Yottacontrol

A-1 Serial Remote I/O Module

User Manual

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Catalogue

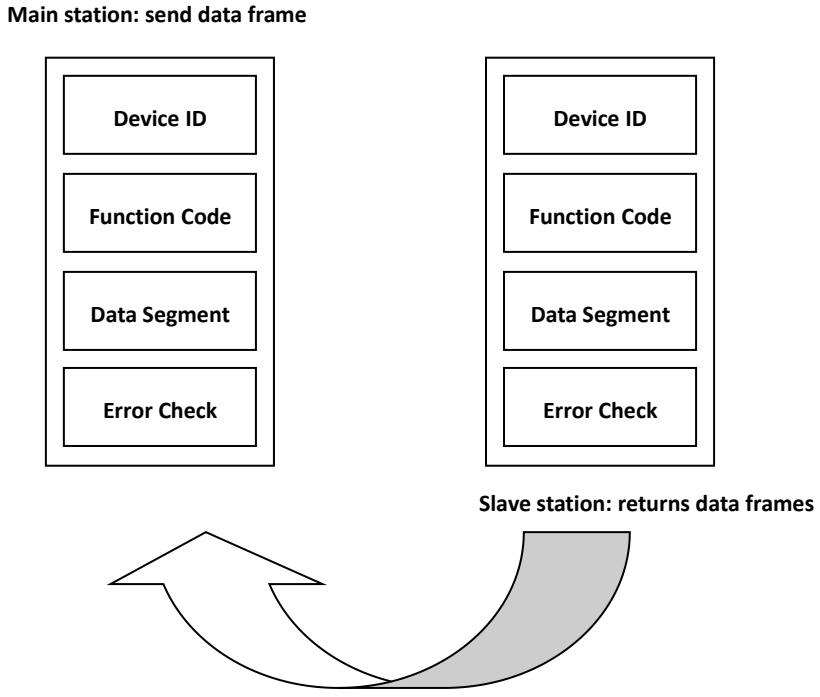
This document contains the Modbus protocol of the Yottacontrol remote I/O module, the register address table, the general use of the I/O module, and the communication adjustment with other devices.

1.The introduction of Modbus protocol

The Modbus protocol was developed by Modicon as a communications transmission protocol. In 1979 the company became part of the Schneider Automation division. Now Modbus has been widely used in the industrial field which is the most popular, the most widely open, standard network communication protocol. This protocol supports traditional RS-232, RS-422, RS-485 and Ethernet devices. Many industrial equipment, including PLC, DCS, smart meters, I/O modules are using the Modbus protocol as its communication standard.

1.1 Modbus protocol master-slave response process

The Modbus protocol specifies the way of the message, the structure of the data, and the command and the response mode. The data communication adopts the Maser/Slave mode, that is, the communication is specified as "master" and "slave". The data request message from master, the slave receives the correct message, responds to the request and responds to the data to the master; the master can also issue a command message to modify the slave data. The master station can send a communication request to multiple slaves, and each slave has a unique device address and identifies the message sent by the master station by address. The command and response process is as follows:



Command response process of Modbus master slave

Master and slave command response process Description: The master station works as the command

initiator, initiative to send a command message frame to the specified slave device, requiring the register area of the data to read or write, and the slave received host command. After receiving the main station message frame, in the first instance, slave determine the device address. If it is sent to the slave itself, according to the function code to make the relevant response. Based on the function code to form a data frame or operation response frame, then response to the main station. If it is not the site address, then discard the message frame, continue to wait for the master command frame. After the master sends the command frame, if the receive response frame is correct, indicating that the communication response process is complete. If the master does not receive a response frame from the slave within the agreed time, the communication with the slave fails. If the master station sends a command frame from the station that can not be identified or the slave can not meet the command frame requirements of the master station, for example: reading data beyond the address range of the slave register, the slave will also respond to the message frame containing the error message. The master station can use the error message to determine the cause of the error.

1.2 Modbus register area and commonly used function code

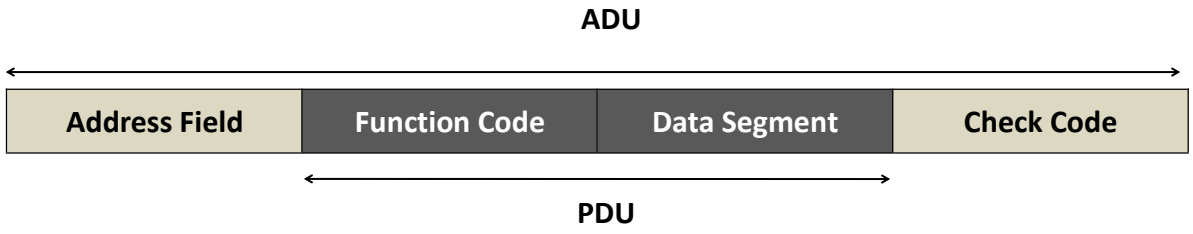
Modbus protocol definition, contains a total of four kinds of register area and a variety of function codes. Different function codes represent different operations on different register area data. The commonly used function code for Modbus register area that Yottacontrol remote I / O module support is shown in the following table:

Register	Read Function Code	Write Function Code	Function code description	Examples
1 Area-Input Relay	02	-	02: Read input status	10001 Input Relay ,Address1
0 Area-Output Relay	01	05, 15	01: Read coil status 05: Write single coil 15: Write multiple coils	00002 Output Coil, Address 2
3 Area-Input Register	04	-	04: Read input register	30005 Input Register, Address 5
4 Area-Output Register	03	06, 16	03: Read Holding Registers 06: Write single register 16: Write multiple register	40001 Holding Register, Address 1

Note: where the output relay is also called the coil, the output register is also called the holding register

2. Modbus protocol frame format

The Modbus protocol defines a simple protocol data unit (PDU) that is independent of the underlying communication layer. Modbus protocol mapping on a specific bus or network can introduce additional fields on the application data unit (ADU). The Modbus general frame format is as follows:



Modbus General Frame Format

According to the protocol format and bus mode, Modbus protocol can be divided into RTU, TCP and ASCII three formats.

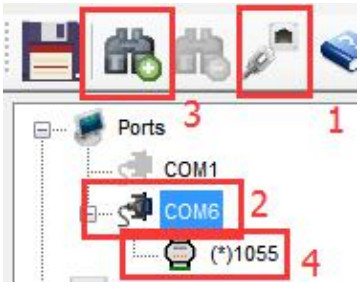
3. Basic use of I/O modules and configuration methods of parameters

3.1 The basic hardware connection of the module

A-1 series remote I/O module power interface and communication interface as follows:

(R)+VS	Work power positive
(B)GND	Work power negative
(Y)DATA+	RS-485+
(G)DATA-	RS-485-
RJ-45(Ethernet)	Ethernet interface (Only A-18 series)

3.2 Modification of module parameters



1) Switch on the back of the module to Init mode before turning on the module.

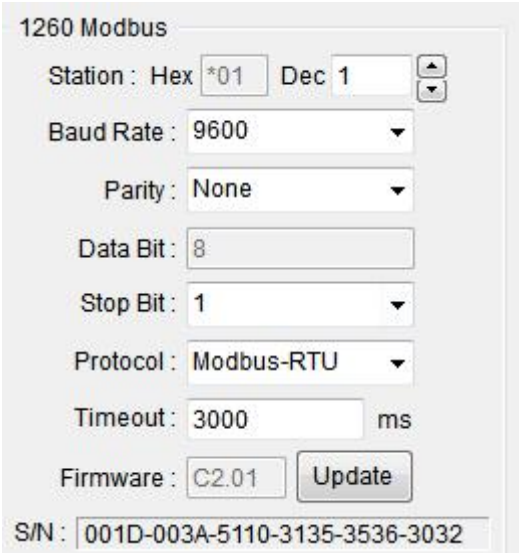
2) Through the RS-485 or USB port or Ethernet port to connect computer, open **Yotta Utility** software.

3) Click scan Communication serial port or IP (A-18 in the mode of Init of IP is 192.168.1.1)

4)Click on the communication serial port that computer captured and then click on the search module.

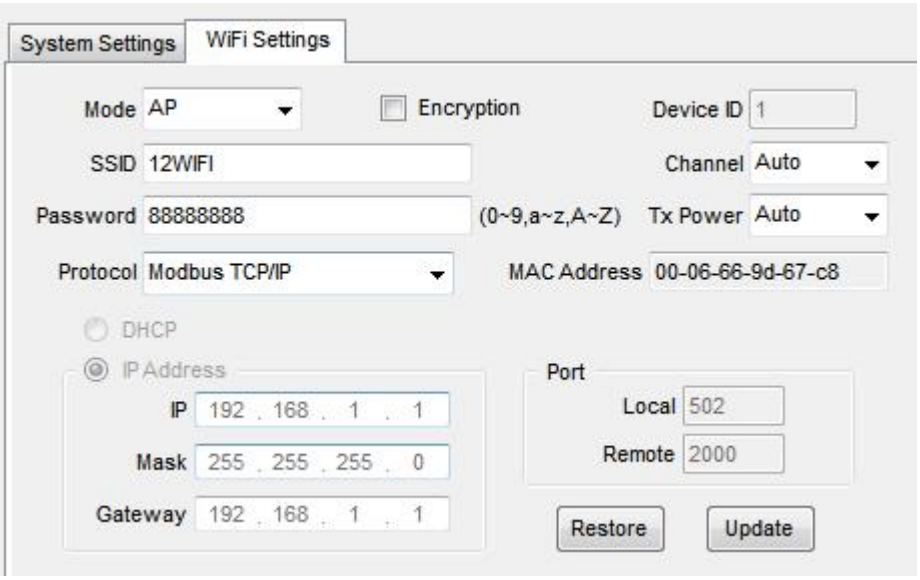
5) Search out the connected module, click on the bottom of the icon and then the module will appear parameter configuration interface.

6) communication parameter configuration, as below:



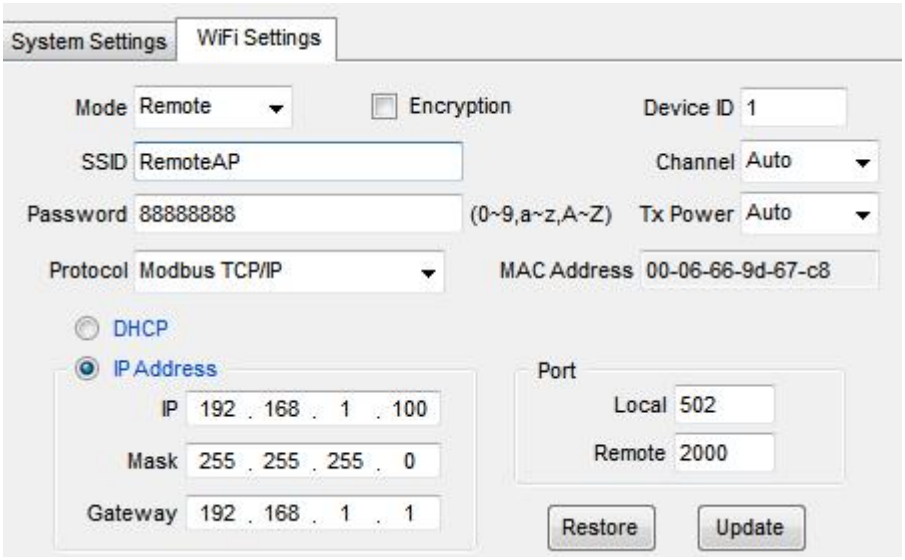
- You can set the following parameters according to your needs and press the Update button to save the Station setting: 1 to 255 (decimal)
- Baud Rate: 1200, 2400, 4800, 9600, 14.4K, 19.2K, 28.8K, 38.4K, 57.6K, 115.2K, 230.4K (bps)
- Parity: None/Odd/Even
- Data Bit: 8 (Not available to select)
- Stop Bit: 1,2
- Protocol：Modbus-RTU，Modbus-ASCII
- Note: If multiple modules are used on the same bus, set each I/O module to a different Station number. If two or more I/O modules must be set to the same station number, these same station number modules must be set to different baud rates or communication protocols. **For more detailed configuration instructions, see the help instructions in the Yotta Utility software menu bar.**

7)WiFi settings as shown below, the default WIFI work mode is the AP mode (that is, router mode), the default WIFI parameters shown in the left, in the AP mode, the laptop or mobile phone can be directly connected 12WIFI, and open the corresponding PC software which can be achieved with the communication. In AP mode, the module's IP address and device ID can not be modified, only the default parameters. Check for “Encryption” if you need.



8) Set the working mode to Remote if you need A-12xx module connected to the wireless router WIFI, then key in the WIFI SSID and Password. Note that SSID and Password only support 0-9, a-z, A-Z characters, do not support: -! @ # ¥% & * and other characters.

9) After the configuration, click the Update button, then switch on the back of module to Normal mode and re-power, so I/O module has been configured to complete.

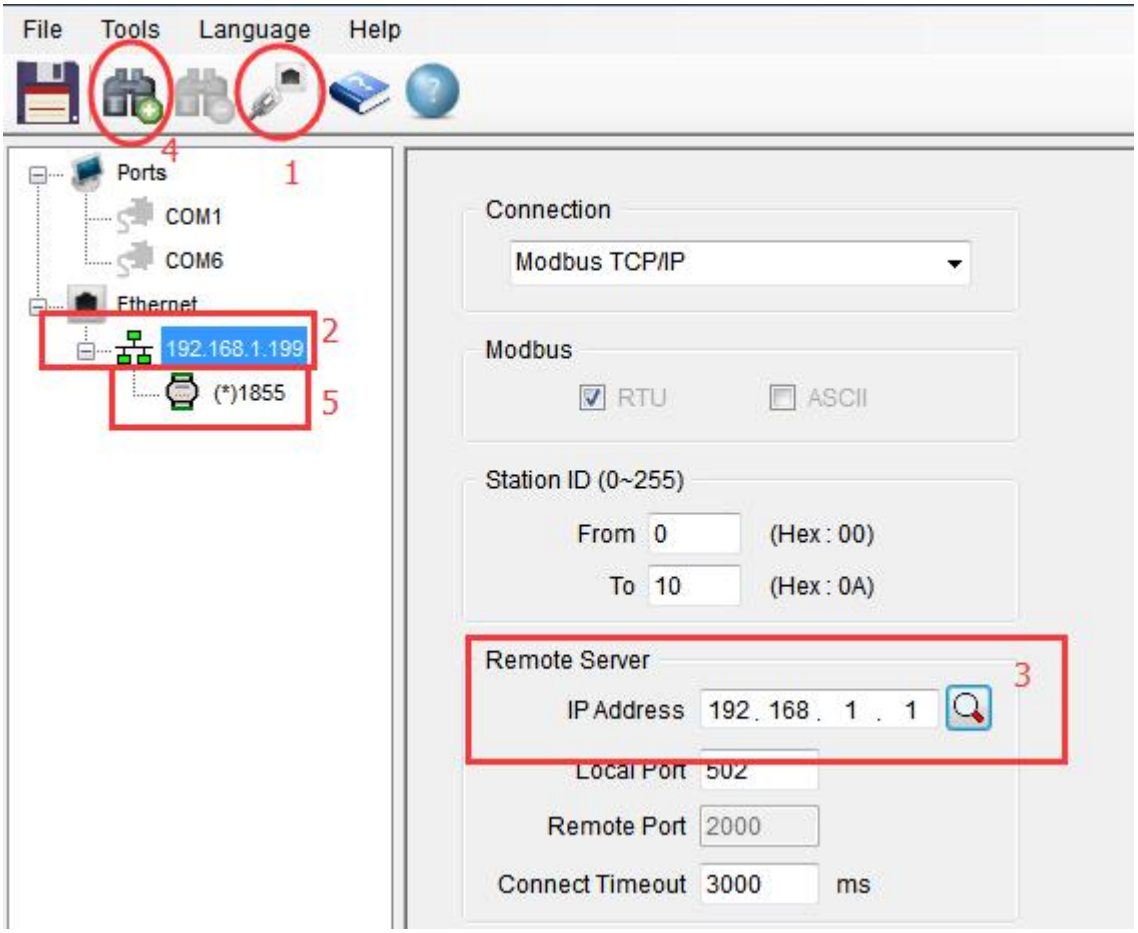


10) A-18 series Ethernet module configuration steps are as follows:

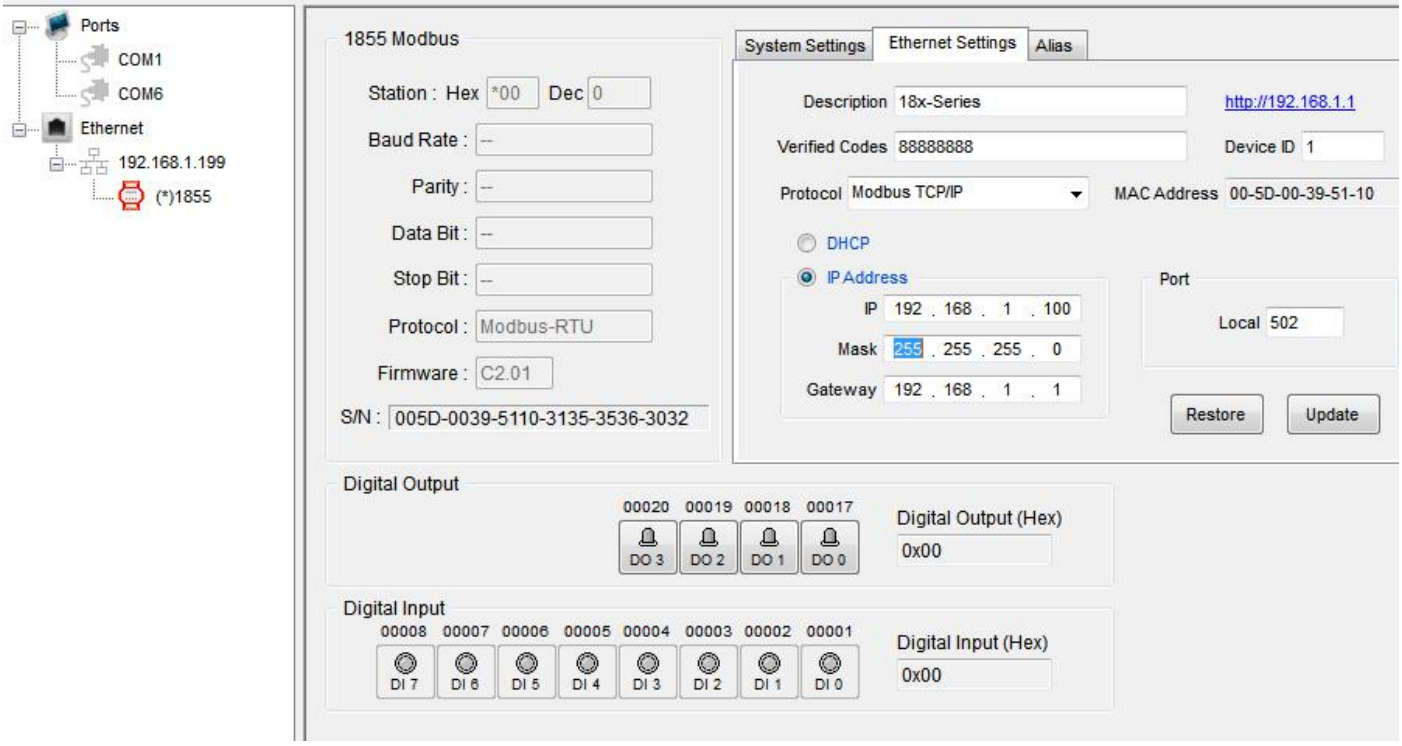
Switch on the back of the module to Init mode. Then connect to the PC through USB or Ethernet port.

Click **Ethernet** -> **Input IP Address** -> **Click Search Button**, (A-18 Serial Init mode IP is 192.168.1.1)

You can find the A-18 series module.



Click the ICON. Then it will appear the settings interface as bellow:



As shown above, you can complete the following parameter settings from the Ethernet settings menu:

Description： Device Name

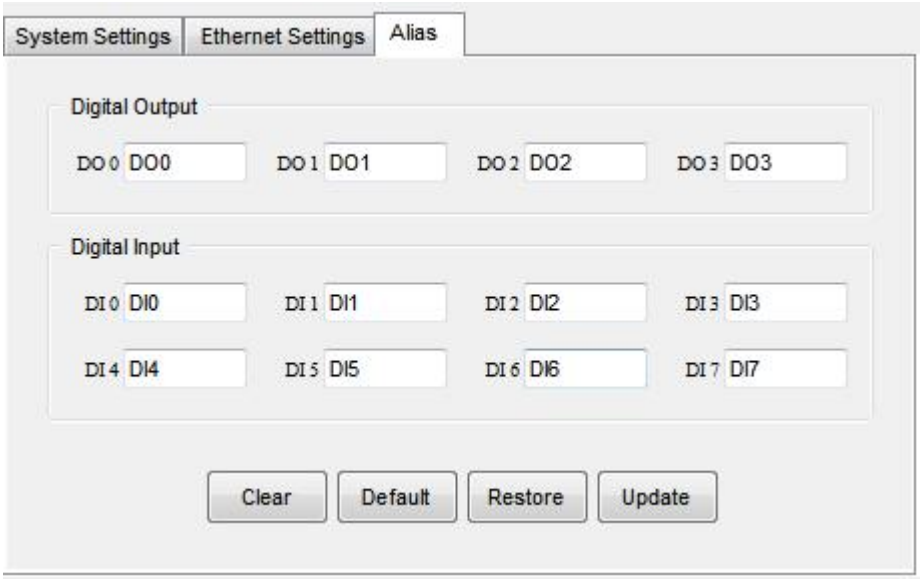
Verified Codes： Password Setting

Device ID： Device Number (1-255)

IP Address： Specify an IP Address

When the settings are complete, click the [update] button to complete the setting

Click on the top right corner of the http://192.168.1.1 address, access to web browser online monitoring function

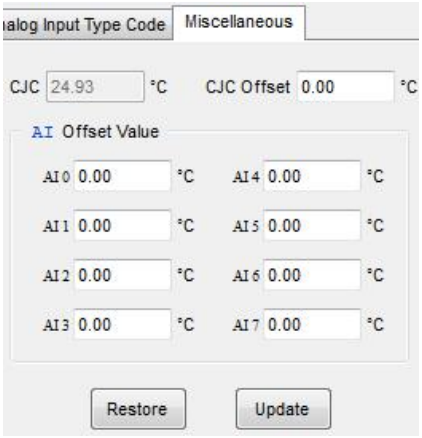


As shown above, you can define the input/output pin name by the alias menu, and click the [update] button when the name definition is completed.

3.3Analog input module configuration instructions(A-1019/A-1219/A-1819)

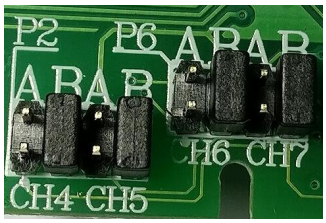
A-1019/A-1219/A-1819 Analog data acquisition module supports many different types of analog input.

If you need to set up the temperature compensation, choose the Thermocouple as shown on the right. After the setup is finished, click the “update” button.



A-1019/A-1219/A-1819 can support multiple Analog Input modes. When above PC software setup is completed, unscrew the device housing screws and remove the internal circuit board to set up the Analog Input Jumper Wire. Each Analog Input channel has its Jumper Pin. The initial setup is for 0/4-20mA. The jumper introduction is as below.

0/4-20mA: Pin A short



Thermistor: Pin B short

Thermocouple: Empty Pin A & B

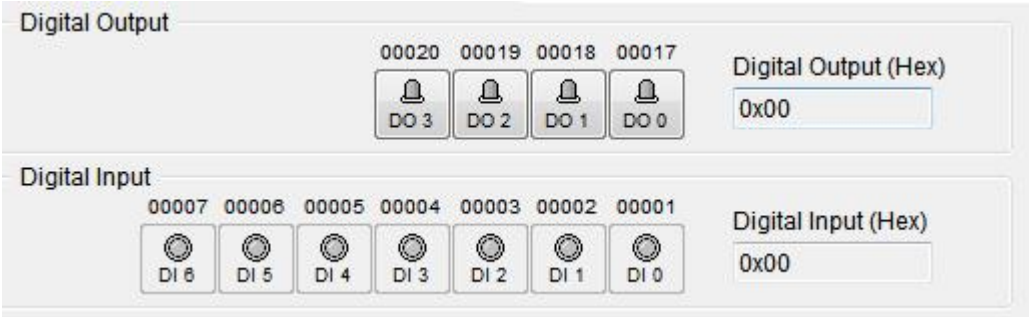
After completing above Jumper Wire setup, please put the circuit board back into the device housing and lock it. Turn its back switch to “Normal” mode and turn on the power. Then, it’s all done.

Note: If the setup of Analog Input mode for PC software isn’t in accordance with its Jumper Wire, the detected data will be in disorder.

5. Debugging and host computer communication

5.1 Debugging instructions

In the configuration software Yotta Utility interface below side(the module in the Init / Normal mode can have) have input and output status indicator & button. If there is input DI signal, then the corresponding software DI channel indicator light will be lit. Click on the DO button on the software interface, the module corresponding DO channel indicator will light up too. As shown in bellow, the corresponding analog input channel can also see the current input parameters.



Analog Input

	40001	40097		40129		40161		40609	40705	40801	40897
AI 0	0	0	V	0.0	V	0	%	0	0	0	0
AI 1	0	0	V	0.0	V	0	%	0	0	0	0
AI 2	0	0	V	0.0	V	0	%	0	0	0	0
AI 3	0	0	V	0.0	V	0	%	0	0	0	0

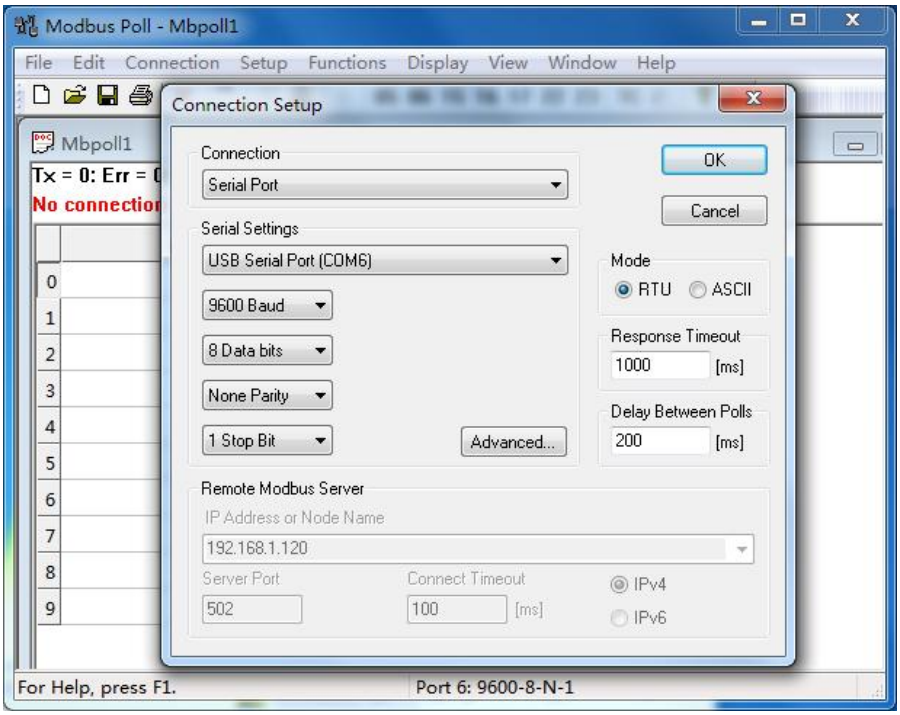
A-18 series can enter the corresponding IP address on the browser, can enter the web online monitoring function.

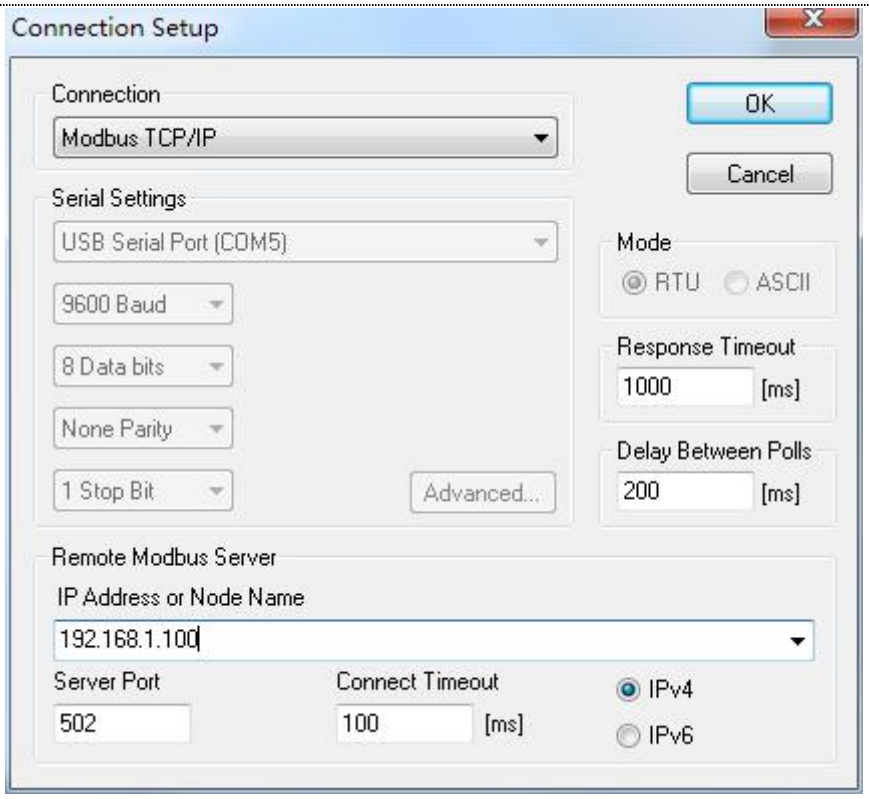
5.2 Module and host computer software communication

Yottacontrol I/O module can communicate with the host computer or PLC that supports the Modbus protocol, and can realize the decentralized I/O data acquisition. The following describes the Modbus debug software "Modbus Poll" and Yottacontrol I/O module communication.

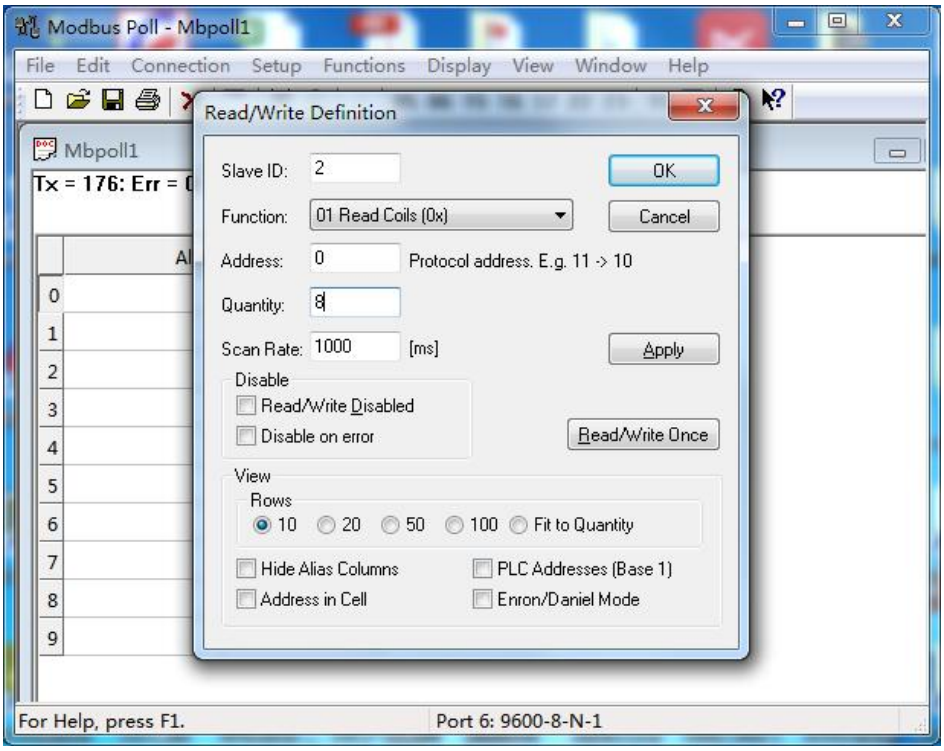
1) Connect the module power supply and communication cable correctly according to the above hardware connection.

2) Turn on the "Modbus Poll" software and select the correct communication protocol. Select Modbus RTU or Modbus ASCII using RS-485 port. Select Modbus TCP / IP using WIFI/Ethernet as shown below.



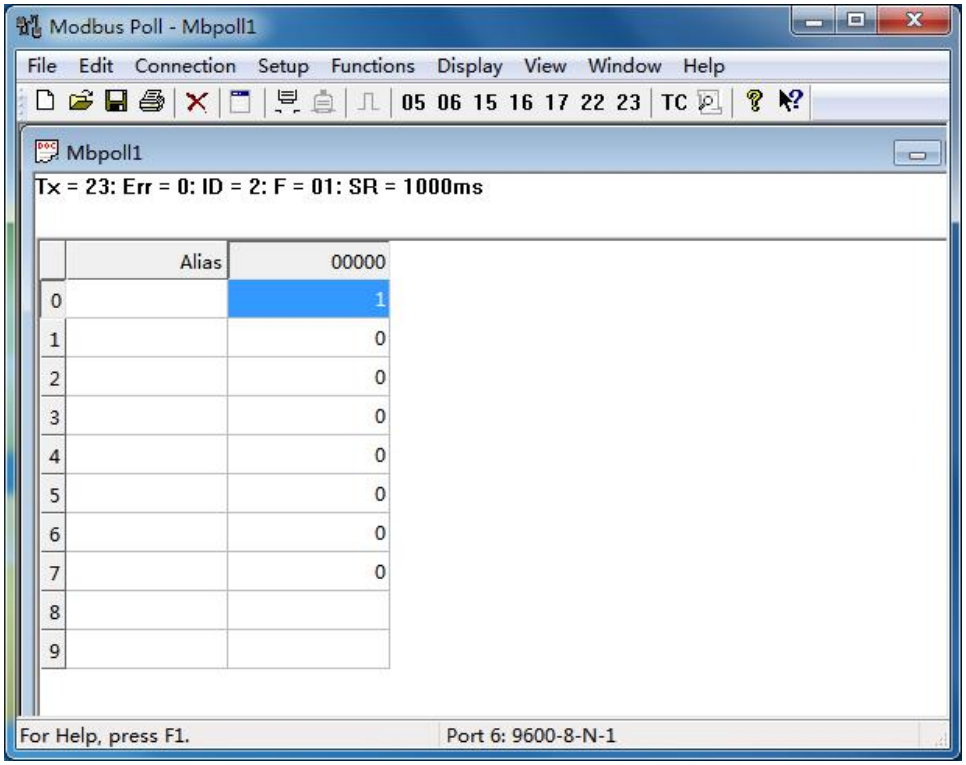


3) Click OK, right-click menu in the window, select Read / Write Definition or press the shortcut key F8.



4) In the dialog box to fill in the module corresponding Slave ID (station number), function code, the need to read address and the number of parameters.

5) Click OK, the window will appear the corresponding address table. You can find the corresponding address of the current register status.



Above for the Yottacontrol remote I/O module and the basic use of the host computer. More details can enter the Yottacontrol official website to understand, or directly contact with us.

6. Modbus Protocol Address Mapping

6.1 A-1057/1058/1068/1069/1051/1055/1055S/1060 Address Mapping

A-1051/A-1055/A-1055S/A-1069/A-1060				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00016	0~15 DI Input Signal	R	R	
00017~00032	0~15 DO Output Value	R/W	R/W	
00033~00048	0~15 Power On Digital Output Value	R	R/W	
00049~00064	0~15 Communication Fail Safe Value	R	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40065	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40211	Module Name 1	R	R	
40212	Module Name 2	R	R	

40213	Version 1	R	R	
40214	Version 2	R	R	
40300	Module's ID In Normal Mode	R	R/W	1~255
40301	Protocol In Normal Mode	R	R/W	0: RTU 1: ASCII
40302	Baud Rate In Normal Mode	R	R/W	1 : 2400 bps 2 : 4800 bps 3 : 9600 bps 4 : 14400 bps 5 : 19200 bps 6 : 28800 bps 7 : 38400 bps 8 : 57600 bps 9 : 115200 bps 10 : 230400 bps 11 : 460800 bps 12 : 921600 bps
40303	Parity Option In Normal Mode	R	R/W	0 : None 1 : Odd 2 : Even
40304	Stop Bits In Normal Mode	R	R/W	0 : 1 bit 1 : 2 bit
40305	Time Out Setting In Normal Mode	R	R/W	0~65535 m sec

6.2. A-1010 Address Mapping

A-1010				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**备注**
00001 ~ 00008	0 ~ 7 DI Input Signal	R	R	
00017 ~ 00020	0 ~ 3 Digital Output Value	R/W	R/W	
00033 ~ 00036	0 ~ 3 Power On Digital Output Value	R	R/W	
00049 ~ 00052	0 ~ 3 Communication Fail Safe Value	R	R/W	
04097 ~ 06144	0 ~ 2047 Auxiliary Memory (M Flag)	R/W	R/W	
06145 ~ 06400	0 ~ 255 Retentivity Auxiliary Memory (KM Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**备注**
40001 ~ 40008	0 ~ 7 Analog Input Value	R	R	0~1000: 0-10V
40017 ~ 40018	0 ~ 1 Analog Output Value	R/W	R/W	0~1000: 0-10V
40033 ~ 40034	0 ~ 1 Power On Analog Output Value	R	R/W	0~1000: 0-10V
40049 ~ 40050	0 ~ 1 Communication Fail Safe Analog Output Value	R	R/W	0~1000: 0-10V

40065	Communication Fail Safe Time Setting Value	R	R/W	0 ~ 65535: 0.0 ~ 6553.5 sec
40211	Module Name 1	R	R	
40212	Module Name 2	R	R	
40213	Soft Version 1	R	R	
40214	Soft Version 2	R	R	
40215	Communication Safety Enabled	R	R	
40216	Communication Safety Flag	R	R	
40217 ~ 40222	1~6 Mac Serial Number	R	R	
40223	Mac Internal Temperature（℃）	R	R	
40224	History Temperature_Min（℃）	R	R	
40225	History Temperature_Max（℃）	R	R	
40300	Module's ID In Norma Mode	R	R/W	1 ~ 255
40301	Protocol In Normal Mode	R	R/W	0:RTU 1:ASCII
40302	Baud Rate In Normal Mode	R	R/W	#1
40303	Parity Option In Normal Mode	R	R/W	0: None 1: Odd 2: Even
40304	Stop Bits In Normal Mode	R	R/W	0:1bit 1:2bit
40305	Normal Mode Time Out Setting	R	R/W	0 ~ 65535: 0.0 ~ 6553.5 sec
40409 ~ 40416	0~7 Input Signal Count Value (16-BIT)	R/W	R/W	0~0xFFFF
40425 ~ 40439	0~7 Input Signal Count Value (32-BIT)	R/W	R/W	0~0xFFFFFFFF
40457 ~ 40485	0~7 Input Signal Count Value (64-BIT)	R/W	R/W	0~0xFFFFFFFFFFFFFFFF
40521 ~ 40528	0~7 Analog Input hi-lo level Value	R	R/W	0~1000:(ex:350=3.5V), default
44001 ~ 46048	0~2047 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0 ~ 65535
46409 ~ 46112	0~63 Retentivity Analog Auxiliary Memory (KAM Flag)	R/W	R/W	0 ~ 65535

6.3. A-1012 Address Mapping

A-1012				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00002	0~1 DI Input Signal	R	R	

00017~00018	0~1 DO Output Value	R/W	R/W	
00033~00034	0~1 Power On Digital Output Value	R	R/W	
00049~00050	0~1 Communication Fail Safe Value	R	R/W	
00065~00066	0~1 Burn-out Signal	R	R	1:Burn-out (4~20mA only)
00067~00068	2~3 Burn-out Signal	R	R	1:Burn-out
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40002	0~1 Current Input Value	R	R	0~20000:0/4~20mA
40003~40004	2~3 Current Input Value	R	R	0~8000:-200~+600° C
40017~40018	0~1 Current Output Value	R/W	R/W	0~4000:0/4~20mA
40033~40034	Power On Analog Output Value	R	R/W	0~4000:0/4~20mA
40049~40050	0~1 Communication Fail Safe Analog Output Value	R	R/W	0~4000:0/4~20mA
40065~40066	0~1 Input Type Code	R	R/W	0:4~20mA 1: 0~20mA
40067~40068	2~3 Input Type Code	R	R/W	0:PT-100 α = 0.00385 1:PT-100 α = 0.003916 2:PT-1000 α = 0.00385 3:PT-1000 α = 0.003916
40081~40082	0~1 Output Type Code	R	R/W	0:4~20mA 1: 0~20mA
40097~40098	0~1 Current Input Value	R	R	4/0~20:4/0~20mA
40099~40100	2~3 Current Input Value	R	R	-200~+600:-200~+600° C
40113~40114	0~1 Current Input Value	R	R	4/0~20:4/0~20mA
40115~40116	2~3 Current Input Value	R	R	-328~+1112:-328~+1112° F
40129~40130	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40131~40132	2~3 Current Input Value	R	R	-2000~+6000:-200.0~+600.0° C
40145~40146	0~1 Current Input Value	R	R	-328~+1112:-328~+1112° F
40129~40130	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40131~40132	2~3 Current Input Value	R	R	-2000~+6000:-200.0~+600.0° C
40145~40146	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA

40147~40148	2~3 Current Input Value	R	R	-3280~+11120:-328.0~+1112.0° F
40161~40164	0~3 Current Input Value	R	R	0~10000:0.00~100.00% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x10 0x12
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	
40300	Module's ID In Normal Mode	R	R/W	1~255
40301	Protocol In Normal Mode	R	R/W	0: RTU 1: ASCII
40302	Baud Rate In Normal Mode	R	R/W	1 : 2400 bps 2 : 4800 bps 3 : 9600 bps 4 : 14400 bps 5 : 19200 bps 6 : 28800 bps 7 : 38400 bps 8 : 57600 bps 9 : 115200 bps 10 : 230400 bps 11 : 460800 bps 12 : 921600 bps
40303	Parity Option In Normal Mode	R	R/W	0 : None 1 : Odd 2 : Even
40304	Stop Bits In Normal Mode	R	R/W	0 : 1 bit 1 : 2 bit
40305	Time Out Setting In Normal Mode	R	R/W	0~65535 m sec
40609~40616	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40641~40648	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754)(Float CD AB)
40673~40680	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754)(Float CD AB)
40705~40712	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40737~40744	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float AB CD)

40769~40776	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float AB CD)
40801~40808	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)
40833~40840	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float BA DC)
40865~40872	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float BA DC)
40897~40904	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)
40929~40936	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float DC BA)
40961~40968	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float DC BA)
41281~41408	0~127 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535

6.4 A-1019 Address Mapping

A-1019				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00004	0~3 DI Input Signal	R	R	
00065~00072	0~7 Burn-out Signal	R	R	1:Burn-out
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40008	0~7 Current Input Value	R	R	0~20000:0/4~20mA 0~20700:-270~+1800℃
40065~40072	0~7 Input Type Code	R	R/W	0: 4~20mA 1: 0~20mA 2: J(-210~760℃) 3: ,K(-270~1,370℃) 4: T(-270~400℃) 5: E(-270~1,000℃)

				6: R(0~1,750℃) 7: S(0~1,750℃) 8: B(0~1,800℃) 9: 10K-2 Thermistor(0~+100℃) 10:, 10K-3 Thermistor(0~+100℃) 11: 6.8K Thermistor(-10~+100℃) 12, : 4.7K Thermistor(-10~+100℃) 13: 3.3K Thermistor(-20~+100℃) 14: 3K Thermistor(-20~+100℃) 15: 2.7K Thermistor(-20~+100℃) 16: 2.252K Thermistor(-20~+100℃) 17: 2.1K Thermistor(-30~+100℃) 18: 2K Thermistor(-30~+100℃) 19: 1.5K Thermistor(-40~+100℃) 20: 1K Thermistor(-40~+100℃)
40097~40104	0~7 Current Input Value	R	R	4/0~20:4/0~20mA -270~+1800:-270~+1800℃
40113~40120	0~7 Current Input Value	R	R	4/0~20:4/0~20mA -168~+3272:-168~+3272° F
40129~40136	0~7 Current Input Value	R	R	40/0~200:4.0/0~20.0mA -2700~+18000:-270.0~+1800.0° C
40145~40152	0~7 Current Input Value	R	R	40/0~200:4.0/0~20.0mA -1680~+32720:-168.0~+3272.0° F
40161~40168	0~7 Current Input Value	R	R	0~10000:0.00~100.00% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x10 0x19
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	

40300	Module's ID In Normal Mode	R	R/W	1~255
40301	Protocol In Normal Mode	R	R/W	0: RTU 1: ASCII
40302	Baud Rate In Normal Mode	R	R/W	1 : 2400 bps 2 : 4800 bps 3 : 9600 bps 4 : 14400 bps 5 : 19200 bps 6 : 28800 bps 7 : 38400 bps 8 : 57600 bps 9 : 115200 bps 10 : 230400 bps 11 : 460800 bps 12 : 921600 bps
40303	Parity Option In Normal Mode	R	R/W	0 : None 1 : Odd 2 : Even
40304	Stop Bits In Normal Mode	R	R/W	0 : 1 bit 1 : 2 bit
40305	Time Out Setting In Normal Mode	R	R/W	0~65535 m sec
40609~40624	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40641~40656	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754)(Float CD AB)
40673~40688	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754)(Float CD AB)
40705~40720	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40737~40752	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float AB CD)
40769~40784	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float AB CD)
40801~40816	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)
40833~40848	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float BA DC)
40865~40880	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float BA DC)
40897~40912	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)

40929~40944	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float DC BA)
40961~40976	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float DC BA)
41281~41408	0~127 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535
40222	CJC Value	R	R	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C
40225	Set CJC Offset Value	R	R/W	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C Default:0
40226~40233	Set The AI0~7 Offset Value (For Thermocouple/Thermistor)	R	R/W	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C Default:0

#1：1: 2400 bps 2: 4800 bps 3: 9600 bps 4: 14400 bps 5: 19200 bps 6: 28800 bps 7: 38400 bps 8: 57600 bps 9: 115200 bps 10: 230400 bps 11: 460800 bps 12: 921600 bps

#2：0: 4~20mA 1: 0~20mA 2: J(-210~760℃) 3: K(-270~1370℃) 4: T(-270~400℃) 5: E(-270~1000℃) 6: R(0~1750℃) 7: S(0~1750℃) 8: B(0~1800℃) 9: 10K-2 Thermistor(0~+100℃) 10: 10K-3 Thermistor(0~+100℃) 11: 6.8K Thermistor(-10~+100℃) 12: 4.7K Thermistor(-10~+100℃) 13: 3.3K Thermistor(-20~+100℃) 14: 3K Thermistor(-20~+100℃) 15: 2.7K Thermistor(-20~+100℃) 16: 2.2.25K Thermistor(-20~+100℃) 17: 2.1K Thermistor(-30~+100℃) 18: 2K Thermistor(-30~+100℃) 19: 1.5K Thermistor(-40~+100℃) 20: 1K Thermistor(-40~+100℃)

6.5 A-1212 Address Mapping

A-1212				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00002	0~1 DI Input Signal	R	R	
00017~00018	0~1 DO Output Value	R/W	R/W	
00033~00034	0~1 Power On Digital Output Value	R	R/W	
00049~00050	0~1 Communication Fail Safe Value	R	R/W	
00065~00066	0~1 Burn-out Signal	R	R	1:Burn-out (4~20mA only)

00067~00068	2~3 Burn-out Signal	R	R	1:Burn-out
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40002	0~1 Current Input Value	R	R	0~20000:0/4~20mA
40003~40004	2~3 Current Input Value	R	R	0~8000:-200~+600° C
40017~40018	0~1 Current Output Value	R/W	R/W	0~4000:0/4~20mA
40033~40034	Power On Analog Output Value	R	R/W	0~4000:0/4~20mA
40049~40050	0~1 Communication Fail Safe Analog Output Value	R	R/W	0~4000:0/4~20mA
40065~40066	0~1 Input Type Code	R	R/W	0:4~20mA 1: 0~20mA
40067~40068	2~3 Input Type Code	R	R/W	0:PT-100 α = 0.00385 1:PT-100 α = 0.003916 2:PT-1000 α = 0.00385 3:PT-1000 α = 0.003916
40081~40082	0~1 Output Type Code	R	R/W	0:4~20mA 1: 0~20mA
40097~40098	0~1 Current Input Value	R	R	4/0~20:4/0~20mA
40099~40100	2~3 Current Input Value	R	R	-200~+600:-200~+600° C
40113~40114	0~1 Current Input Value	R	R	4/0~20:4/0~20mA
40115~40116	2~3 Current Input Value	R	R	-328~+1112:-328~+1112° F
40129~40130	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40131~40132	2~3 Current Input Value	R	R	-2000~+6000:-200.0~+600.0° C
40145~40146	0~1 Current Input Value	R	R	-328~+1112:-328~+1112° F
40129~40130	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40131~40132	2~3 Current Input Value	R	R	-2000~+6000:-200.0~+600.0° C
40145~40146	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40147~40148	2~3 Current Input Value	R	R	-3280~+11120:-328.0~+1112.0° F
40161~40164	0~3 Current Input Value	R	R	0~10000:0.00~100.00% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec

40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x12 0x12
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	
40300	Module's ID In Normal Mode	R	R/W	1~255
40301	Protocol In Normal Mode	R	R/W	0: RTU 1: ASCII
40302	Baud Rate In Normal Mode	R	R/W	1 : 2400 bps 2 : 4800 bps 3 : 9600 bps 4 : 14400 bps 5 : 19200 bps 6 : 28800 bps 7 : 38400 bps 8 : 57600 bps 9 : 115200 bps 10 : 230400 bps 11 : 460800 bps 12 : 921600 bps
40303	Parity Option In Normal Mode	R	R/W	0 : None 1 : Odd 2 : Even
40304	Stop Bits In Normal Mode	R	R/W	0 : 1 bit 1 : 2 bit
40305	Time Out Setting In Normal Mode	R	R/W	0~65535 m sec
40609~40616	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40641~40648	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754)(Float CD AB)
40673~40680	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754)(Float CD AB)
40705~40712	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40737~40744	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float AB CD)
40769~40776	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float AB CD)
40801~40808	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)

40833~40840	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float BA DC)
40865~40872	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float BA DC)
40897~40904	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)
40929~40936	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float DC BA)
40961~40968	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float DC BA)
41281~41408	0~127 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535
40401	WIFI Mode	R	R/W	0:AP(default) 1:Remote
40402	WIFI Encryption (WPA2)	R	R/W	0:DISABLE(default) 1:ENABLE
40403~40434	WIFI SSID	R	R/W	Default : 12WIFI
40435~40498	WIFI Password	R	R/W	Default : 88888888
40499	WIFI Channel	R	R/W	0~ 13 0: Auto(default) / 1~13CH
40500~40503	WIFI IP	R	R/W	IP:x.x.x.x default : 192.168.1.1
40504~40507	WIFI MASK	R	R/W	GATEWAY: x.x.x.x Default:192.168.1.1
40512	WIFI MODBUS ID	R	R/W	INIT*: 0 ,NOR:1~255
40513	WIFI LOCAL PORT	R	R/W	1~65535 Default :502
40514	WIFI REMOTE PORT	R	R/W	1~65535 Default:2000
40515	WIFI DHCP Enable	R	R/W	0:ENABLE(default) 1:DISABLE
40516	WIFI PROTOCAL	R	R/W	0:Modbus TCP/IP(default) 1:Modbus UDP/IP 2.:Modbus RTU Over TCP/IP 3:Modbus RTU Over UDP/IP
40517	WIFI TX POWER			0: Auto(default) step :1~12
40518~40523	MAC ADDRESS	R	R	EX: 00-05-5D-E8-0F-A3

6.6. A-1219 Address Mapping

A-1219				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00004	0~3 DI Input Signal	R	R	
00065~00072	0~7 Burn-out Signal	R	R	1:Burn-out
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40008	0~7 Current Input Value	R	R	0~20000:0/4~20mA 0~20700:-270~+1800℃
40065~40072	0~7 Input Type Code	R	R/W	0: 4~20mA 1: 0~20mA 2: J(-210~760℃) 3: ,K(-270~1,370℃) 4: T(-270~400℃) 5: E(-270~1,000℃) 6: R(0~1,750℃) 7: S(0~1,750℃) 8: B(0~1,800℃) 9: 10K-2 Thermistor(0~+100℃) 10:, 10K-3 Thermistor(0~+100℃) 11: 6.8K Thermistor(-10~+100 ℃) 12, : 4.7K Thermistor(-10~+100℃) 13: 3.3K Thermistor(-20~+100℃) 14: 3K Thermistor(-20~+100℃) 15: 2.7K Thermistor(-20~+100℃) 16: 2.252K Thermistor(-20~+100℃) 17: 2.1K Thermistor(-30~+100℃) 18: 2K Thermistor(-30~+100℃) 19: 1.5K Thermistor(-40~+100℃) 20: 1K Thermistor(-40~+100℃)
40097~40104	0~7 Current Input Value	R	R	4/0~20:4/0~20mA -270~+1800:-270~+1800℃

40113~40120	0~7 Current Input Value	R	R	4/0~20:4/0~20mA -168~+3272:-168~+3272°F
40129~40136	0~7 Current Input Value	R	R	40/0~200:4.0/0~20.0mA -2700~+18000:-270.0~+1800.0°C
40145~40152	0~7 Current Input Value	R	R	40/0~200:4.0/0~20.0mA -1680~+32720:-168.0~+3272.0°F
40161~40168	0~7 Current Input Value	R	R	0~10000:0.00~100.00% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x12 0x19
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	
40300	Module's ID In Normal Mode	R	R/W	1~255
40301	Protocol In Normal Mode	R	R/W	0: RTU 1: ASCII
40302	Baud Rate In Normal Mode	R	R/W	1 : 2400 bps 2 : 4800 bps 3 : 9600 bps 4 : 14400 bps 5 : 19200 bps 6 : 28800 bps 7 : 38400 bps 8 : 57600 bps 9 : 115200 bps 10 : 230400 bps 11 : 460800 bps 12 : 921600 bps
40303	Parity Option In Normal Mode	R	R/W	0 : None 1 : Odd 2 : Even
40304	Stop Bits In Normal Mode	R	R/W	0 : 1 bit 1 : 2 bit
40305	Time Out Setting In Normal Mode	R	R/W	0~65535 m sec
40609~40624	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40641~40656	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754)(Float CD AB)
40673~40688	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value

				(IEEE754)(Float CD AB)
40705~40720	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40737~40752	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float AB CD)
40769~40784	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float AB CD)
40801~40816	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)
40833~40848	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float BA DC)
40865~40880	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float BA DC)
40897~40912	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)
40929~40944	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float DC BA)
40961~40976	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float DC BA)
41281~41408	0~127 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535
40401	WIFI Mode	R	R/W	0:AP(default) 1:Remote
40402	WIFI Encryption (WPA2)	R	R/W	0:DISABLE(default) 1:ENABLE
40403~40434	WIFI SSID	R	R/W	Default : 12WIFI
40435~40498	WIFI Password	R	R/W	Default : 88888888
40499	WIFI Channel	R	R/W	0~ 13 0: Auto(default) / 1~13CH
40500~40503	WIFI IP	R	R/W	IP:x.x.x.x default : 192.168.1.1
40504~40507	WIFI MASK	R	R/W	GATEWAY: x.x.x.x Default:192.168.1.1
40512	WIFI MODBUS ID	R	R/W	INIT*: 0 ,NOR:1~255
40513	WIFI LOCAL PORT	R	R/W	1~65535 Default :502

40514	WIFI REMOTE PORT	R	R/W	1~65535 Default:2000
40515	WIFI DHCP Enable	R	R/W	0:ENABLE(default) 1:DISABLE
40516	WIFI PROTOCAL	R	R/W	0:Modbus TCP/IP(default) 1:Modbus UDP/IP 2.:Modbus RTU Over TCP/IP 3:Modbus RTU Over UDP/IP
40517	WIFI TX POWER			0: Auto(default) step :1~12
40518~40523	MAC ADDRESS	R	R	EX: 00-05-5D-E8-0F-A3
40222	CJC Value	R	R	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C
40225	Set CJC Offset Value	R	R/W	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C Default:0
40226~40233	Set The AI0~7 Offset Value (For Thermocouple/Thermistor)	R	R/W	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C Default:0

6.7. A-1251/A-1255/A-1255S/A-1269/A-1260 Address Mapping

A-1251/A-1255/A-1255S/A-1269/A-1260				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00016	0~15 DI Input Signal	R	R	
00017~00032	0~15 DO Output Value	R/W	R/W	
00033~00048	0~15 Power On Digital Output Value	R	R/W	
00049~00064	0~15 Communication Fail Safe Value	R	R/W	
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40016	0~15 Current Input Value	R	R	0~4000:0~10V
40097~40112	0~15 Current Input Value	R	R	0~10:0~10V

40129~40144	0~15 Current Input Value	R	R	0~1000:0~10V
40161~40176	0~15 Current Input Value	R	R	0~1000:0.00~100.0% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x12 0x60
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	
40300	Module's ID In Normal Mode	R	R/W	1~255
40301	Protocol In Normal Mode	R	R/W	0: RTU 1: ASCII
40302	Baud Rate In Normal Mode	R	R/W	1 : 2400 bps 2 : 4800 bps 3 : 9600 bps 4 : 14400 bps 5 : 19200 bps 6 : 28800 bps 7 : 38400 bps 8 : 57600 bps 9 : 115200 bps 10 : 230400 bps 11 : 460800 bps 12 : 921600 bps
40303	Parity Option In Normal Mode	R	R/W	0 : None 1 : Odd 2 : Even
40304	Stop Bits In Normal Mode	R	R/W	0 : 1 bit 1 : 2 bit
40305	Time Out Setting In Normal Mode	R	R/W	0~65535 m sec
40609~40640	0~15 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40705~40736	0~15 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40801~40832	0~15 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)
40897~40928	0~15 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)
41281~41408	0~127 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535

40401	WIFI Mode	R	R/W	0:AP(default) 1:Remote
40402	WIFI Encryption (WPA2)	R	R/W	0:DISABLE(default) 1:ENABLE
40403~40434	WIFI SSID	R	R/W	Default : 12WIFI
40435~40498	WIFI Password	R	R/W	Default : 88888888
40499	WIFI Channel	R	R/W	0~ 13 0: Auto(default) / 1~13CH
40500~40503	WIFI IP	R	R/W	IP:x.x.x.x default : 192.168.1.1
40504~40507	WIFI MASK	R	R/W	GATEWAY: x.x.x.x Default:192.168.1.1
40512	WIFI MODBUS ID	R	R/W	INIT*: 0 ,NOR:1~255
40513	WIFI LOCAL PORT	R	R/W	1~65535 Default :502
40514	WIFI REMOTE PORT	R	R/W	1~65535 Default:2000
40515	WIFI DHCP Enable	R	R/W	0:ENABLE(default) 1:DISABLE
40516	WIFI PROTOCAL	R	R/W	0:Modbus TCP/IP(default) 1:Modbus UDP/IP 2.:Modbus RTU Over TCP/IP 3:Modbus RTU Over UDP/IP
40517	WIFI TX POWER			0: Auto(default) step :1~12
40518~40523	MAC ADDRESS	R	R	EX: 00-05-5D-E8-0F-A3

6.8. A-1812 Address Mapping

A-1812				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00002	0~1 DI Input Signal	R	R	
00065~00066	0~1 Burn-out Signal	R	R	1:Burn-out (4~20mA only)
00067~00068	2~3 Burn-out Signal	R	R	1:Burn-out
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40002	0~1 Current Input Value	R	R	0~20000:0/4~20mA

40003~40004	2~3 Current Input Value	R	R	0~8000:-200~+600° C
40017~40018	0~1 Current Output Value	R/W	R/W	0~4000:0/4~20mA
40033~40034	Power On Analog Output Value	R	R/W	0~4000:0/4~20mA
40049~40050	0~1 Communication Fail Safe Analog Output Value	R	R/W	0~4000:0/4~20mA
40065~40066	0~1 Input Type Code	R	R/W	0:4~20mA 1: 0~20mA
40067~40068	2~3 Input Type Code	R	R/W	0:PT-100 α = 0.00385 1:PT-100 α = 0.003916 2:PT-1000 α = 0.00385 3:PT-1000 α = 0.003916
40081~40082	0~1 Output Type Code	R	R/W	0:4~20mA 1: 0~20mA
40097~40098	0~1 Current Input Value	R	R	4/0~20:4/0~20mA
40099~40100	2~3 Current Input Value	R	R	-200~+600:-200~+600° C
40113~40114	0~1 Current Input Value	R	R	4/0~20:4/0~20mA
40115~40116	2~3 Current Input Value	R	R	-328~+1112:-328~+1112° F
40129~40130	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40131~40132	2~3 Current Input Value	R	R	-2000~+6000:-200.0~+600.0° C
40145~40146	0~1 Current Input Value	R	R	-328~+1112:-328~+1112° F
40129~40130	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40131~40132	2~3 Current Input Value	R	R	-2000~+6000:-200.0~+600.0° C
40145~40146	0~1 Current Input Value	R	R	40/0~200:4.0/0~20.0mA
40147~40148	2~3 Current Input Value	R	R	-3280~+11120:-328.0~+1112.0° F
40161~40164	0~3 Current Input Value	R	R	0~10000:0.00~100.00% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x18 0x12
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	

40215~40220	1~6 Mac Serial Number	R	R	
40306~40369	0~63 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535
40609~40616	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40641~40648	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754)(Float CD AB)
40673~40680	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754)(Float CD AB)
40705~40712	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40737~40744	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float AB CD)
40769~40776	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float AB CD)
40801~40808	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)
40833~40840	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float BA DC)
40865~40872	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float BA DC)
40897~40904	0~3 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)
40929~40936	0~3 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float DC BA)
40961~40968	0~3 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float DC BA)
40500~40503	Ethernet IP	R	R/W	IP:x.x.x.x default : 192.168.1.1
40504~40507	Ethernet MASK	R	R/W	GATEWAY: x.x.x.x Default:192.168.1.1
40512	Ethernet MODBUS ID	R	R/W	INIT*: 0 ,NOR:1~255

40513	Ethernet LOCAL PORT	R	R/W	1~65535 Default :502
40514	Ethernet REMOTE PORT	R	R/W	1~65535 Default:2000
40515	Ethernet DHCP Enable	R	R/W	0:ENABLE(default) 1:DISABLE
40516	Ethernet PROTOCAL	R	R/W	0:Modbus TCP/IP(default)
40518~40523	MAC ADDRESS	R	R	EX: 00-05-5D-E8-0F-A3

6.9 A-1812 Address Mapping

A-1819				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00065~00072	0~7 Burn-out Signal	R	R	1:Burn-out
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40001~40008	0~7 Current Input Value	R	R	0~20000:0/4~20mA 0~20700:-270~+1800℃
40065~40072	0~7 Input Type Code	R	R/W	0: 4~20mA 1: 0~20mA 2: J(-210~760℃) 3: ,K(-270~1,370℃) 4: T(-270~400℃) 5: E(-270~1,000℃) 6: R(0~1,750℃) 7: S(0~1,750℃) 8: B(0~1,800℃) 9: 10K-2 Thermistor(0~+100℃) 10:, 10K-3 Thermistor(0~+100℃) 11: 6.8K Thermistor(-10~+100 ℃) 12, : 4.7K Thermistor(-10~+100℃) 13: 3.3K Thermistor(-20~+100℃) 14: 3K Thermistor(-20~+100℃) 15: 2.7K Thermistor(-20~+100℃) 16: 2.252K Thermistor(-20~+100℃) 17: 2.1K Thermistor(-30~+100℃) 18: 2K Thermistor(-30~+100℃)

				19: 1.5K Thermistor(-40~+100℃) 20: 1K Thermistor(-40~+100℃)
40097~40104	0~7 Current Input Value	R	R	4/0~20:4/0~20mA -270~+1800:-270~+1800℃
40113~40120	0~7 Current Input Value	R	R	4/0~20:4/0~20mA -168~+3272:-168~+3272° F
40129~40136	0~7 Current Input Value	R	R	40/0~200:4.0/0~20.0mA -2700~+18000:-270.0~+1800.0° C
40145~40152	0~7 Current Input Value	R	R	40/0~200:4.0/0~20.0mA -1680~+32720:-168.0~+3272.0° F
40161~40168	0~7 Current Input Value	R	R	0~10000:0.00~100.00% of FSR
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x18 0x19
40212	Module Name 2	R	R	
40213	Version 1	R	R	
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	
40609~40624	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754)(Float CD AB)
40641~40656	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754)(Float CD AB)
40673~40688	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754)(Float CD AB)
40705~40720	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float AB CD)
40737~40752	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float AB CD)
40769~40784	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float AB CD)

40801~40816	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float BA DC)
40833~40848	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float BA DC)
40865~40880	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float BA DC)
40897~40912	0~7 Current Input Value	R	R	32-bit Floating Value (IEEE754) (Float DC BA)
40929~40944	0~7 Current Input Value	R	R	32-bit Deg.C Floating Value (IEEE754) (Float DC BA)
40961~40976	0~7 Current Input Value	R	R	32-bit Deg.F Floating Value (IEEE754) (Float DC BA)
40306~40369	0~63 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535
40500~40503	Ethernet IP	R	R/W	IP:x.x.x.x default : 192.168.1.1
40504~40507	Ethernet MASK	R	R/W	GATEWAY: x.x.x.x Default:192.168.1.1
40512	Ethernet MODBUS ID	R	R/W	INIT*: 0 ,NOR:1~255
40513	Ethernet LOCAL PORT	R	R/W	1~65535 Default :502
40514	Ethernet REMOTE PORT	R	R/W	1~65535 Default:2000
40515	Ethernet DHCP Enable	R	R/W	0:ENABLE(default) 1:DISABLE
40516	Ethernet PROTOCAL	R	R/W	0:Modbus TCP/IP(default)
40518~40523	MAC ADDRESS	R	R	EX: 00-05-5D-E8-0F-A3
40222	CJC Value	R	R	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C
40225	Set CJC Offset Value	R	R/W	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C Default:0
40226~40233	Set The AI0~7 Offset Value (For Thermocouple/Thermistor)	R	R/W	-32767 ~ +32767: -327.67 ~ +327.67 Deg.C Default:0

6.10. A-1851/A-1855/A-1855S/A-1869/A-1860 Address Mapping

A-1851/A-1855/A-1855S/A-1869/A-1860				
Supported Modbus Code: 01/02/05/15				
Address 0x	**Item**	**NOR**	**INIT***	**NOTE**
00001~00016	0~15 DI Input Signal	R	R	
00017~00032	0~15 DO Output Value	R/W	R/W	
00033~00048	0~15 Power On Digital Output Value	R	R/W	
00049~00064	0~15 Communication Fail Safe Value	R	R/W	
00129~01152	0~1023 Auxiliary Memory (M Flag)	R/W	R/W	
Supported Modbus Code: 03/04/06/16				
Address 4x	**Item**	**NOR**	**INIT***	**NOTE**
40177	Communication Fail Safe Time Setting Value	R	R/W	0~65535:Disable~65535msec
40178	All DI Value	R	R	
40211	Module Name 1	R	R	0x18 0x60
40212	Module Name 2	R	R	
40213	Version 1	R	R	0x01 0x12
40214	Version 2	R	R	
40215~40220	1~6 Mac Serial Number	R	R	
40306~40369	0~63 Analog Auxiliary Memory (AM Flag)	R/W	R/W	0~65535
40500~40503	Ethernet IP	R	R/W	IP:x.x.x.x default : 192.168.1.1
40504~40507	Ethernet MASK	R	R/W	GATEWAY: x.x.x.x Default:192.168.1.1
40512	Ethernet MODBUS ID	R	R/W	INIT*: 0 ,NOR:1~255
40513	Ethernet LOCAL PORT	R	R/W	1~65535 Default :502
40514	Ethernet REMOTE PORT	R	R/W	1~65535 Default:2000
40515	Ethernet DHCP Enable	R	R/W	0:ENABLE(default) 1:DISABLE

40516	Ethernet PROTOCAL	R	R/W	0:Modbus TCP/IP(default) 1:Modbus UDP/IP 2.:Modbus RTU Over TCP/IP 3:Modbus RTU Over UDP/IP
40518~40523	MAC ADDRESS	R	R	EX: 00-05-5D-E8-0F-A3

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