Open	File -> Project File -> Open	Open the saved project
	Save	File -> Project File -> Save	Save current project
	About	Help -> About IOGuidePro	Show version information of IOGuidePro









■ [Add] Toolbar

Icon	Title	Menu	Description
	Add Network Adpater	Edit-> Add -> Network Adapter	Add network adapter to the selected project
	Add Module	Edit -> Add-> Module	Add IO module to the selected NA



■ [Modify] Toolbar

Icon	Title	Menu	Description
	Move Up	Edit -> Move Up	Move up the selected IO module
	Move Down	Edit -> Move Down	Move down the selected IO module
	Delete	Edit -> Delete	Delete the selected item


■ [Online] Toolbar


Icon	Title	Menu	Description
	Automatic Scan	Online -> Automatic Scan	Search NA which is connectable and upload searched NA and IO information.
	Compare with Offline	Online -> Compare with Offline	Comparing Project NA in editing with Online NA at the point of structure between NA and parameter information.
	Download	Online -> Download	Download IO and Parameter Value modified in Project into Online NA.
	Upload	Online -> Upload	Upload IO and Parameter Value of Online NA. At that time set value of Project does not changed.
	Reset Parameter	Online -> Reset Parameter	Reset Parameter Value of Online NA or IO with Factory Default.
	Copy to Project	Online -> Copy to Project	Change Project value into NA or IO value of Online NA or Parameter Value.
	Start Monitoring	Online -> Start Monitoring	Begin to monitor whole of NA in Project.
	Stop Monitoring	Online -> Stop Monitoring	Close to monitor whole of NA in Project.

■ [Validation] Toolbar



Icon	Title	Menu	Description
	Project Validation	Edit -> Check Validation -> Project	Check setup error in the selected project
	NA Validation	Edit -> Check Validation -> NA	Check setup error in the selected NA

■ [Document] Toolbar

Icon	Title	Menu	Description
	Project Documentation	File -> Documentation -> Project	Make documentation as desired in the selected project

	NA Documentation	File -> Documentation ->NA	Make documentation as the setting of selected NA
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■ [Inquiry] Toolbar

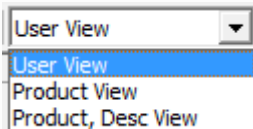
Icon	Title	Menu	Description
	Project Documentation	File -> Documentation -> Project	Make documentation as desired in the selected project
	NA Documentation	File -> Documentation-> NA	Make documentation as the setting of selected NA

3.3. Project Window

At Project Window, users can find the products and some info related to each project.

At Toolbar, users can set the suitable mode through three view modes.

Three View modes)

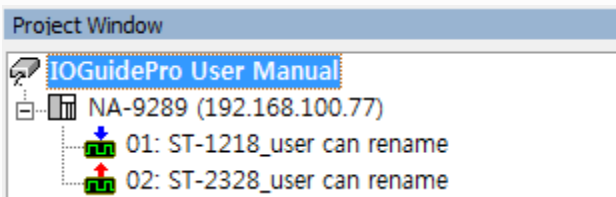


Three View modes are as follows:

Mode	Description
User View	Show the name registered by a user.
Product View	Show the product name only.
Product, Desc View	Show the product name, the main function and the brief spec.

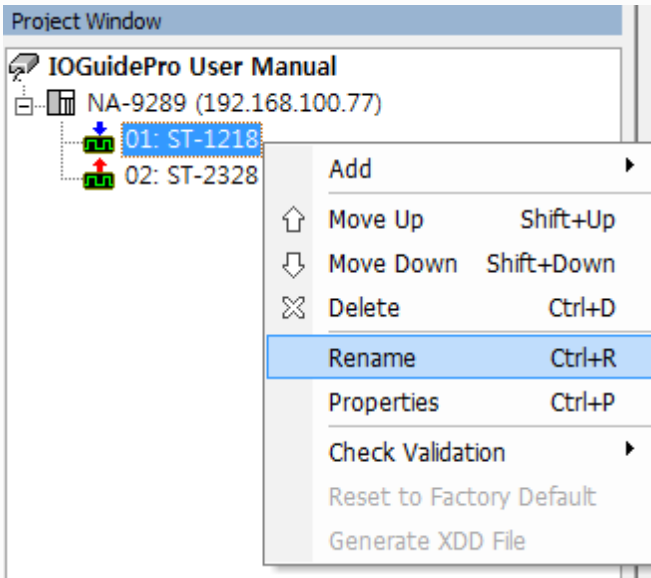
3.3.1. User View

User View shows the name registered by a user as below.

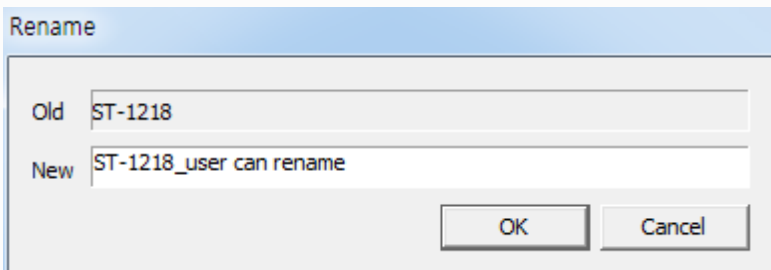


How to rename

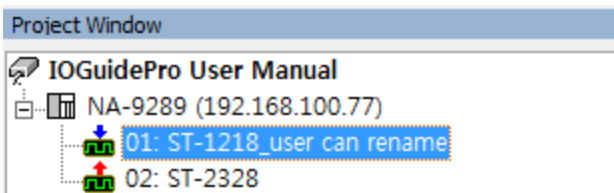
Step 1. Select the product with right-clicking and click 'Rename'. (Hot key: Ctrl+R)



Step 2. When Rename message box is created, enter the name in the New box.

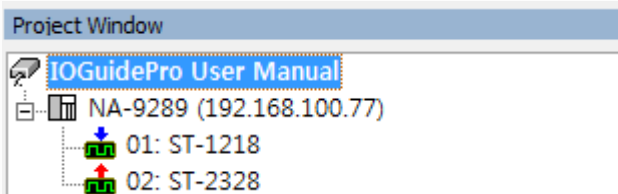


Step 3. Clicking the OK button, the renamed one will be shown as below.



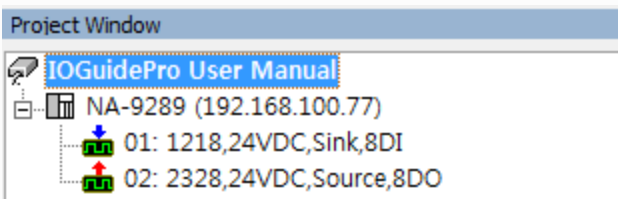
3.3.2. Product View

Product View only shows the product name as below.



3.3.3. Product, Desc View

Product, Desc View shows the product name, main function, and brief spec as below.



3.4. Log Message Window

Log Message Window has five tabs as below. Refer to the following table for more details.

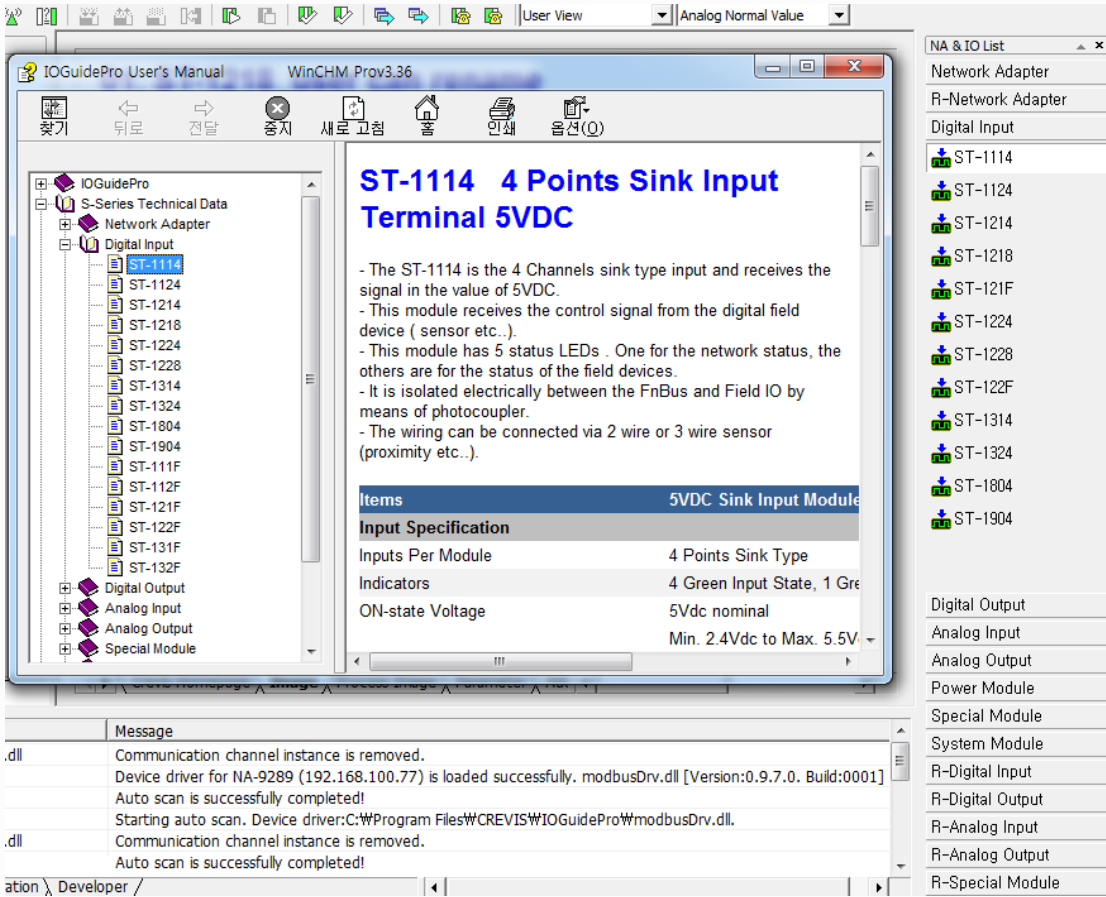
Date	Time	From	Message
2016-11-01	21:46:37.813	modbusDrv.dll	Communication channel instance is removed.
2016-11-01	21:46:37.812	IOGuidePro	Device driver for NA-9289 (192.168.100.77) is loaded successfully. modbusDrv.dll [Version:0.9.7.0. Build:0001]
2016-11-01	21:46:32.679	IOGuidePro	Auto scan is successfully completed!
2016-11-01	21:46:32.678	IOGuidePro	Starting auto scan. Device driver:C:\Program Files\CREVIS\IOGuidePro\modbusDrv.dll.
2016-11-01	21:45:48.332	modbusDrv.dll	Communication channel instance is removed.
2016-11-01	21:45:43.083	IOGuidePro	Auto scan is successfully completed!

Log Message Window Tab function)

Tab	Description
All	Show all of Log such as Error, General, Communication, etc.
Error	Show Log about the error has occurred.
General	Show Log about the general function. (Auto scan, Download, etc.)
Communication	Show Log about communication.
Developer	Show Log about technical support and cautions.

3.5. Network Adapter & IO List Window

Clicking the product, you can see spec, diagram, LED status, etc. through IO Guide Pro Help file. See below.



4. Main Window

4.1. Crevis Homepage Tab



4.2. Image Tab

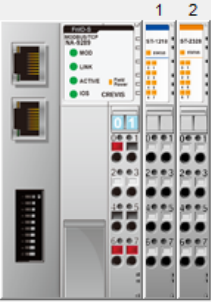
At Image Tab, users can find the Description, Specification and pictures of products.

ex) Network Adapter: Description, Total Current, Total Size.

Network Adapter

NA-9289 (192.168.100.77)

Description NA-9289 TCP(UDP) Network Adapter
Total Current 95 mA (Max. 1500 mA @ 5VDC)
Total Size Width: 70, Height: 99, Length: 78 (mm)




◀▶ \ Crevis Homepage \ **Image** \ Process Image \ Parameter \ Address Map \ Comment /

I/O

01: ST-1218

Description ST-1218, 24VDC, Sink, 8DI
Specification ON-state Voltage: 24Vdc nominal. Min. 11Vdc to Max. 28.8Vdc
Power Dissipation: Max. 35 mA @ 5.0Vdc



◀▶ \ Crevis Homepage \ **Image** \ Process Image \ Parameter \ Address Map \ Comment /

4.3. Process Image Tab

At Process Image Tab, the output value of real I/O can be set up through Project Value and the input value can be found through Online Value.

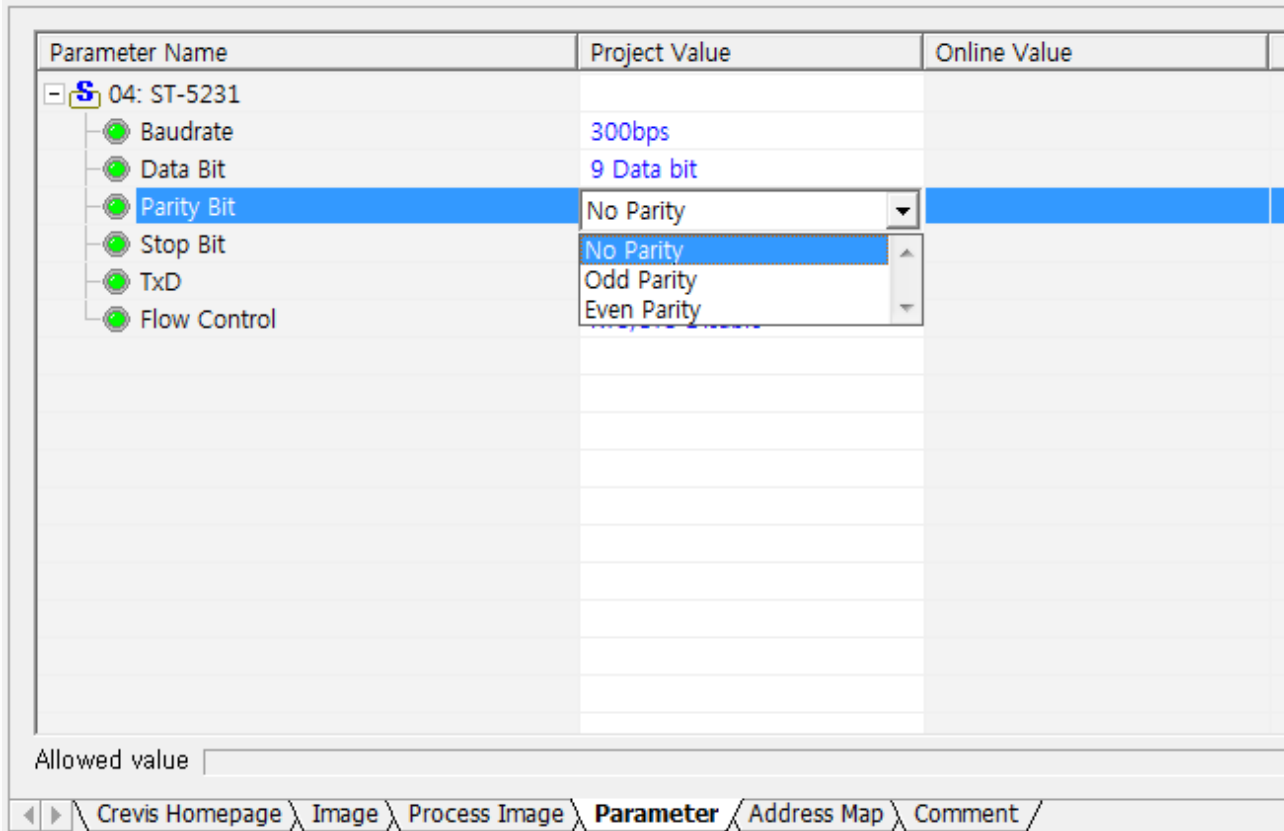
Channel Name	Type	Project Value	Online Value	Unit
02: ST-2328				
<input checked="" type="radio"/> Digital Output #00	DO	1	1	
<input checked="" type="radio"/> Digital Output #01	DO	0	0	
<input checked="" type="radio"/> Digital Output #02	DO	1	1	
<input checked="" type="radio"/> Digital Output #03	DO	0	0	
<input checked="" type="radio"/> Digital Output #04	DO	1	1	
<input checked="" type="radio"/> Digital Output #05	DO	0	0	
<input checked="" type="radio"/> Digital Output #06	DO	1	1	
<input checked="" type="radio"/> Digital Output #07	DO	0	0	

Allowed value Integer, Must be 0 ~ 1.

[Crevis Homepage](#) \
 [Image](#) \
 [Process Image](#) \
 [Parameter](#) \
 [Address Map](#) \
 [Comment](#) /

4.4. Parameter Tab

At Parameter Tab, users can check the parameter of corresponding I/Os and set up as well.



4.5. Address Map Tab

Address Map Tab shows the Address info of I/O set-up.

Input Mode: #2 Uncompressed Input Processing Data without Status Output Mode: #0 Uncompressed Output Processing Data					
Slot# / Model	Ch#	Input Word	Input Bit	Output Word	Output Bit
NA-9289 (192.168.100.77)					
<input type="checkbox"/> 01: ST-1218	0	0x0000/00	0x0000		
	1	0x0000/01	0x0001		
	2	0x0000/02	0x0002		
	3	0x0000/03	0x0003		
	4	0x0000/04	0x0004		
	5	0x0000/05	0x0005		
	6	0x0000/06	0x0006		
	7	0x0000/07	0x0007		
<input type="checkbox"/> 02: ST-2328	0			0x0800/00	0x1000
	1			0x0800/01	0x1001
	2			0x0800/02	0x1002
	3			0x0800/03	0x1003
	4			0x0800/04	0x1004
	5			0x0800/05	0x1005
	6			0x0800/06	0x1006
	7			0x0800/07	0x1007
<input type="checkbox"/> 03: ST-3702	0	0x0000/08	0x0008		
<input type="checkbox"/> 04: ST-5231	0	0x0002/08	0x0028	0x0800/08	0x1008

* Address value will be changed depending on project value.

[Crevis Homepage](#) \
 [Image](#) \
 [Process Image](#) \
 [Parameter](#) \
[Address Map](#) \
 [Comment](#)

4.6. Comment Tab

Users can write anything at Comment Tab.



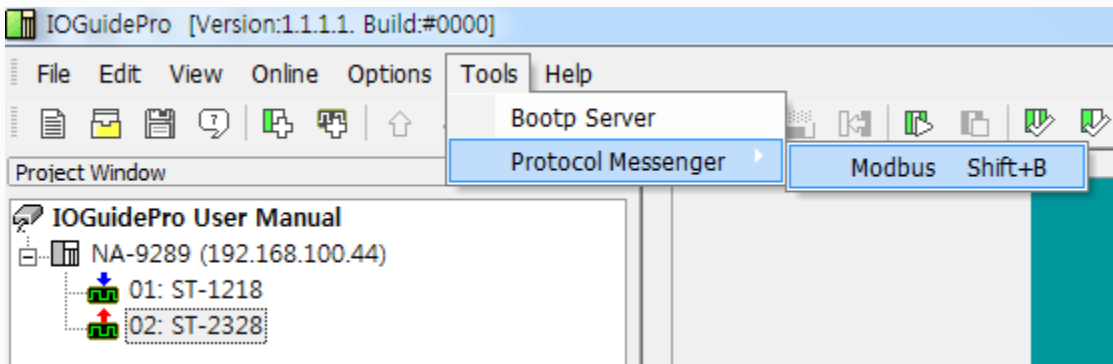
5. Protocol Messenger

IO Guide pro supports for Protocol Messenger of MODBUS module.

Users can run the messenger through Modbus TCP and Modbus RTU. See below for more details.

How to run Modbus Protocol Messenger (Hot key : Shift+B)

Main Menu -> Tools -> Protocol Messenger -> Click 'Modbus'



5.1. Modbus TCP

Step 1. Select the Protocol with Modbus TCP and enter IP Address.

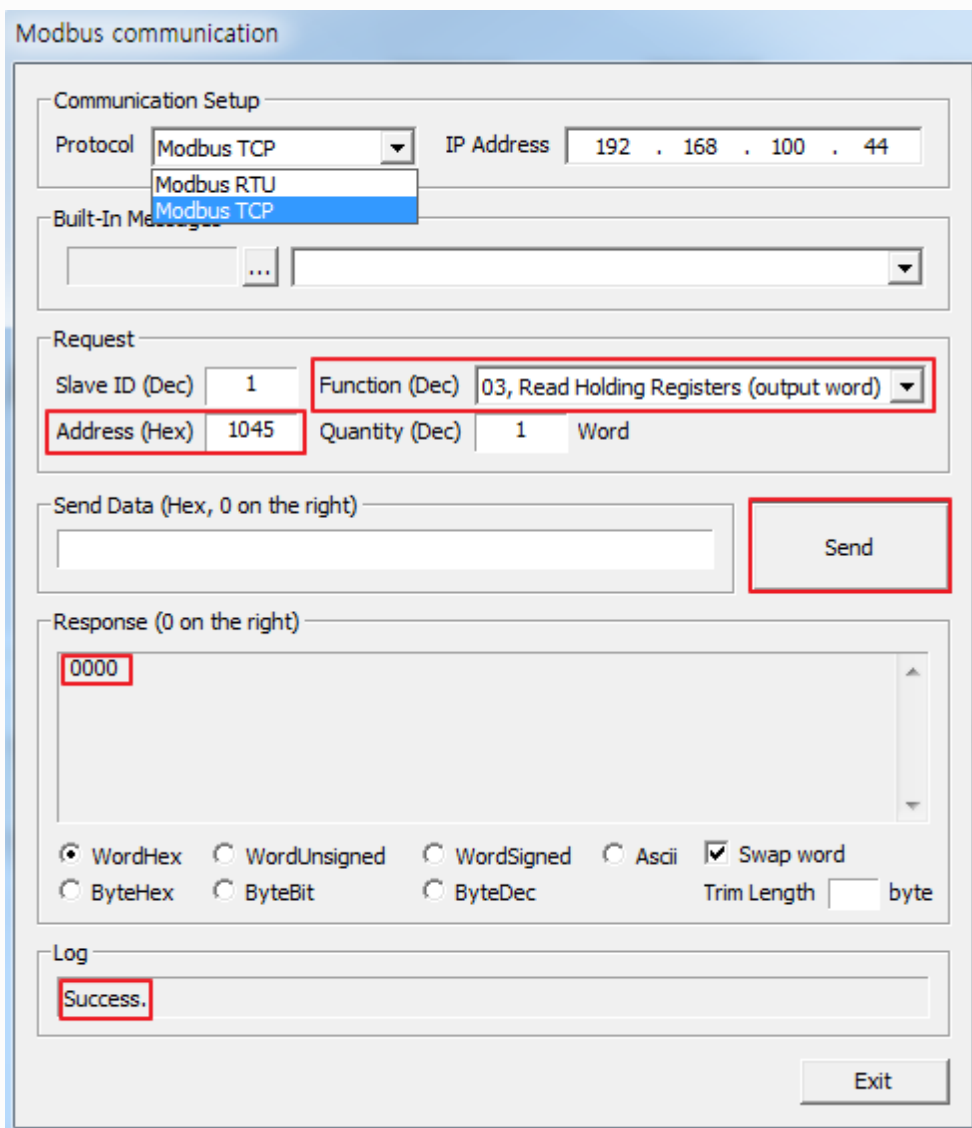
The screenshot displays the 'Modbus communication' configuration window. The 'Communication Setup' section has 'Modbus TCP' selected in the Protocol dropdown and '192 . 168 . 100 . 44' entered in the IP Address field. The 'Request' section shows Slave ID (Dec) as 1, Function (Dec) as 03 (Read Holding Registers), Address (Hex) as 1045, and Quantity (Dec) as 1. The 'Response' section shows '0000' and 'WordHex' selected. The 'Log' section shows 'Success.'

Step 2. The following example: 0x1045 will be used for IP setting of Special Register of NA-9289.

0x1045(4165)*	Read/Write	1word	IP Setting Method.	0: BOOTP, 1:DHCP
---------------	------------	-------	--------------------	------------------

Step 3. Register SET-UP(Read)

Set up the Function code with '03' and enter the Address, '1045'.
click the 'Send' button, you will find the value '0000' on the Response box.
(0=BOOTP, 1=DHCP)



Step 4. Register SET-UP(Write)

Set up the Function code with '16' and enter the Address, '1045'.

Entering '0001' in Send Data and click the 'Send' button, you will find the value '0100' (shown in reverse with Swap word set-up) on the Response box.

* Power off and then power on, this value is applied.

The screenshot displays the 'Modbus communication' window with the following settings:

- Communication Setup:** Protocol: Modbus TCP, IP Address: 192 . 168 . 100 . 45
- Built-In Messages:** (Empty)
- Request:** Slave ID (Dec): 1, Function (Dec): 16, Write Multiple registers (output words), Address (Hex): 1045, Quantity (Dec): 1, Word
- Send Data (Hex, 0 on the right):** 0001
- Response (0 on the right):** 0100
- Word Format:** WordHex, WordUnsigned, WordSigned, Ascii, Swap word, ByteHex, ByteBit, ByteDec, Trim Length: [] byte
- Log:** Success.

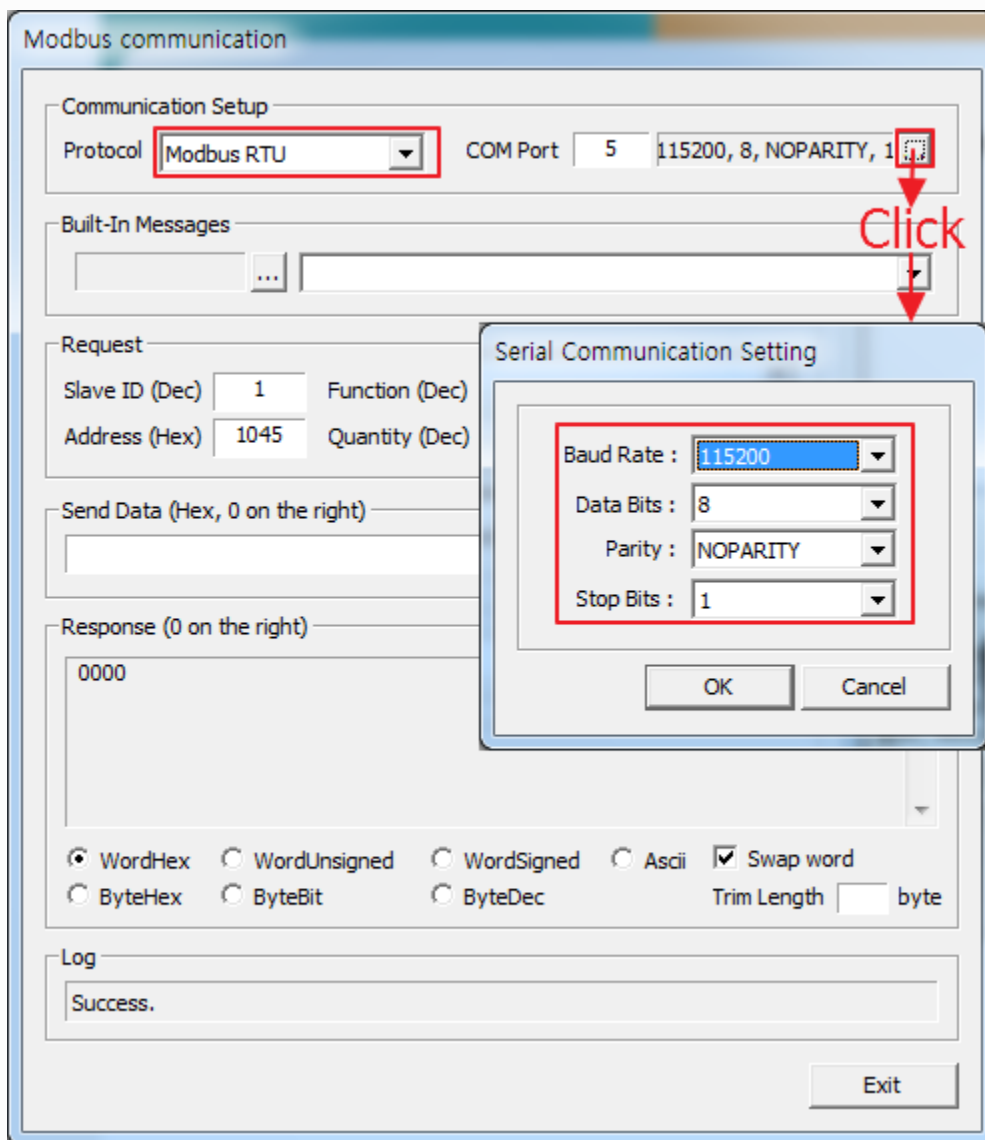
5.2. Modbus RTU

Step 1. Select the Protocol with 'Modbus RTU', and set-up the COM Port.

Input the data as shown in the following on Serial Communication Setting and click the OK button.

※ Refer to the following Serial Configuration

Serial Configuration (RS232)	Node : 1 (Fixed)
	Baud Rate : 115200 (Fixed)
	Data bit : 8 (Fixed)
	Parity bit : No parity (Fixed)
	Stop bit : 1 (Fixed)



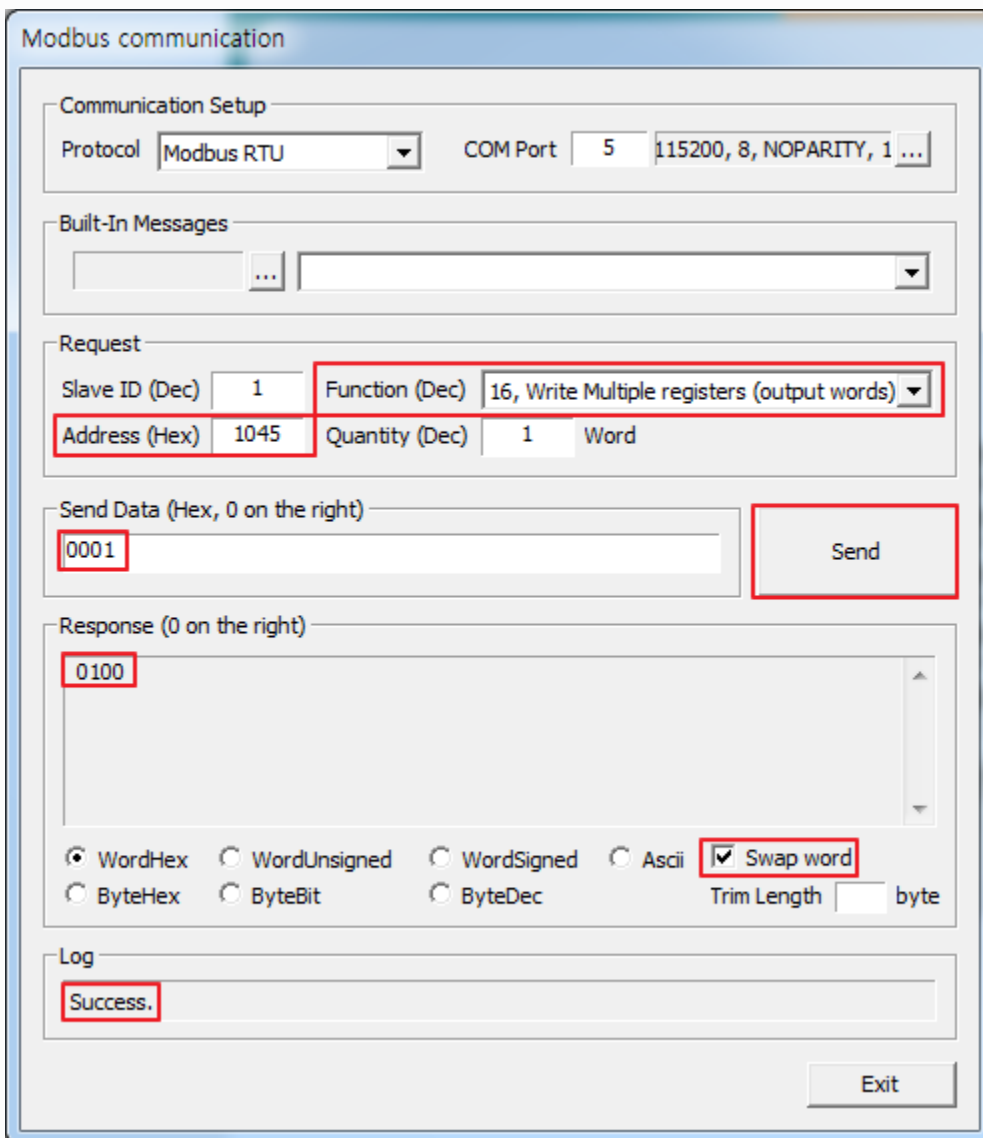
Step 2. Register SET-UP(Write)

Set up the Function code with '16' and enter the Address, '1045'.

Entering '0001' in Send Data and click the 'Send' button, you will find the value '0100' (shown in reverse with Swap word set-up) that you already set up in Register Write.

(0 = BOOTP, 1 = DHCP)

* Power off and then power on, this value is applied.



Step 3. Register SET-UP(Read)

After turning Off/On the power in the above Register Write process, Set the Com Port and Serial Communication again.

Set up the Function code with '03' and enter the Address, '1045'. When click the 'Send' button, you will find the value '0100' (shown in reverse with Swap word set-up) that you already set up in Register Write. (0 = BOOTP, 1 = DHCP)

The screenshot displays the 'Modbus communication' window with the following settings:

- Communication Setup:** Protocol: Modbus RTU, COM Port: 5, Baud Rate: 115200, 8, NOPARITY, 1.
- Built-In Messages:** Empty.
- Request:** Slave ID (Dec): 1, Function (Dec): 03, Read Holding Registers (output word), Address (Hex): 1045, Quantity (Dec): 1, Word.
- Send Data (Hex, 0 on the right):** Empty text box.
- Response (0 on the right):** 0100.
- Options:** WordHex (selected), WordUnsigned, WordSigned, Ascii, Swap word (checked), ByteHex, ByteBit, ByteDec, Trim Length: 0 byte.
- Log:** Success.
- Buttons:** Send, Exit.

6. Project Documentation

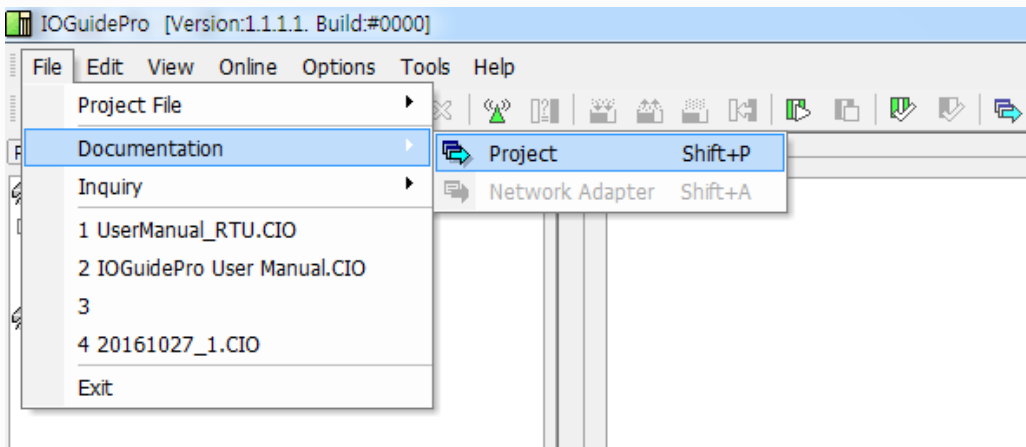
In IO Guide Pro, the Project information about product, q'ty, Address Map, Parameter, etc. can be extracted into EXCEL and PDF.

Project Documentation (Hot key : Shift + P)

or Press the Shift key with 'B'. (Hot key: Shift+B)

1. Click the below Toolbar.

2. Main Menu -> File -> Documentation -> 'Click 'Project'






Project Documentation Sample)

Fnio Project Report

Project Name	IOGuidePro User Manual
Date	11/03/2016
Bus Type	MODBUS TCP/IP




Page 1 of 8

1. Project Overview

Name	Model	No	Description
 NA-9289	NA-9289	0	NA-9289 TCP(UDP) IP Address: 192.168.100.77
 ST-1218	ST-1218	1	1218,24VDC,Sink,8DI
 ST-2328	ST-2328	2	2328,24VDC,Source,8DO

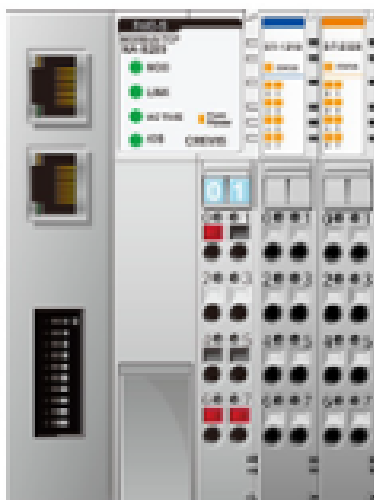
2.1. Node Overview

Node Name	NA-9289
Description	NA-9289 TCP(UDP) Network Adapter
Communication	IP Address: 192.168.100.77
Input mode	2
Output mode	0

Name	Model	No.	Description
 NA-9289	NA-9289	0	NA-9289 TCP(UDP)
 ST-1218	ST-1218	1	1218,24VDC,Sink,8DI
 ST-2328	ST-2328	2	2328,24VDC,Source,8DO

2.1.1. Image View

Dimension (Width x Height x Length) : 70 x 99 x 78



2.1.2. Address Map

Name	Type	Ch	Bit Size	Input		Output	
				Word	Bit	Word	Bit
NA-9289							
ST-1218	DI	0	1	0x0000/00	0x0000		
	DI	1	1	0x0000/01	0x0001		
	DI	2	1	0x0000/02	0x0002		
	DI	3	1	0x0000/03	0x0003		
	DI	4	1	0x0000/04	0x0004		
	DI	5	1	0x0000/05	0x0005		
	DI	6	1	0x0000/06	0x0006		
	DI	7	1	0x0000/07	0x0007		
ST-2328	DO	0	1			0x0800/00	0x1000
	DO	1	1			0x0800/01	0x1001
	DO	2	1			0x0800/02	0x1002
	DO	3	1			0x0800/03	0x1003
	DO	4	1			0x0800/04	0x1004
	DO	5	1			0x0800/05	0x1005
	DO	6	1			0x0800/06	0x1006
	DO	7	1			0x0800/07	0x1007

2.1.3. Parameters

Name	Name	Value
NA-9289	Input Image Mode	2
	Output Image Mode	0
	Watchdog Time (X 100 msec)	0
	IPSettingMethod	BOOTP
ST-1218		
ST-2328	IO Fault Action Channel 0	Fault value
	IO Fault Action Channel 1	Fault value
	IO Fault Action Channel 2	Fault value
	IO Fault Action Channel 3	Fault value
	IO Fault Action Channel 4	Fault value
	IO Fault Action Channel 5	Fault value
	IO Fault Action Channel 6	Fault value
	IO Fault Action Channel 7	Fault value
	IO Fault Value Channel 0	OFF
	IO Fault Value Channel 1	OFF
	IO Fault Value Channel 2	OFF
	IO Fault Value Channel 3	OFF
	IO Fault Value Channel 4	OFF
	IO Fault Value Channel 5	OFF
	IO Fault Value Channel 6	OFF
	IO Fault Value Channel 7	OFF

2.1.4. Inquiry

No.	Model	Part Number	Quantity
1	NA-9289	NA9289	1
2	ST-1218	ST-1218	1
3	ST-2328	ST-2328	1

3. Project Inquiry

No.	Model	Part Number	Quantity
1	NA-9289	NA9289	1
2	ST-1218	ST-1218	1
3	ST-2328	ST-2328	1