

ICP DAS

# GW-7472 FAQ

FAQ Version 1.1

# **Table of Contents**

<b>Q1: 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? .....</b>	<b>3</b>
<b>Q2 : How to make a Class1 connection with the GW-7472 Utility Diagnostic window? .....</b>	<b>3</b>
<b>Q3 : Why did the pop-up message “FW Version Error” be shown after I run the new version Utility? ....</b>	<b>4</b>
<b>Q4 : How to connect to the Allen-Bradley PLC ? .....</b>	<b>7</b>
<b>Q5 : How to check the connections between the GW-7472 and the Modbus devices ? .....</b>	<b>9</b>

**Q1: 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?**

A1: After the firmware version 1.5 of GW-7472, the utility supports the “Byte Order Setting” as shown in the following figure.

The screenshot shows the 'Configuration' window with several tabs. The 'MBRTU Port Settings' tab is active, and the 'Byte Order Setting' section is highlighted with a red box. It contains two radio buttons: 'High | Low' (unselected) and 'Low | High' (selected). Other sections include 'Network Settings', 'MBTCP Server Setting', 'Modbus Request Command', and 'Setting Files Management'.

**Network Settings**

MAC Address: 00-0D-E0-90-00-02  
 Address Type: Static IP  
 Static IP Address: 192 168 22 35  
 Subnet Mask: 255 255 0 0  
 Default Gateway: 192 168 0 1

**MBRTU Port Settings**

Baud Rate (bps): 9600  
 Data Bits (bit): 8  
 Parity: None  
 Stop Bits (bit): 1  
**Byte Order Setting**  
☐ High | Low ☒ Low | High

**MBTCP Server Setting**

Server No.: Server 0  
 Server IP: 192 168 0 0

No.	IP3	IP2	IP1	IP0
0	192	168	255	2
1	192	168	255	3
2	192	168	255	4
3	192	168	255	5
4	192	168	255	6

**Modbus Request Command**

Device Options: RTU  
 Function Code: FC3 Read multi-registers (4xxxx) for AO  
 ID (dec): 4 (1~247)  
 Count (dec): 3 (1~120 words)  
 Start Address (dec): 158 (0~65535)

**Command Info**

Total Input (T->O): 6 (bytes)  
 Total Output (O->T): 6 (bytes)  
 Command Interval: 1000 (ms)

**Setting Files Management**

Load File Save File

Firmware Version: 2012/10/16 v2.2

	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

**Q2 : How to make a Class1 connection with the GW-7472 Utility Diagnostic window?**

A2 : 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 Configuraton 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)  Disconnect

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

**Q3 : Why did the pop-up message “FW Version Error” be shown after I run the new version Utility?**

**A3 :** 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

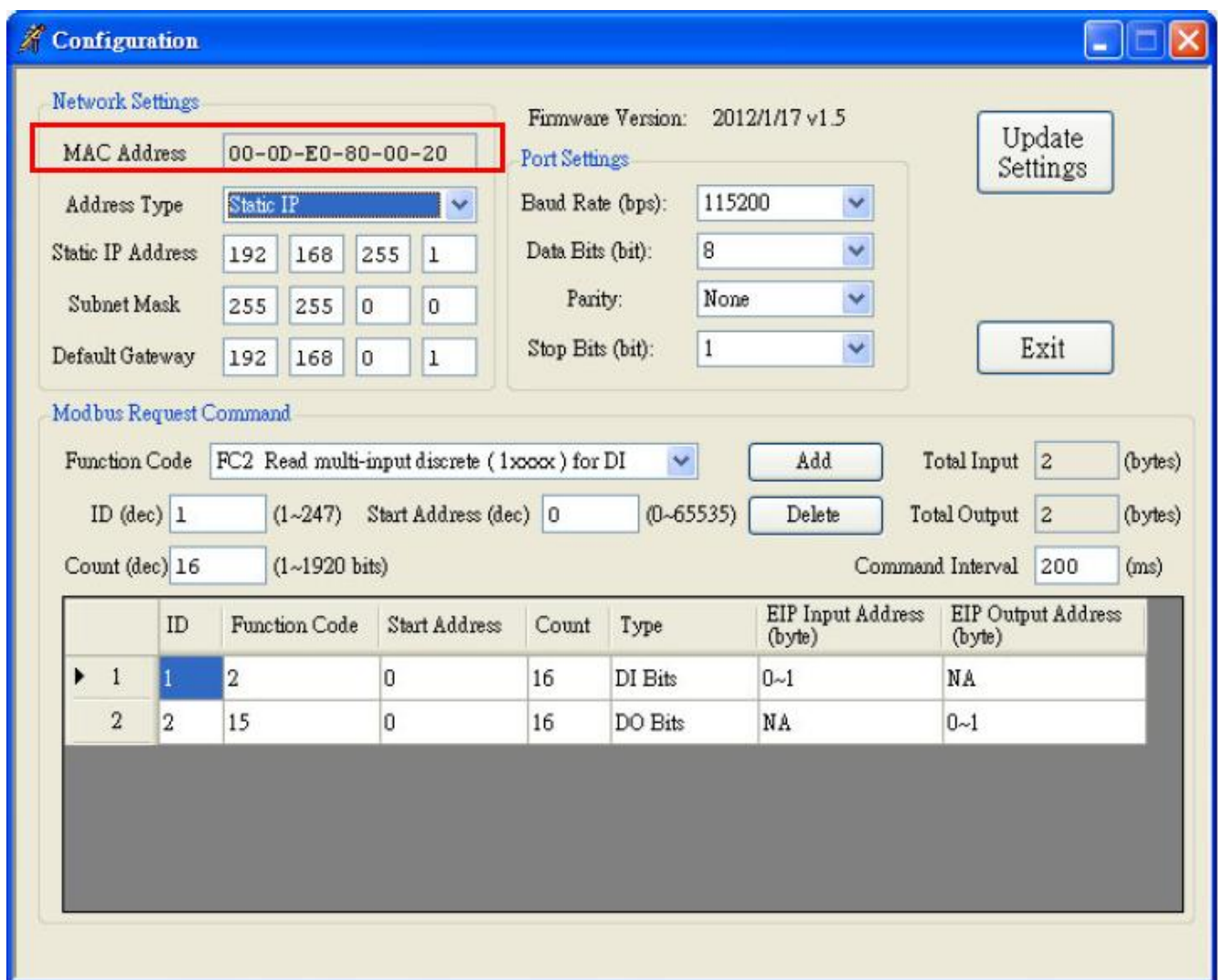
website is shown below ( [http://ftp.icpdas.com/pub/cd/fieldbus\\_cd/ethernetip/gateway/gw-7472/firmware/](http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethernetip/gateway/gw-7472/firmware/) ).



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

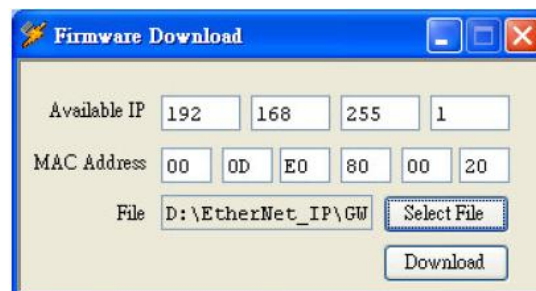
Ping statistics for 192.168.255.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>arp -a

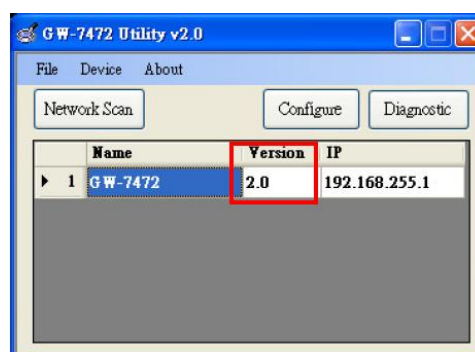
Interface: 192.168.22.2 --- 0x2
    Internet Address      Physical Address         Type
192.168.0.101            1c-6f-65-88-b9-73       dynamic
192.168.0.254            00-19-ch-08-50-70       dynamic
192.168.255.1            00-0d-e0-80-00-20       dynamic

C:\>
```

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.



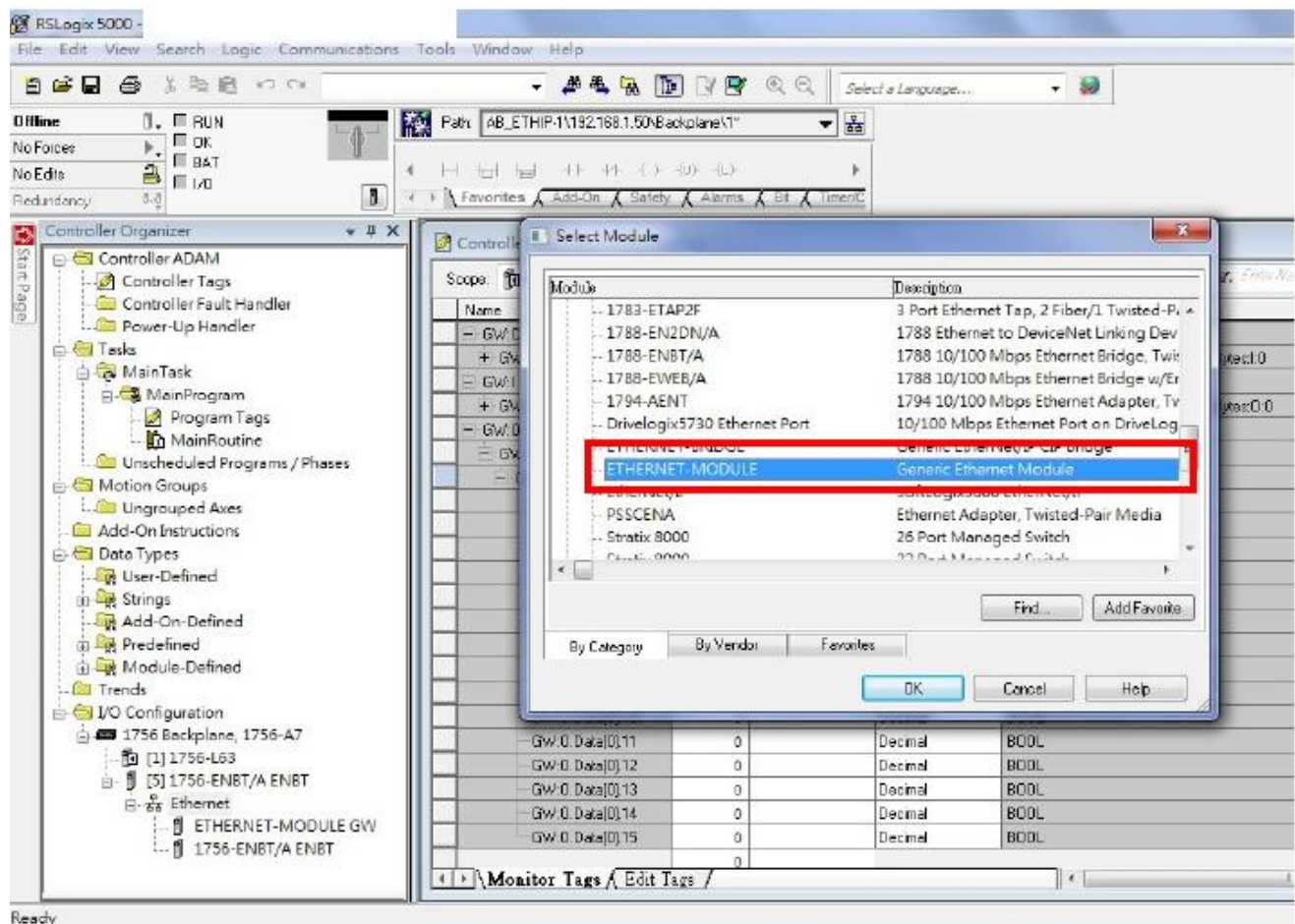
Step3 : After downloading the firmware, please check the Utility whether the version is V2.0 or not on the Main Menu.



#### Q4 : How to connect to the Allen-Bradley PLC ?

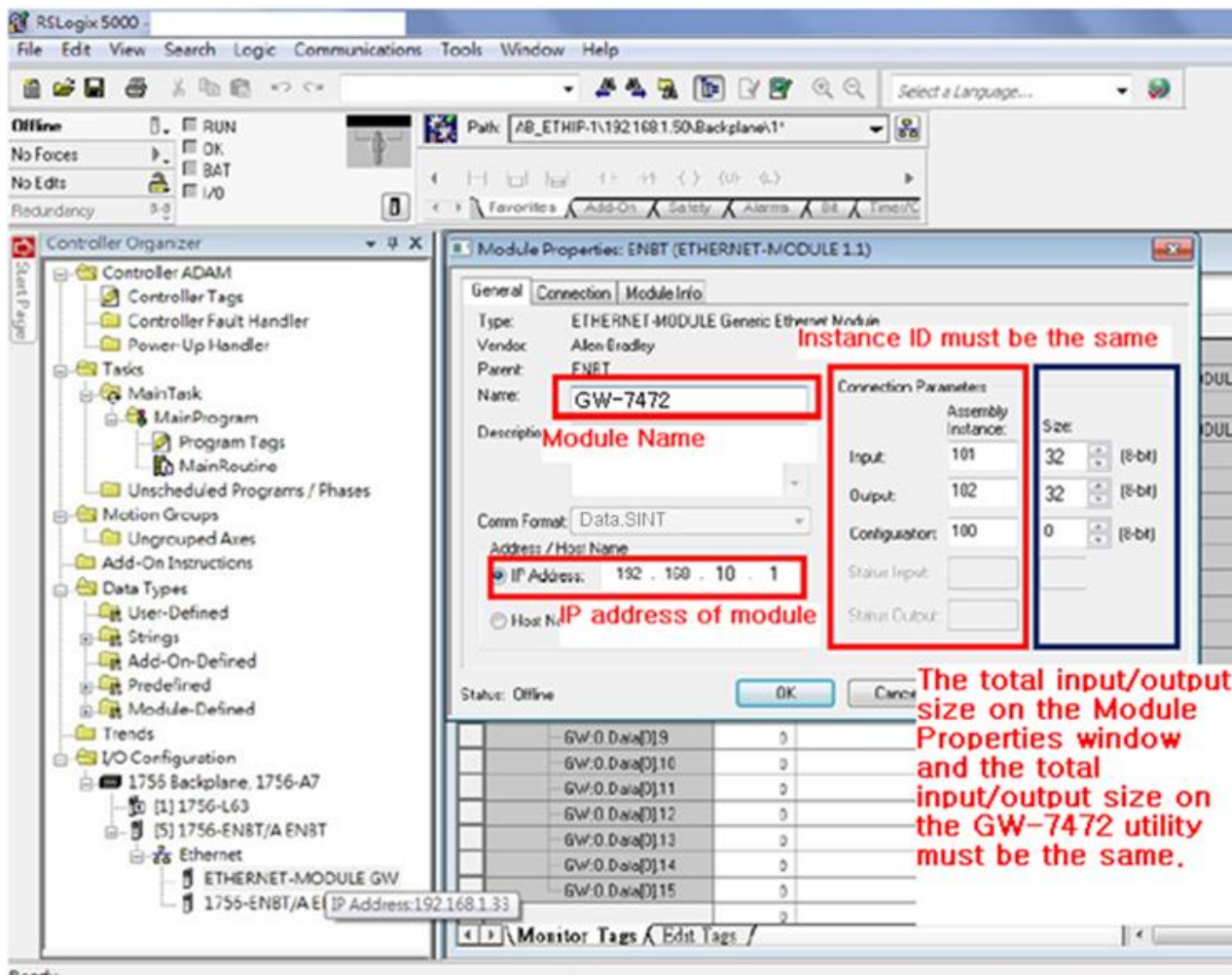
A4 : It is tested and confirmed that the GW-7472 can be connected to the Allen-Bradley™ ControlLogix Logix 5563 through the 1756-ENBT ControlLogix EtherNet/IP Module successfully. The configuration software is RSLogix 5000. Please follow the steps below:

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

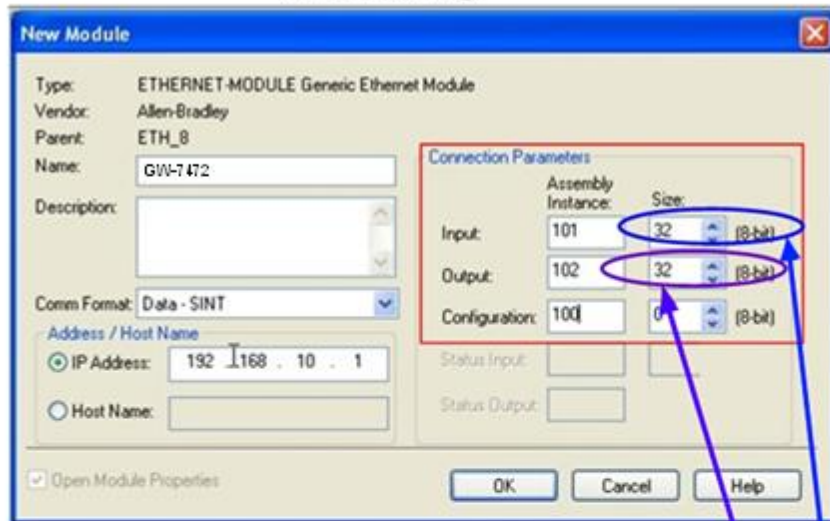


(b) Configure the "Module Properties" window. Please notice that the total input size on the Module Properties window and the total input size on the GW-7472 Utility must be the same. Also, the total output size on the Module Properties window and the total output size on the GW-7472 Utility must be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

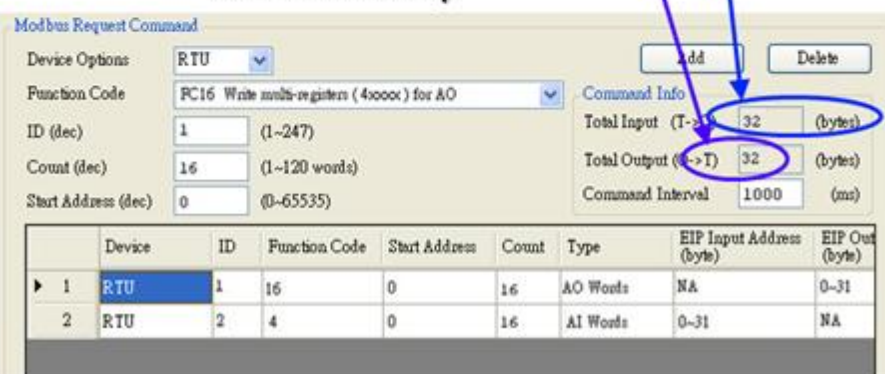




## PLC Setting



## GW-7472 Utility





### Q5 : How to check the connections between the GW-7472 and the Modbus devices ?

A5 : 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**

The screenshot shows the 'Diagnostic (192.168.22.17)' window. The 'UCMM / Forward Open Class 3 Behavior' section is highlighted with a red box. It contains the following fields: Service Code(hex) set to 'E', Class Code(hex) set to '4', Instance ID(hex) set to '67', Attribute ID(hex) set to '3', Request Data(hex) set to '11 22', Data Size(dec) set to '2', and RPI(dec) set to '300' ms. The 'Class3' button is visible. Below this, the 'Response Message' section shows 'Common Industrial Protocol' details. The 'Common Packet' section shows a sequence of '06 06' followed by zeros. The 'Modbus TCP Server Status' section at the bottom shows ten status icons for TCP No.0 through TCP No.9. A red arrow points from the 'Common Packet' data to the status table below.

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