

ICP DAS

# **GW-7472 FAQ**

**FAQ Version 3.2**

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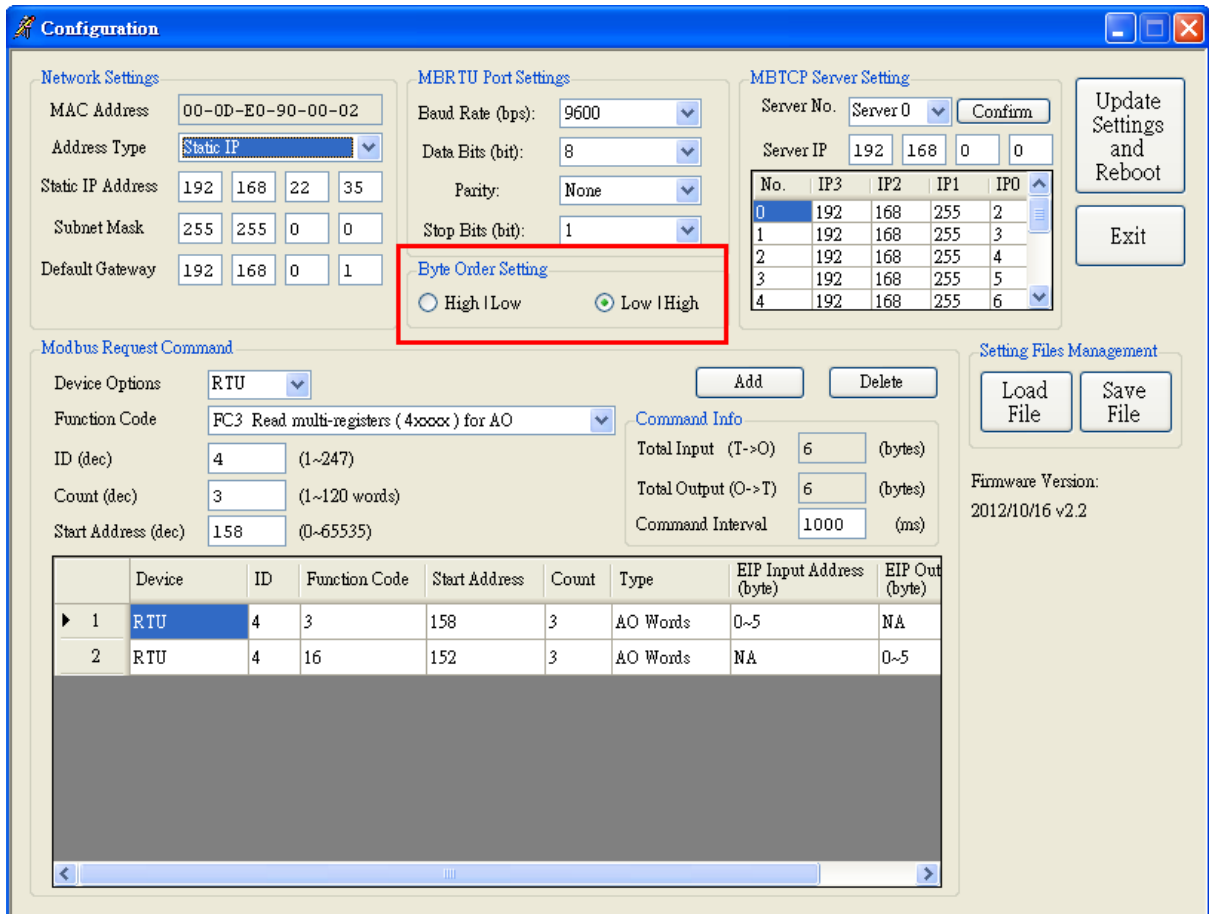
**Q1: Could you please confirm that GW-7472 works with SLC-500 (SLC5/05) without any problems?**

A1: We never test GW-7472 this device with SLC-500. But this device ever tested with the Hilscher CIFX 50-RE Ethernet/IP master. It can communicate with the master via following I/O connection methods.

- (1) Transport and trigger: Exclusive-Owner, Cyclic
- (2) Original to Target Type: POINT2POINT, (MULTICAST not supported)
- (3) Target to Original Type: POINT2POINT, MULTICAST

**Q2: In some case, the byte order of the AI/AO word data in the communication is reversed, i.e. low byte is MSB and high byte is LSB. Is there a byte swapping function?**

A2: After the firmware version 1.5 of GW-7472, the utility supports the “Byte Order Setting” as shown in the following figure.



**Q3 : How to make a Class1 connection with the GW-7472 Utility Diagnostic window?**

A3 : Configure the total output/input size in the “Forward Open Class1 Behavior” on the Diagnostic window. Please notice that the total input/output size on the Diagnostic window and the total input/output size on the Configuration window must be the same. Then, you can click “Class1” button to make a Class1 connection on the Diagnostic window.

**Diagnostic (192.168.22.35)**

UCMM / Forward Open Class 3 Behavior

Service Code(hex)  Class Code(hex)  UCMM Class3

Instance ID(hex)  Attribute ID(hex)  Disconnect

Request Data(hex) Data Size(dec)  RPI(dec)  ms

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	11	22													
1															
2															
3															

Response Message

Common Industrial Protocol

0\_to\_T API: 300ms(0x493E0)  
T\_to\_0 API: 300ms(0x493E0)  
Application Reply Size: 0(words)  
Reserved: 0x00  
Application Reply:

Common Packet

Item Count: 2  
Address Type ID: 0x8002  
Address Length: 8(byte)  
Connection Identifier: 0x4AF3F5BF  
Sequence Number: 128  
Data Type ID: 0xB1  
Data Length: 8  
Sequence Count: 1

Modbus TCP Server Status

TCP No.0 TCP No.1 TCP No.2 TCP No.3 TCP No.4 TCP No.5 TCP No.6 TCP No.7 TCP No.8 TCP No.9

Forward Open Class 1 Behavior

Class Code(hex)  Instance ID(hex)  Class1

O->T Point(hex)  T->O Point(hex)

O->T Size(dec)  T->O Size(dec)

Output Count  RPI(dec)  ms Update Output

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	00	FF													
1															
2															
3															
4															
5															
6															
7															
8															

Input Count

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	00	FF	00	80	75	30									
1															
2															
3															
4															
5															
6															
7															
8															

**Modbus Request Command**

Device Options  Add Delete

Function Code

ID (dec)  (1~247)

Count (dec)  (1~120 words)

Start Address (dec)  (0~65535)

Command Info

Total Input (T->O)  (bytes)

Total Output (O->T)  (bytes)

Command Interval  (ms)

	Device	ID	Function Code	Start Address	Count	Type	EIP Input Address (byte)	EIP Out (byte)
▶ 1	RTU	4	3	158	3	AO Words	0~5	NA
2	RTU	4	16	152	3	AO Words	NA	0~5

**Q4 : Why did the pop-up message “FW Version Error” be shown after I run the new version Utility?**

**A4 :** The utility of version 2.0 and later only supports the firmware version 2.0 and the after. Please go to the product page of the GW-7472 to get the new firmware and update the module. The firmware

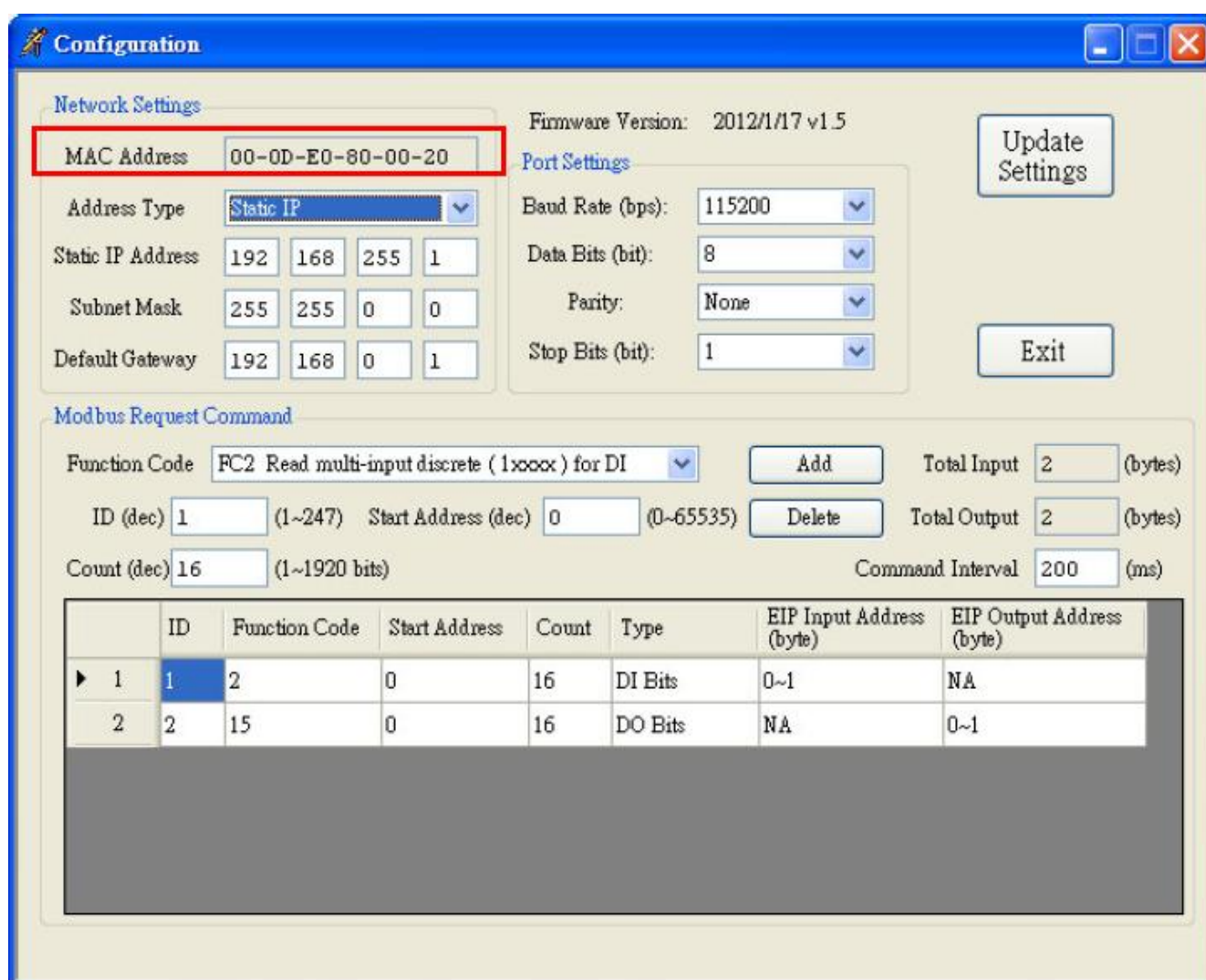
website is shown below ( [ftp://ftp.icpdas.com/pub/cd/fieldbus\\_cd/ethernetip/gateway/gw-7472/firmware/](http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethernetip/gateway/gw-7472/firmware/) ).



Please follow our steps to update the firmware :

Step1 : We provide two ways to check MAC address.

(a) Use v1.X GW-7472 Utility configuration window to find out your MAC address on the top of "Network Settings".



(b) In another way, you can get your MAC address from the ARP list. Follow the "[Start Menu] → [Run] → [cmd]" to open the command window and check GW-7472 IP address through Ping command (e.g. ping 192.168.255.1). Then, you could get the ARP list through ARP command (e.g. arp -a). Finally, you'll get the MAC address is shown below.

```

C:\WINDOWS\system32\cmd.exe

C:\>ping 192.168.255.1

Pinging 192.168.255.1 with 32 bytes of data:

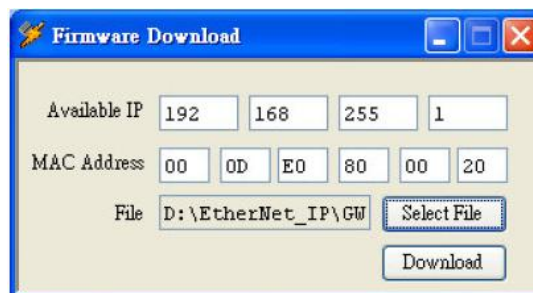
Reply from 192.168.255.1: bytes=32 time<1ms TTL=255
Reply from 192.168.255.1: bytes=32 time<1ms TTL=255
Reply from 192.168.255.1: bytes=32 time<1ms TTL=255
Reply from 192.168.255.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.255.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

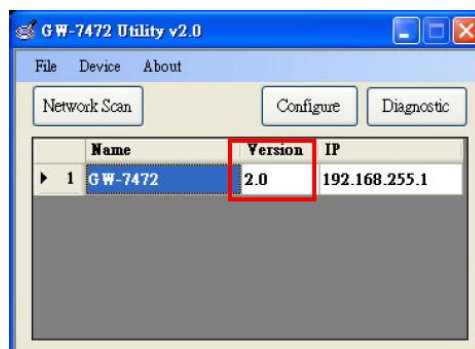
C:\>arp -a

Interface: 192.168.22.2 --- 0x2
    Internet Address      Physical Address      Type
    192.168.0.101         1c-6f-65-88-b9-73    dynamic
    192.168.0.254         00-19-ch-08-50-70    dynamic
    192.168.255.1         00-0d-e0-80-00-20    dynamic
  
```

Step2 : Follow these steps “[Main Menu]→[Device]→[Download]” to open the FW download window. Key in the MAC address we found in Step1, and an available IP address on this window. Select the firmware file (e.g. GW7472\_v2.dat) to download.



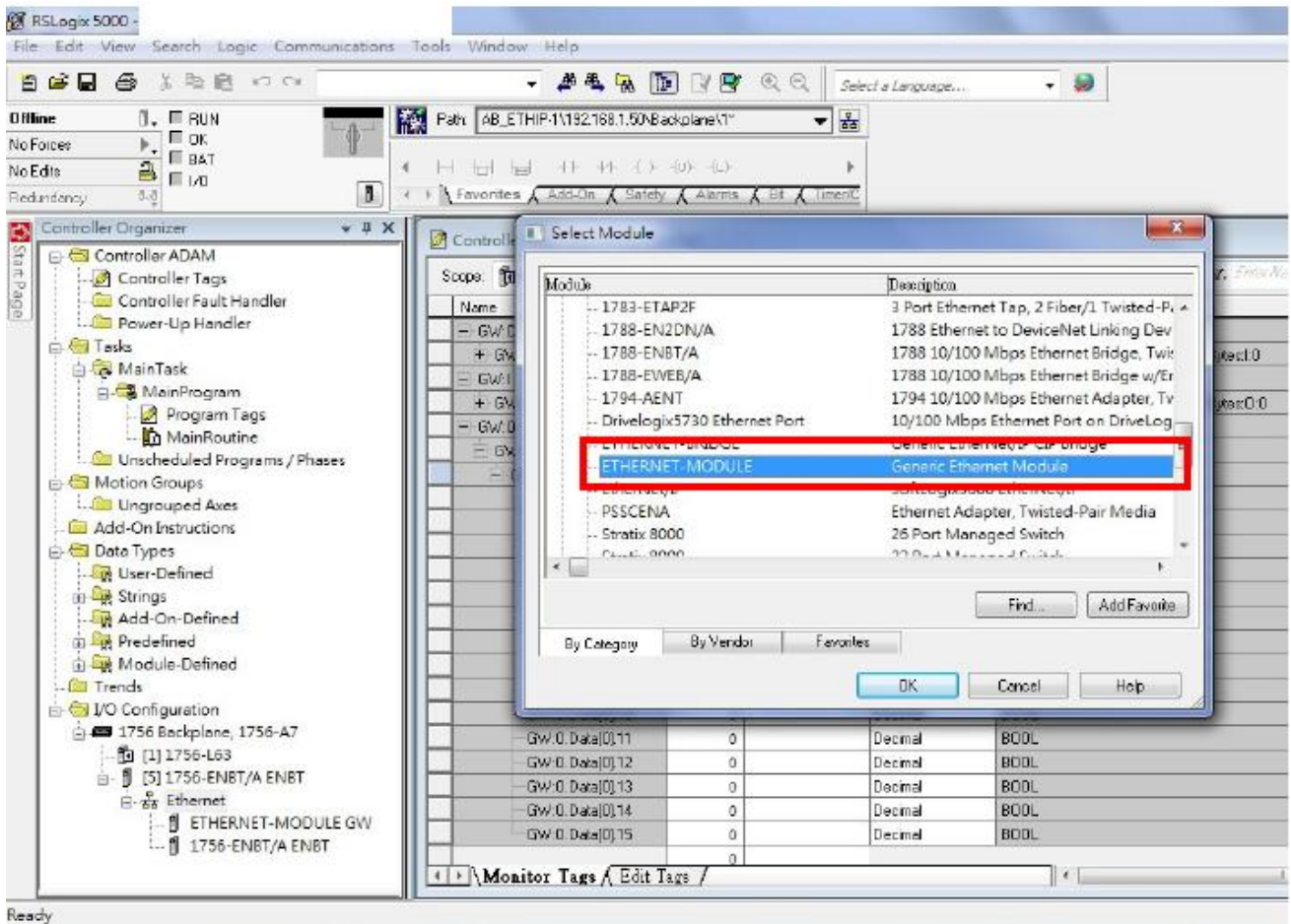
Step3 : After downloading the firmware, please check the Utility whether the version is V2.0 or not on the Main Menu.



## Q5 : How to connect to the Allen-Bradley PLC ?

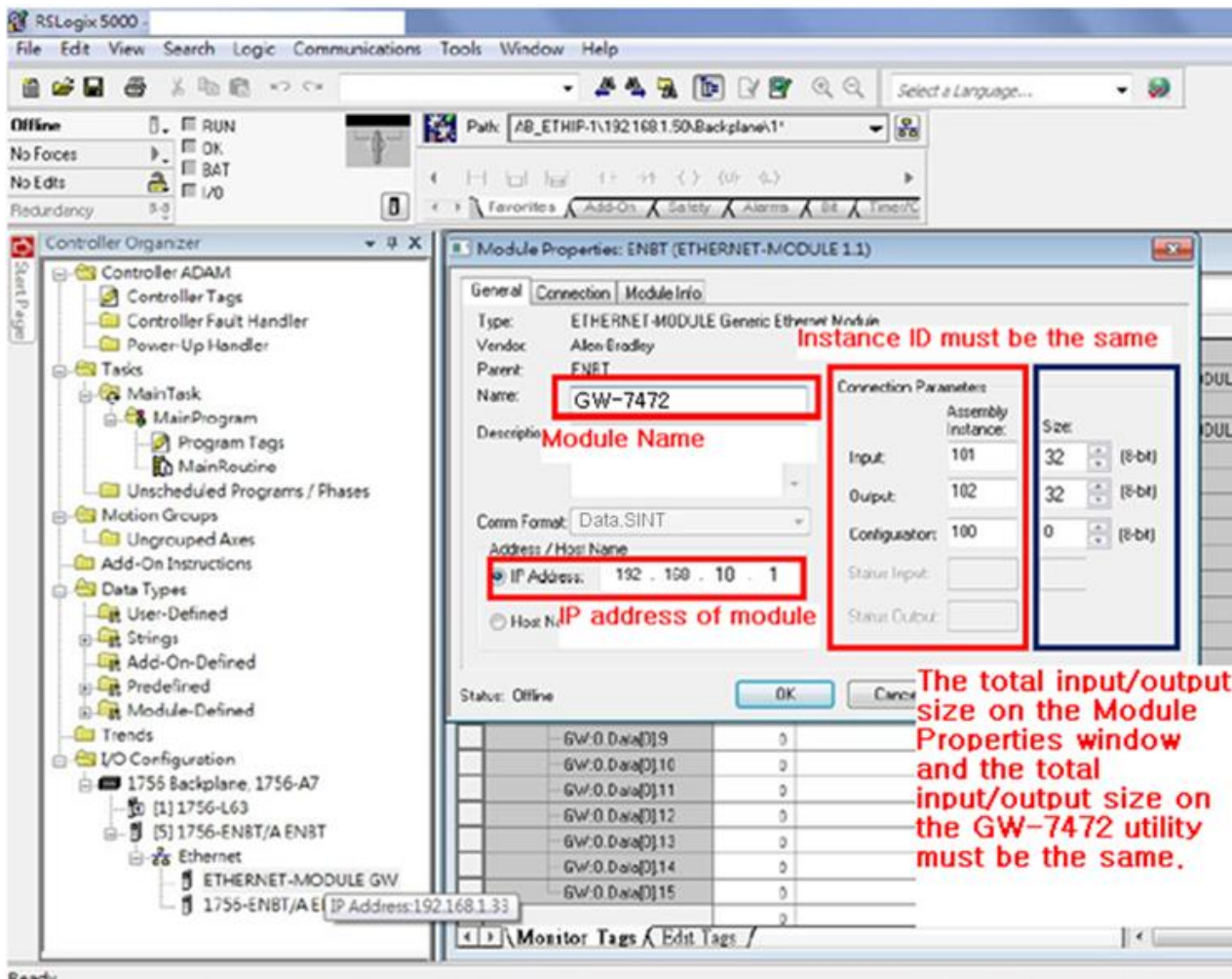
A5 : It is tested and confirmed that the GW-7472 can be connected to the Allen-Bradley™ ControlLogix Logix 5563 through the 1756-ENBT ControlLogix EtherNet/IP Module successfully. The configuration software is RSLogix 5000. Please follow the steps below:

(a) Add a new Module and select ETHERNET-MODULE.

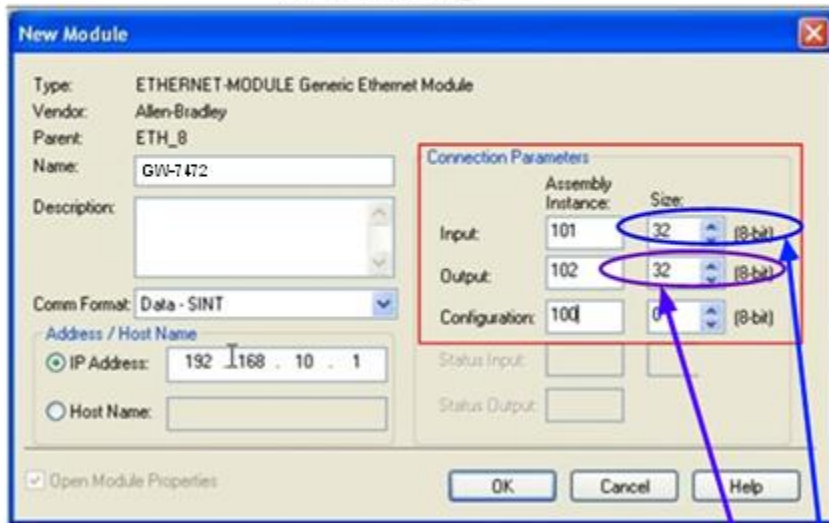


(b) Configure the "Module Properties" window. Please notice that the total input size on the Module Properties window and the total input size on the GW-7472 Utility must be the same. Also, the total output size on the Module Properties window and the total output size on the GW-7472 Utility must be the same.

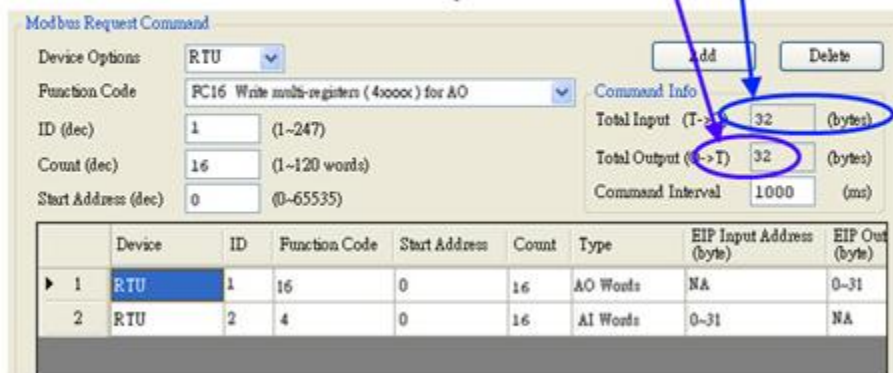




### PLC Setting



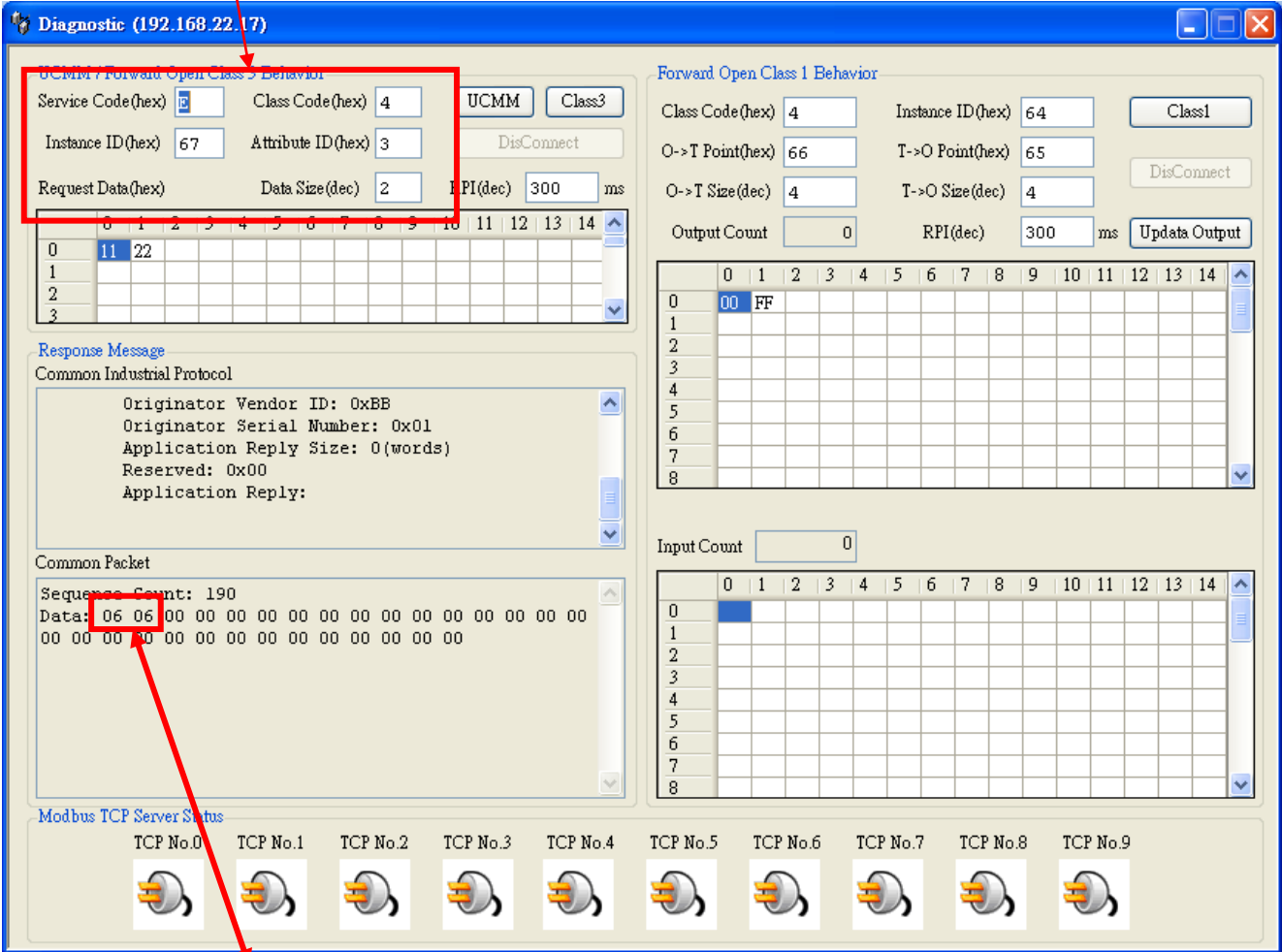
### GW-7472 Utility



**Q6 : How to check the connections between the GW-7472 and the Modbus devices ?**

A6 : Open the GW-7472 Utility Diagnostic window, and set the UCMM values (Service = E, Class Code = 4, Instance ID = 67, Attribute ID = 3), as shown in the figure below. Click “Class3” to start the connection. If the devices have been connected and receive the information from Modbus devices, the “common packet” will show “00”. If GW-7472 couldn't receive the information from a Modbus devices, the “common packet” will show “06”. The status table is shown below, and it could be found in the GW-7472 manual on page 47.

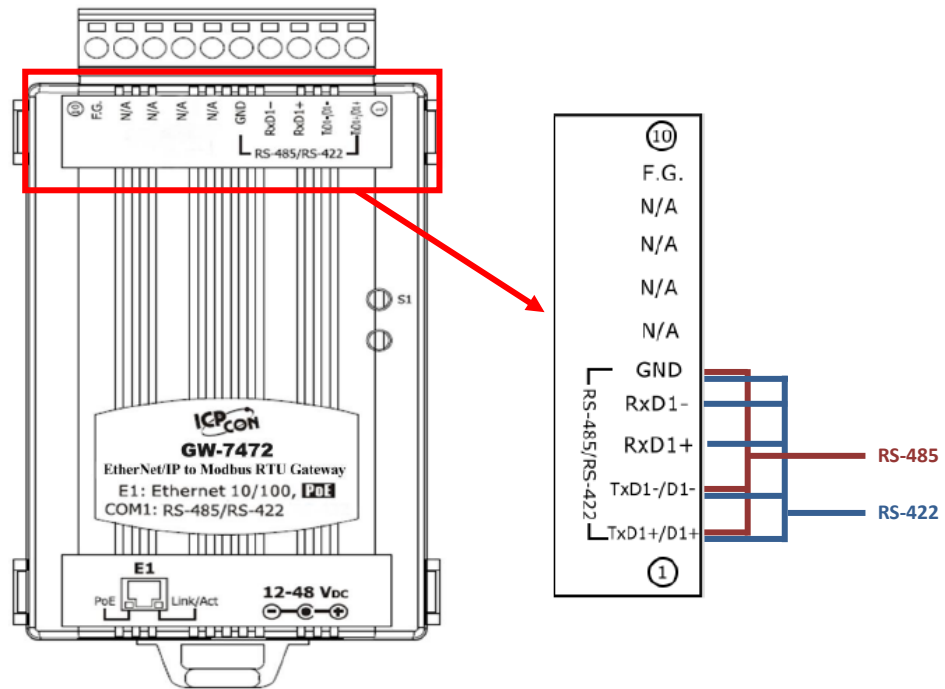
**Service = E , Class Code = 4 , Instance ID = 67 , Attribute ID = 3**



Command Status (in hex)	Explanation
00	No Error
01	Illegal device ID
02	Illegal function code
03	Illegal data address
04	Receiving an Invalid command
05	CRC checking error
06	Timeout error occurred

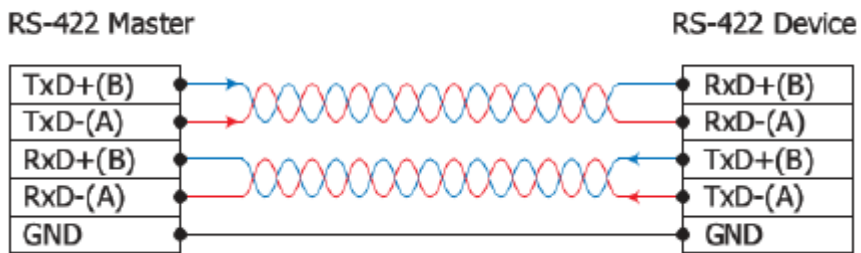
**Q7: How can I check the wire connections ?**

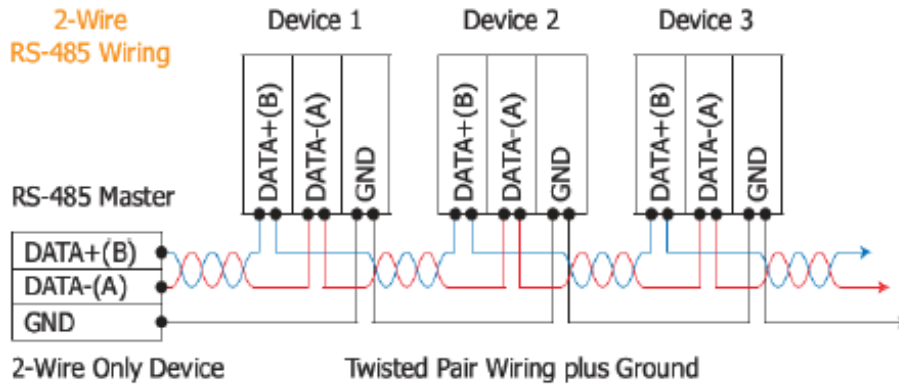
A7: There are 4-wire RS-422 wiring and 2-wire RS-485 wiring. The wire connection interface is shown below.



The wire connections between Modbus masters and Modbus slaves must follow the figure we show below. For non-isolated RS-422/485 ports, you should connect all signal grounds of RS-422/485 devices together. This reduces common-mode voltage between devices.

**4-Wire RS-422 Wiring**





**Q8:How to set up the GW-7472 for Modbus TCP ?**

A8:In the GW-7472 configuration window, please change the “Device Options” to be “TCP No.0” in the “Modbus Request Command” and fill out the Modbus device settings you want to connect with. Then, set the Server IP in the “MBTCP Server Setting”. Please notice that the total input/output size on the Diagnostic window and the total input/output size on the configuration window must be the same. The example settings are shown below.

The screenshot shows the 'Configuration' window with the following settings:

- Network Settings:** MAC Address: 00-0D-E0-90-00-02; Address Type: Static IP; Static IP Address: 192.168.22.34; Subnet Mask: 255.255.0.0; Default Gateway: 192.168.0.254.
- MBRTU Port Settings:** Baud Rate (bps): 115200; Data Bits (bit): 8; Parity: None; Stop Bits (bit): 1; Byte Order Setting: Low | High.
- MBTCP Server Setting:** Server No.: Server 0; Server IP: 192.168.22.70.
- Modbus Request Command:** Device Options: TCP No.0; Function Code: FC3 Read multi-registers (4x00xx) for AO; ID (dec): 1; Count (dec): 8; Start Address (dec): 0.
- Command Info:** Total Input (T->O): 16 (bytes); Total Output (O->T): 0 (bytes); Command Interval: 56 (ms).
- Setting Files Management:** Load File, Save File buttons.
- Firmware Version:** 2012/10/16 v2.2.
- Table:**

No.	IP3	IP2	IP1	IP0
0	192	168	22	71
1	192	168	22	72
2	192	168	255	4
3	192	168	255	5
4	192	168	255	6
- Table:**

Device	ID	Function Code	Start Address	Count	Type	EIP Input Address (byte)	EIP Out (byte)	
1	TCP NO.0	1	3	0	8	AO Words	0-15	NA

## Q9:How to set up GW-7472 in RSLogix 5000 MSG ladder element ?

A9: If you want to connect to GW-7472 with Get Attribute Single or Set Attribute Single, you can configure MSG ladder element in your routine. Please refer the steps to complete the configurations.

(1) Create input/output tags and input/data data. The data type of tags are "Message". The data type of data are "SINT[...]". Please notice that the size of data array (RSLogix 5000) and the size of I/O length (GW-7472) must be the same.

The image shows two screenshots from the RSLogix 5000 software. The top screenshot shows the Controller Organizer with a table of tags. The bottom screenshot shows the Configuration dialog box for the MSG ladder element.

**Controller Organizer Tags Table:**

Name	Alias For	Base Tag	Data Type	Description
input_tags			MESSAGE	
input_data			SINT[2]	
output_tags			MESSAGE	
output_data			SINT[4]	

**Configuration v2.1.1 Dialog Box:**

**Network Settings:** MAC Address: 00-0D-E0-80-0D-F7, Address Type: Static IP, Static IP Address: 192.168.22.72, Subnet Mask: 255.255.0.0, Default Gateway: 192.168.0.1

**MBRTU Port Settings:** Baud Rate (bps): 115200, Data Bits (bit): 8, Parity: None, Stop Bits (bit): 1, Byte Order Setting: High | Low

**MBTCP Server Setting:** Server No.: Server 0, Server IP: 192.168.0.0

**Modbus Request Command:** Device Options: RTU, Function Code: FC16 Write multi-registers (4xxxx) for AO, ID (dec): 1, Count (dec): 1, Start Address (dec): 2

**Command Info:** Total Input (T->O): 2 (bytes), Total Output (O->T): 4 (bytes), Command Interval: 100 (ms)

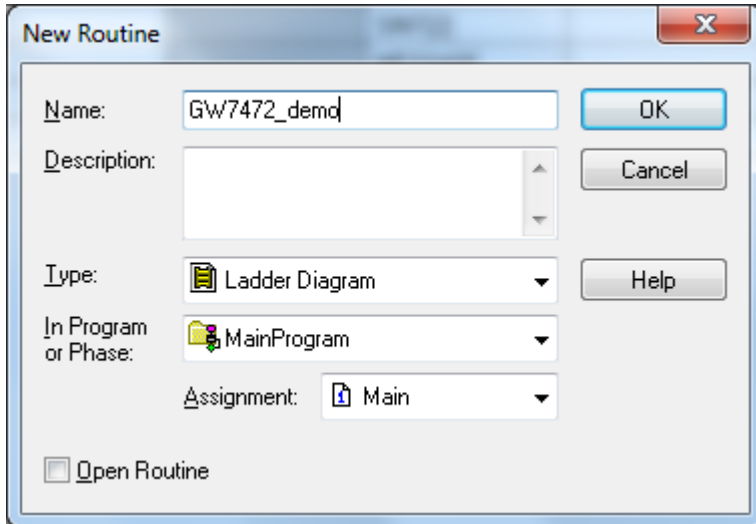
**Setting Files Management:** Load File, Save File, Update Settings and Reboot, Exit

**Firmware Version:** 2012/5/3 v2.3

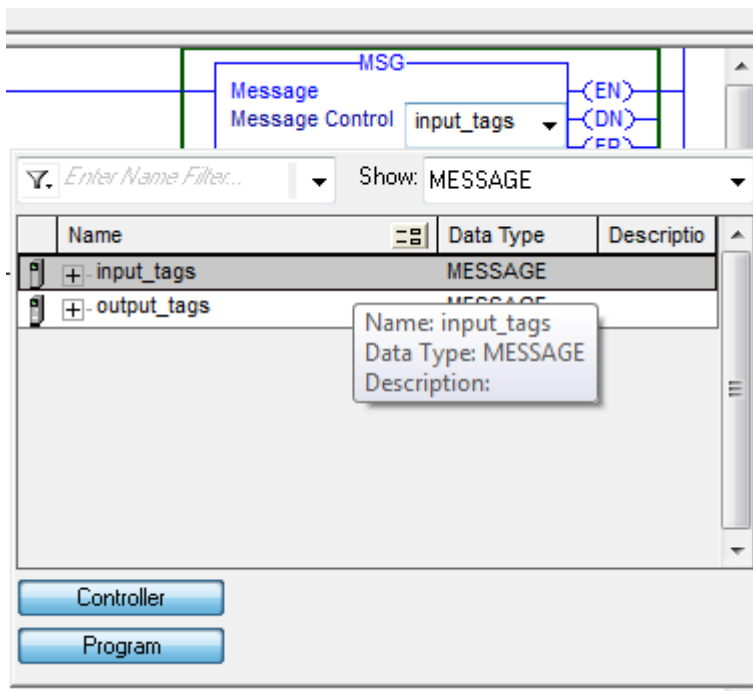
**Table:**

	Device	ID	Function Code	Start Address	Count	Type	EIP Input Address (byte)	EIP Out (byte)
1	RTU	1	4	0	1	AI Words	0~1	NA
2	RTU	1	16	0	1	AO Words	NA	0~1
3	RTU	1	16	2	1	AO Words	NA	2~3

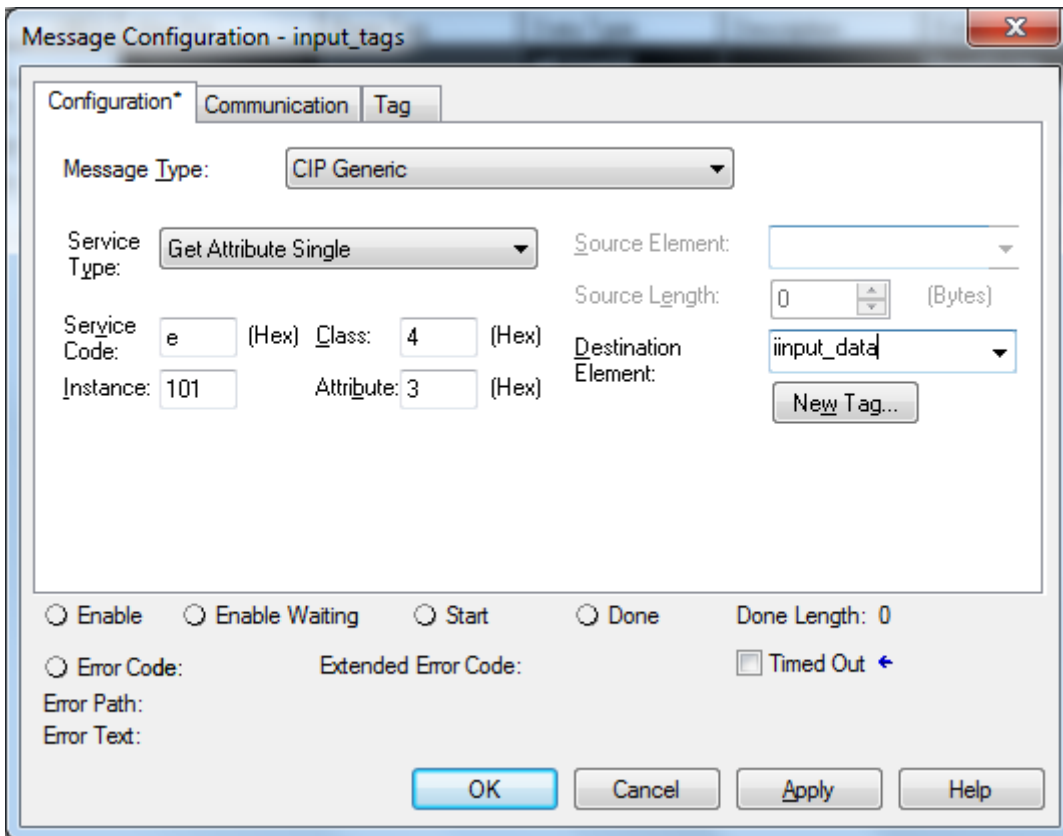
(2) Add a new routine.



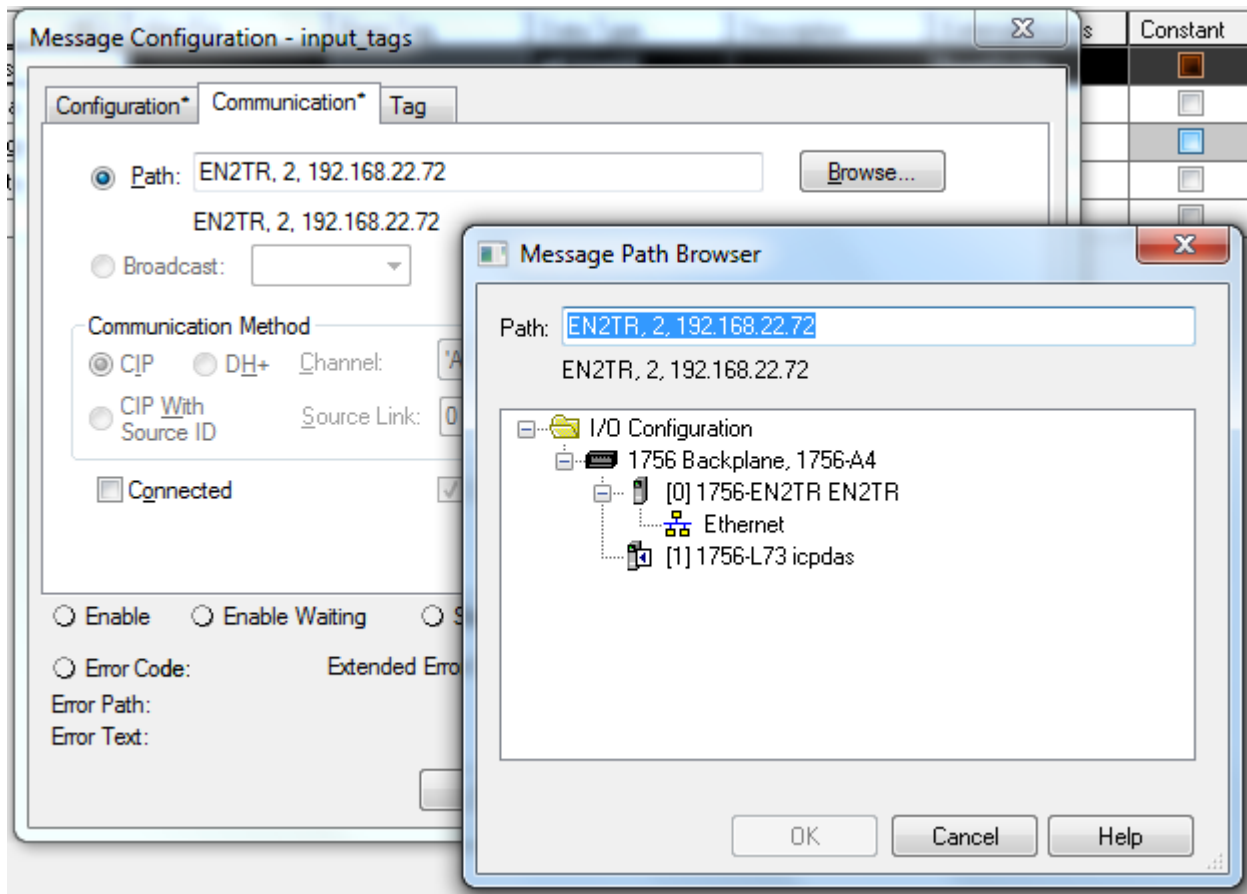
(3) Add MSG element in your ladder and select "input\_tags".



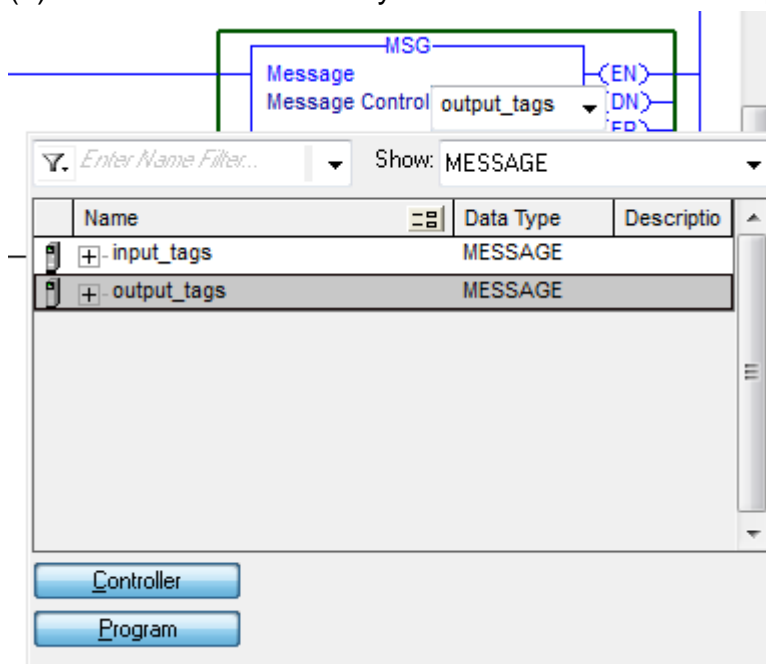
Configure the Message Configuration. here we have to select the “Service Type” of “Get Attribute Single”. To fill in the “Class” as 4, “Instance” as 101 and “Attribute” 3. In the “Destination” dropdown box select the “input\_data”.



Next select the “Communication” tab, first click on the “Browse” button. This will bring up a new window; here select the Ethernet module in the PLC and click OK. Now the name of the Ethernet module should be filled in at the “Path”, here we also have to fill in the full path to GW-7472 (in this example GW-7472 have the IPaddress of 192.168.22.72). After the name of the Ethernet module in the PLC, add a comma, a space, and a 2, this indicates that the message should be routed out on Ethernet. Following the 2 add a comma, a space, and the IP-address to GW-7472, here 192.168.22.72. This is everything that has to be done here, click on OK.

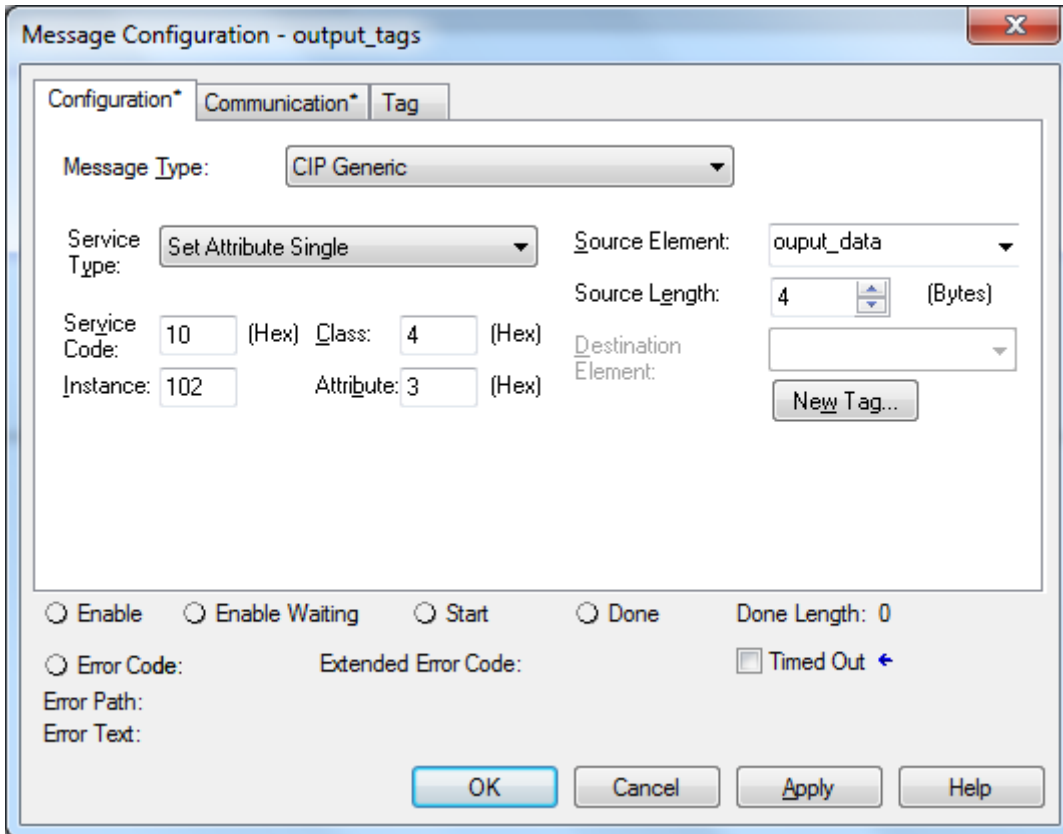


(4) Add MSG element in your ladder and select "Output\_tags".

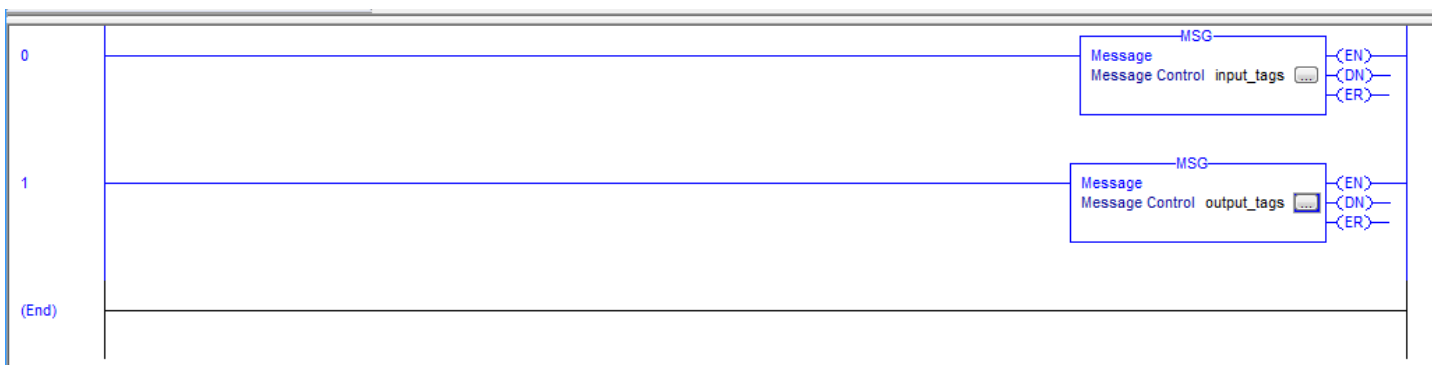




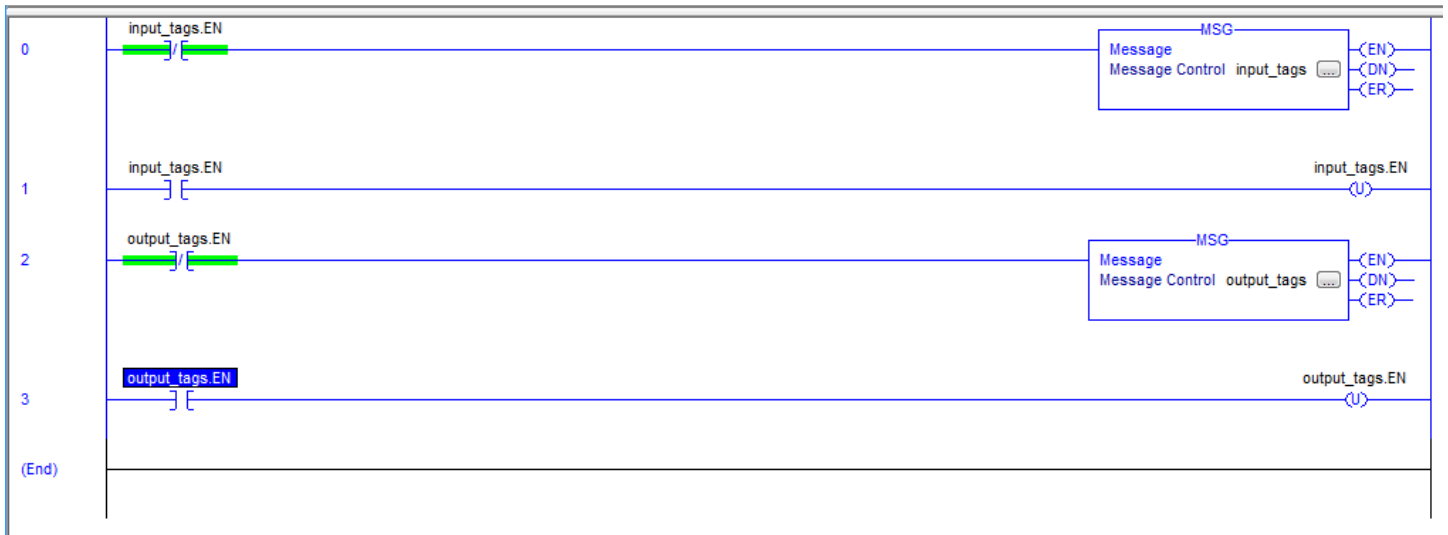
Configure the Message Configuration. here we have to select the “Service Type” of “Set Attribute Single”. To fill in the “Class” as 4, “Instance” as 102 and “Attribute” 3. For “Source Element” select the “output\_data” tag and the “Source Length” should be 4 bytes. Under “Communication” tab the “Path” should be the same as the one used to read data.



(5) This is a simple example that only will issue one read request, in a normal program some logic have to be added to trigger the instruction again, for more information regarding this issue refer to documentation for RSLogix5000. Now download the program to the PLC and go “Online”.



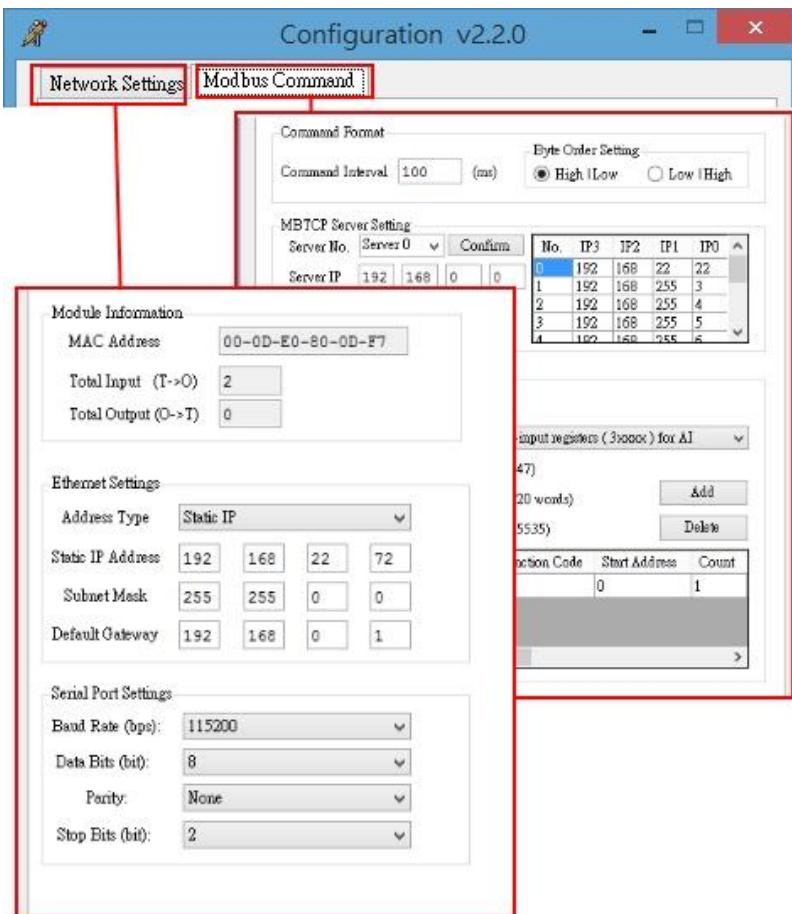
If you want to send Get/Set Attribute Single continuously, you can refer to the ladder below.



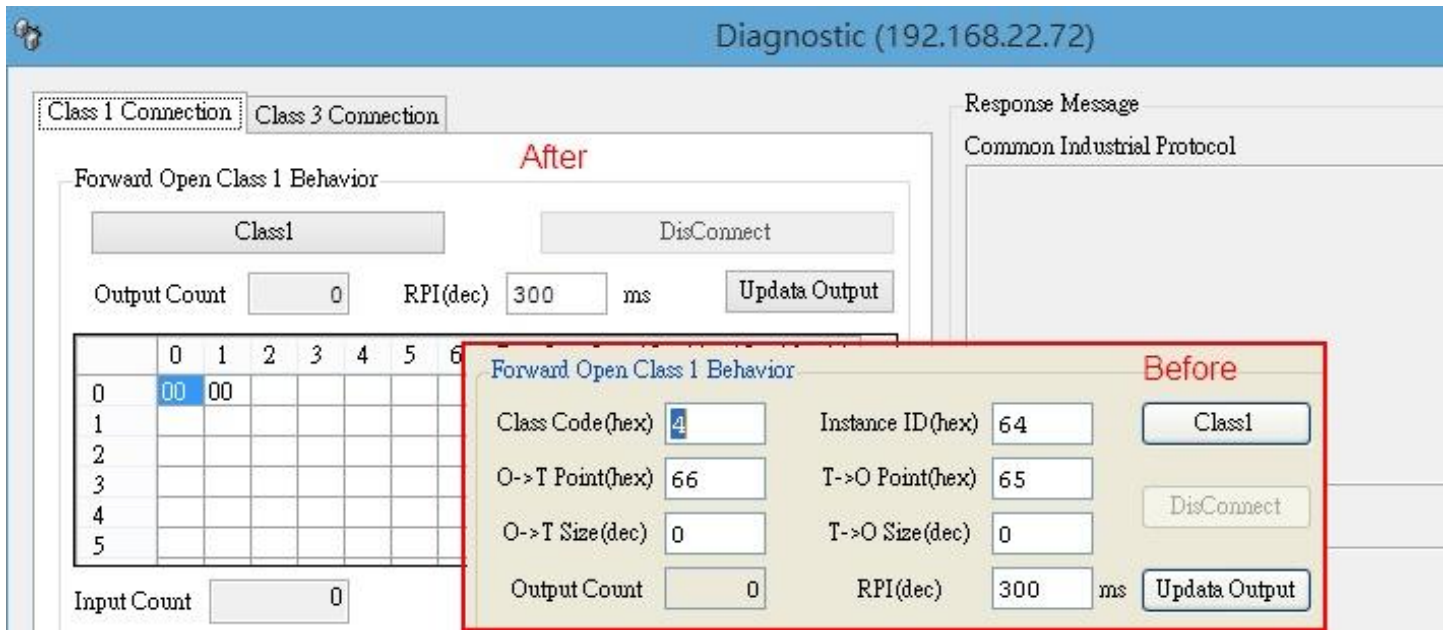
**Q10: What is the difference between Utility V2.2.0 and the older version ?**

A10: The user interface of GW-7472 Utility V2.2.0 is changed. It is getting easier and friendly.

(1) To configure network settings and Modbus command on different label.



(2) To reduce the parameters on Class 1 connections. Just click "Class 1" button to make EtherNet/IP connection with GW-7472.



(3) Do not fill out the IP and MAC address on Firmware Download window.

