

2211W V2.0.0

ID-GRID Error Code Information



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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 (010VDC)	
GFAI-RM21	4-channel analog input module (4 20mA)	
GFAO-RM11	4-channel analog output module (010VDC)	
GFAO-RM21	4-channel analog output module (4 20mA)	



2. Sample Scenario - GFMS-RM01N Error Codes

2.1 <u>Using "Function Code 03" as an example</u>

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

齃 Modbus TCP 測試軟體			×
Modbus TCP		- 時間設定	
IP : 192.168.1.20	啟動 連線	時間: 100 ms	啟動
Port : 502	停止 連線	計數: 3	停止
輸入資料: 00 00 00 00 00 00 01 傳送資料: 00 00 00 00 00 06> 01 03 10 00 00 00 00 00 00 00 06> 01 03 10 00 00 00 00 00 00 00 06> 01 03 10 00 00	03 10 00 00 01 接收資 01 00 00 01 00 00 01 00 00	料: 00 00 00 05> 01 03 02 00 00 00 00 00 05> 01 03 02 00 00 00 00 00 05> 01 03 02 00 00	清除
連線狀況:已連線		關於	離開



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)

臰 Modbus TCP 測試軟體	×
Modbus TCP IP = 192.168.1.20 啟動 連続 Port = 502 停止 連続	時間設定 時間: 100 ms 計數: 6
輸入資料: 00 00 00 00 00 06 01 03 10 00 00 傳送資料: 00 00 00 00 00 06> 01 03 10 00 00 01 00 00 00 00 00 66> 01 03 10 00 00 01 00 00 00 00 06> 01 03 10 00 00 01 00 00 00 00 06> 01 03 10 00 00 01 00 00 00 00 06> 01 03 10 00 00 01	0 01 接收資料: 00 00 00 00 00 05> 01 03 02 00 00 00 00 00 00 00 05> 01 03 02 00 00 00 00 00 00 00 05> 01 03 02 00 00 00 00 00 00 00 03> 01 83 04 00 00 00 00 00 03> 01 83 04 00 00 00 00 00 03> 01 83 04
連線狀況: 已連線	關於離開



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

Modbus TCP			「時間設」	Ê		
IP : 192.168.1.20	啟動 連	線	時間:	100	ms	啟動
Port : 502	停止連續	泉	計數:	9		停止
入資料:00 00 00 00 00 06	01 03 50 03 0	0 02			傳送	清除
送資料:		接收資	料:			
0 00 00 00 00 06> 01 03 10 00	00 01	00 00	00 00 00 0	5->01	03 02 00 00)
0 00 00 00 00 06> 01 03 10 00	00 01	00 00	00 00 00 0	5> 01	03 02 00 00)
0 00 00 00 00 06> 01 03 10 00	00 01	00 00	00 00 00 0	5->01	03 02 00 00)
0 00 00 00 00 06> 01 03 10 00	00 01	00 00	00 00 00 0	3->01	83 04	
0 00 00 00 00 06 -> 01 03 10 00	00.01	00 00	00 00 00 0	3->01	83 04	
0 00 00 00 00 00 00> 01 03 10 00	00.02	00 00	00 00 00 00 0	7->01	03 04 00 04	1 00 80
0 00 00 00 00 06 -> 01 03 50 03	00 02	00 00	00 00 00 0	7 -> 01	03 04 00 04	1 00 80
0 00 00 00 00 06> 01 03 50 03	00 02	00 00	00 00 00 0	7> 01	03 04 00 04	1 00 80
			Erro	or mod		T
					E	rror Cod

𝔅Must read both 0x5003 and 0x5004 together ■



2.2 <u>Using "Function Code 17" as an example</u>

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

齃 Modbus TCP 測試軟體	×
Modbus TCP	時間設定
IP: 192.168.1.20 啟動 連続	时間: 100 ms <u></u> 啟動
Port = 502 停止 連続	計數: 3 停止
輸入資料:00 00 00 00 00 01 17 10 00 00 01	I 20 00 00 01 02 07 D0 [售送] 清除
傳送資料:	接收資料:
00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 0i	00 00 00 00 00 05> 01 17 02 00 00 00 00 00 00 05> 01 17 02 00 00 00 00 00 00 00 05> 01 17 02 00 00
連線狀況:已連線	關於離開



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)

覺 Modbus TCP 測試軟體	×
Modbus TCP	時間設定
IP: 192.168.1.20 啟動 連	線 時間: 100 ms <u>敗</u> 動
Port : 502 停止 速	線 計數: 6 停止
輸入資料:00 00 00 00 0d 01 17 10 00 00	01 20 00 00 01 02 07 D0
傳送資料:	接收資料:
00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00 00 00 00 00 00 0D> 01 17 10 00 00 01 20 00	$\begin{array}{c} 00 \ 00 \ 00 \ 00 \ 00 \ 00 \ 00 \ 00$
連線狀況:已連線	關於離開



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

覺 Modbus TCP 測試軟體	×
Modbus TCP	- 時間設定
IP: 192.168.1.20 啟動 連線	時間: 100 ms <u>敗動</u>
Port: 502 停止 連線	計數: 9 停止
輸入資料: 00 00 00 00 00 00 00 00 01 03 50 03 00 0 傳送資料: 00 00 00 00 00 0D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 0D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 0D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 0D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 0D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 D -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 00 -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 00 -> 01 17 10 00 00 01 20 00 0i 00 00 00 00 00 00 -> 01 03 50 03 00 02 00 00 00 00 00 06 -> 01 03 50 03 00 02	傳送 清除 接收資料: 00 00 00 00 00 05 -> 01 17 02 00 00 00 00 00 00 00 05 -> 01 17 02 00 00 00 00 00 00 00 05 -> 01 17 02 00 00 00 00 00 00 05 -> 01 17 02 00 00 00 00 00 00 00 05 -> 01 17 02 00 00 00 00 00 00 00 00 00 -> 01 17 02 00 00 00 00 00 00 00 3 -> 01 97 04 00 00 00 00 00 3 -> 01 97 04 00 00 00 00 00 00 07 -> 01 03 04 00 04 00 80 00 00 00 00 07 -> 01 03 04 00 04 00 80 00 00 00 00 07 -> 01 03 04 00 04 00 80 Error module ID
	Error Code
連線狀況: 已連線	關於離開

𝔅Must read both 0x5003 and 0x5004 together



Register	Description	Volume	Description
address		(word/bytes)	
0x5003	Anomaly module	1 word / 2 bytes	Keep track of the module station number with
	station No.		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

2.3 <u>Anomaly Record Register Information</u>

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

📒 Modbus TCP 測試軟體	×
Modbus TCP IP: 192.168.1.20 啟動 連約	時間設定 時間: 100 ms <u>▶</u> 動
Port: 502 停止 連続	計數: 2 停止
輸入資料: 100 00 00 00 00 00 00 00 00 02 17 10 00 00 傳送資料: 100 00 00 00 00 00 00> 02 03 50 03 00 02 100 00 00 00 00 00> 02 17 10 00 00 01 20 00 0	01 20 00 00 01 02 ff ff 傳送 清除 接收資料: 00 00 00 00 00 03> 02 83 84 00 00 00 00 00 03> 02 97 84 Error Code
連線狀況:已連線	關於 離開

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