



iO-GRID *M*

Error Code Information



Table of Contents

| | |
|---|----|
| 1. Sample Module List | 3 |
| 2. Sample Scenario - GFMS-RM01N Error Codes..... | 4 |
| 2.1 Using “Function Code 03” as an example | 4 |
| 2.2 Using “Function Code 17” as an example | 7 |
| 2.3 Anomaly Record Register Information..... | 10 |
| 3. Sample Scenario - GFGW-RM01N Error Codes | 11 |
| 3.1 Using ID2 disconnected on the slave as an example | 11 |



1. Sample Module List

| Product No. | Description | Remarks |
|-------------|--|---------|
| GFGW-RM01N | Modbus TCP-to-Modbus RTU/ASCII gateway module, 4 Ports | |
| GFMS-RM01N | RS485 control module, Modbus RTU/ASCII 3 Ports | |
| GFAI-RM11 | 4-channel analog input module (0...10VDC) | |
| GFAI-RM21 | 4-channel analog input module (4... 20mA) | |
| GFAO-RM11 | 4-channel analog output module (0...10VDC) | |
| GFAO-RM21 | 4-channel analog output module (4... 20mA) | |

2. Sample Scenario - GFMS-RM01N Error Codes

2.1 Using “Function Code 03” as an example

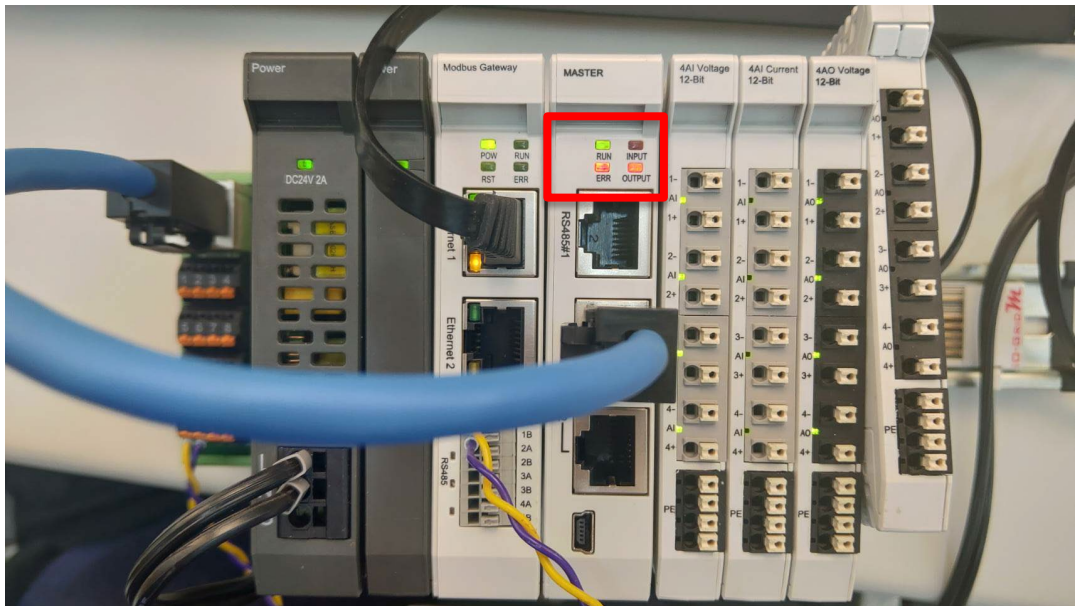
I. Sample module configuration shown in the image below:



II. Send communication commands in the simulation program – the module will return normal numbers as there are no errors in the module at the time



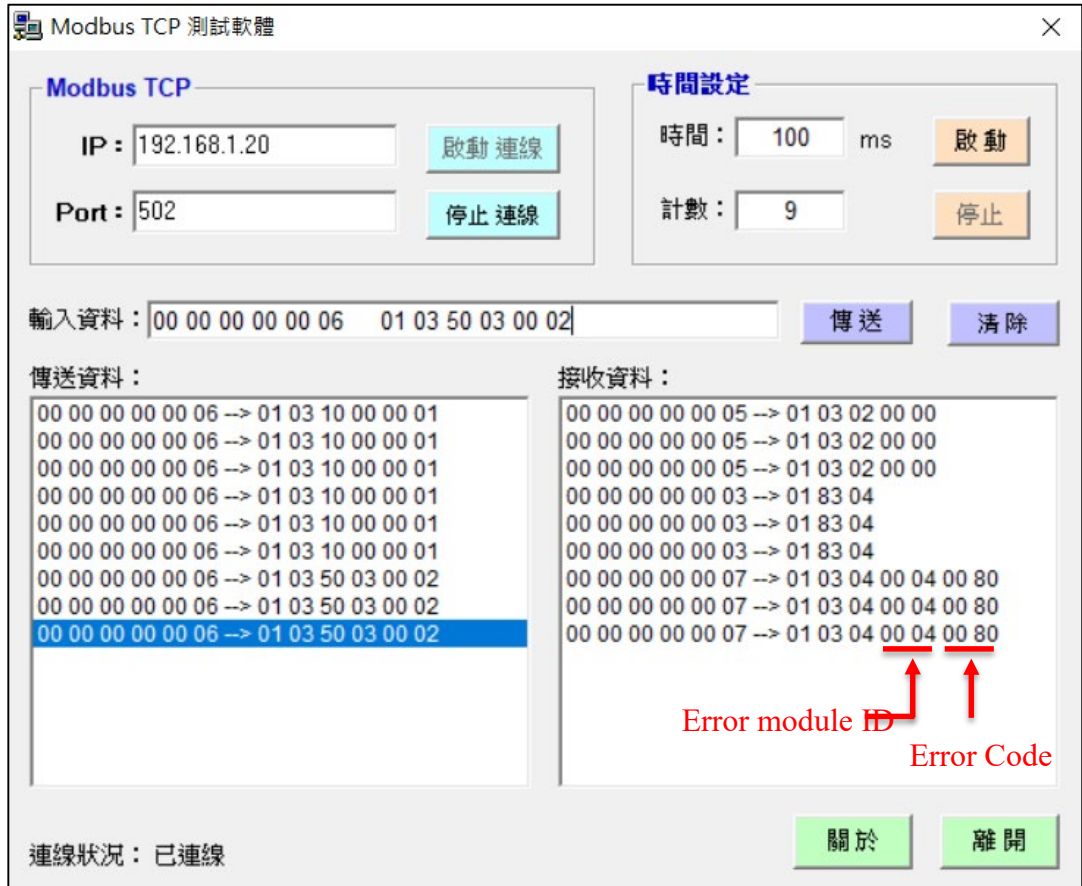
III. With the ID:4 GFAO-RM21 module removed - the red indicator lights up on GFMF-RM01N



IV. When an I/O module has any anomalies, an indicator lights up on GFMS-RM01N and return “the command and error code (03+80 here)”



- V. After receiving an error code, we can use 0x5003 and 0x5004 (our anomaly record registers) to find out which module has what anomaly



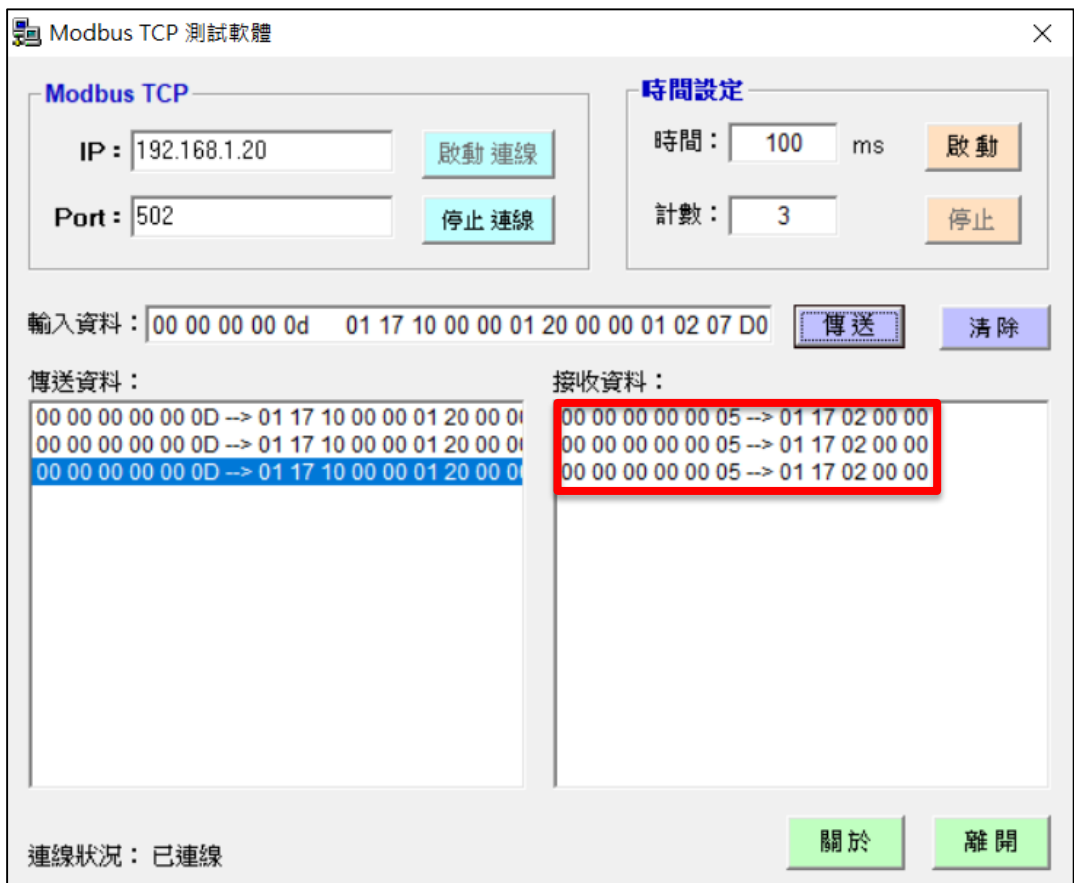
※Must read both 0x5003 and 0x5004 together

2.2 Using “Function Code 17” as an example

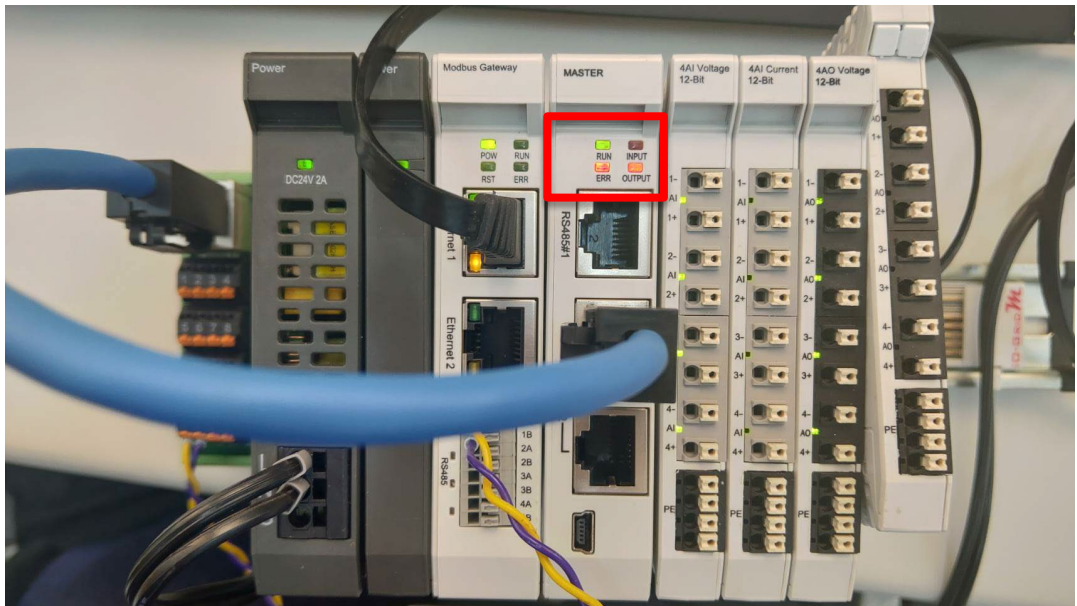
I. Sample module configuration shown in the image below:



II. Send communication commands in the simulation program – the module will return normal numbers as there are no errors in the module at the time



III. With the ID:4 GFAO-RM21 module removed - the red indicator lights up on GFMF-RM01N



IV. When an I/O module has any anomalies, an indicator lights up on GFMS-RM01N and return “the command and error code (17+80 here)”



V. After receiving an error code, we can use 0x5003 and 0x5004 (our anomaly record registers) to find out which module has what anomaly



※Must read both 0x5003 and 0x5004 together

2.3 Anomaly Record Register Information

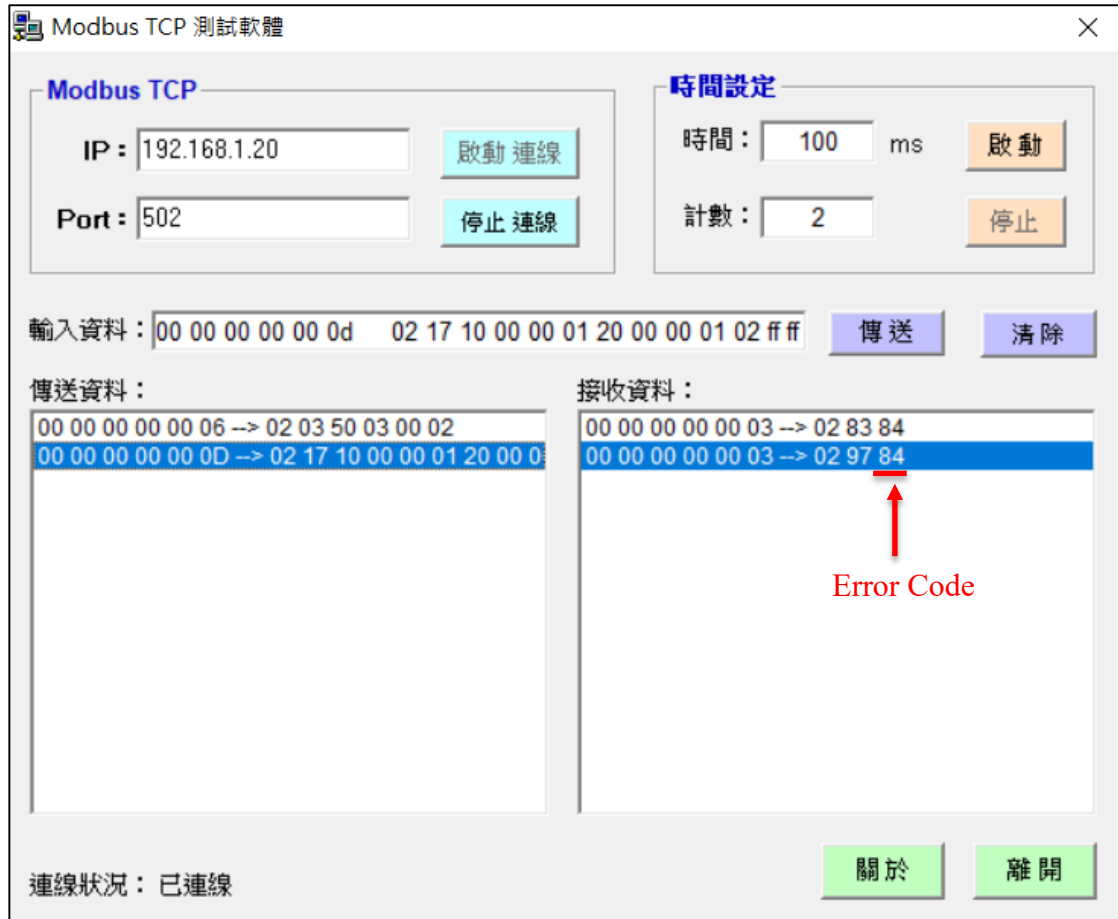
| Register address | Description | Volume (word/bytes) | Description |
|------------------|----------------------------|---------------------|--|
| 0x5003 | Anomaly module station No. | 1 word / 2 bytes | Keep track of the module station number with anomaly Example: 0X0002: Anomaly at station No.2 module |
| 0x5004 | Error Code | 1 word / 2 bytes | Keep track of the error codes of the modules with anomaly 0x0000: No error 0x0001: Abnormal Modbus Function Code 0x0002: Wrong data address 0x0004: Wrong data value 0x0008: Return the wrong ID 0x0010: Return the Modbus Function Code error 0x0020: Packet length too large 0x0040: Packet length too small 0X0080: Module time-out 0x0100: CRC error |

※ When reading the error messages, both 0x5003 and 0x5004 must be read at the same time

3. Sample Scenario - GFGW-RM01N Error Codes

3.1 Using ID2 disconnected on the slave as an example

I. Send a communication command to ID2 on the slave



II. GFGW-RM01N Corresponding Error Code

| Error | Error Code |
|----------|------------|
| Function | 0x81 |
| Address | 0x82 |
| Data | 0x83 |
| Slave | 0x84 |
| Ack | 0x85 |
| Busy | 0x86 |
| ID | 0x87 |
| Overload | 0x8A |