

2210TW V2.0.0



# io-Grid加與MLESEC-Q

# **Modbus RTU**

連線操作手冊



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# 1. 遠端 I/O 模組配套清單

料號	規格	說明
GFMS-RM01S	Master Modbus RTU, 1 Port	主控制器
GFDI-RM01N	Digital Input 16 Channel	數位輸入
GFDO-RM01N	Digital Output 16 Channel / 0.5A	數位輸出
GFPS-0202	Power 24V / 48W	電源
GFPS-0303	Power 5V / 20W	電源
0170-0101	8 pin RJ45 female connector/RS-485 Interface	轉接模組

# 1.1 產品描述

- I. 轉接模組用於外部與 Mitsubishi PLC 通訊模組(Modbus RTU)轉換成 RJ45 介面。
- II. 主控制器負責管理並組態配置 I/O 參數...等。
- III. 電源模組以及轉接模組為遠端 I/O 標準品,使用者可自行選配。



# 2. MLESEC-Q series 連結設定

本章節說明如何使用 GX Works2 軟體,將Q series與 , GRID 加 進行連結,詳細說明 請參考說明書 <u>MODBUS(R) Interface Module User's Manual</u>

### 2.1 Q series硬體接線

I. 連接器位於QJ71MB91模組下方。採用RS485 連接方式





- FISIO ÷. • 3 (10) 10 USB A PULL CC-Línk
- II. 將QJ71MB91下方COM(RS485 A/B)與轉接模組(1/2)對接 轉換成RJ45介面與主控制器對接



- 2.2 Q series連線設定
  - I. 開啟 GX Works2 從左方" Project"點選" Inteligent Function Module"選單,點擊" QJ71MB91"選單內的"Switch Setting "



#### II. 連線通訊設定(使用 CH2)

nten setting sessiq				
1	Item	CH1		CH2
Mod	e setting 🛛 🤇	Master Function	1	Master Function
	MODBUS device assignment parameter starting method	User Setting Parameter		
	Data bit	8	B	8
Transmission Setting	Parity bit	Exist	0	Not Exist
	Even/odd	Even	Q	Even
	Stop bit	1	୍ଞ	1
	Online change	Dicable	6	Disable
Communication	Communication speed	300 bps	•	115200 bps
Station No. setting	Station No. setting	0		0
* This dialog setting is Default value will be if the Switch Setting	inked to the Switch Set shown in the dialog of the PLC parameter o	ting of the PLC parameter.		OK Cancel
*This dialog setting is Default value will be if the Switch Setting ) 下拉式選	inked to the Switch Set shown in the dialog of the PLC parameter c 單選取"Mast	ting of the PLC parameter. ontains an out-of-range value. er Function/ Ma:	ster	OK Cancel
*This dialog setting is Default value will be if the Switch Setting ) 下拉式選盟 ) 下拉式選盟	inked to the Switch Set shown in the dialog of the PLC parameter of 單選取"Mast 單選取"8"	ting of the PLC parameter. ontains an out-of-range value. er Function/ Ma:	ster	ок Cancel Function"
*This dialog setting is Default value will be if the Switch Setting ) 下拉式選單 ) 下拉式選單 ) 下拉式選單	inked to the Switch Set shown in the dialog of the PLC parameter of 單選取"Mast 單選取"8"	ting of the PLC parameter. ontains an out-of-range value. er Function/ Ma: xist"	ster	OK Cancel Function"
*This dialog setting is Default value will be if the Switch Setting )下拉式選單 )下拉式選單 )下拉式選單	inked to the Switch Set shown in the dialog of the PLC parameter of 單選取"Mast 單選取"8" 重選取"Not E 重選取"Even	ting of the PLC parameter. ontains an out-of-range value. er Function/ Ma: exist"	ster	OK Cancel Function"
*This dialog setting is Default value will be if the Switch Setting )下拉式選單 )下拉式選單 )下拉式選單 )下拉式選單 )下拉式選單	inked to the Switch Set shown in the dialog of the PLC parameter of 單選取"Mast 重選取"Not E 重選取"Even 重選取"I"	ting of the PLC parameter. ontains an out-of-range value. er Function/ Mas xist"	ster	OK Cancel Function"
*This dialog setting is Default value will be if the Switch Setting ) 下拉式選單 ) 下拉式選單 ) 下拉式選單 ) 下拉式選單 ) 下拉式選單	inked to the Switch Set shown in the dialog of the PLC parameter of 單選取"Mast 單選取"Not E 重選取"Even 重選取"I" 重選取"1"	ting of the PLC parameter. ontains an out-of-range value. er Function/ Mas fxist" , Mode"	ster	OK Cancel Function"
*This dialog setting is Default value will be if the Switch Setting ) 下拉式選單 ) 下拉式選單 ) 下拉式選單 ) 下拉式選單 ) 下拉式選單 ) 下拉式選單	inked to the Switch Set shown in the dialog of the PLC parameter of 單選取"Mast 單選取"Not E 重選取"Even 重選取"I" 電選取"I" 電選取"ITU 電選取"Disab	ting of the PLC parameter. ontains an out-of-range value. er Function/ Mas dxist" , Mode" le"	ster	OK Cancel

#### 注意: Ch1 一定要改成 User Setting Parameter 通訊模組才會啟動



Project 🕈 Da 🕅 🖗 🗃   🦣	Display Filter Display All			
Parameter	Item	CH1	CH2	
Intelligent Euroption Module	Automatic communication parameter	Set the automatic communication parameters when using the automatic communication function with the QJ71MB91 operated as		
	- Automatic Communication Parameter 1	The parameter setting concerning the automatic communication.		
E COULD'I IMPAI	<ul> <li>Setting Existence</li> </ul>	0:Invalid	I:Valid	
- Kwitch Setting	<ul> <li>Target Station No.</li> </ul>	1	1	
- P Automatic_Communication_Parameter	<ul> <li>Request Interval Timer Value</li> </ul>	0	0	
MODBUS_Device_Assignment_Parameter	PLC Response Monitoring Timer Value/Broadcast Delay Value	0	5	
Global Device Comment	Type Specification of The Target MODBUS Device	0000h:No Specification	O505h:Read/Write Holding Registers	
See Program Setting	- Read Setting	The parameter setting concerning reading data from slave.		
🙆 POU	<ul> <li>Head Buffer Memory Address</li> </ul>	0000 h	C 2000 h	
🗄 🎒 Program	<ul> <li>Target MODBUS Device Head Number</li> </ul>	0	4096	
MAIN	Access Points	0	(c) 10	
A Local Device Comment	- Write Setting	The parameter setting concerning writing data to slave.		
Device Memory	<ul> <li>Head Buffer Memory Address</li> </ul>	0000 h	10 4000 h	
A Davice Initial Value	<ul> <li>Target MODBUS Device Head Number</li> </ul>	0	© 8192	
Device Initial Value	<ul> <li>Access Points</li> </ul>	0	10	
	- Automatic Communication Parameter 2	The parameter setting concerning the automatic communication.		
	<ul> <li>Setting Existence</li> </ul>	0:Invalid	0:Invalid	
	<ul> <li>Target Station No.</li> </ul>	1	0	
La co	<ul> <li>Request Interval Timer Value</li> </ul>	0	0	
Project	PLC Response Monitoring Timer Value/Broadcast Delay Value	0	0	
User Library	Set the automatic communication parameters when usin	g the automatic communication function with the QJ71MB91 operated as a master.		
Connection Destination				
2				

III.點擊"Automatic\_Communication\_Parameter"設置讀取以及寫入方式

④下拉式選單選取"1:valid"

- ⑧下拉式選單選取"0505h:Read/Write Holding Registers"
- ⑦ 設定為 2000h
- D 讀取目標暫存器起始位址設定為 4096
- ② 讀取數量
- ⑥ 設定為 4000h
- ⑥ 寫入目標暫存器起始位址設定為 8192
- ① 寫入數量

備註:

※ i□-GRID **1** 第一組 GFDI-RM01N ,暫存器位址1000(HEX)轉成4096 ※ i□-GRID **1** 第一組 GFDO-RM01N ,暫存器位址2000(HEX) 轉成8192



## IV.點擊"Auto\_Refresh"設置讀取以及寫入的內部暫存器

Project	Display Filter Display All		
A B B B A B B A B B B B B B B B B B	Item	CH1 The data of the buffer memory is transmitted to the specified device.	CH2
E- 0000:QJ71MB91	Auto Communication Function Buffer Input     Julio Communication Function Operation Status     Starge Area (Parameter 1 to 32)     User Setting Area (Input)     Transfer to Initelligent Function Buffer Output Area     User Setting Area (Output)		00 (0,10)
Automatic_Communication_Parameter     MODBUS_Device_Assignment_Parameter     Auto_Refresh     Global Device_Comment		The data of the specified device is transmitted to the buffer memory.	000 (0, 10)
B Program Setting POU POU Pogram MAN Coll Device Comment B Device Memory		Input Device 0000:0()111M891 X - Auto Communication Function Buffer Input Area The (0)719691 store the data in auto communication buffer input area sequentially from large address in unit of 1 word (15 bit) when receive response from the slave.	
- Device Initial Value		Device Specification DD Office Value D	
User Library	Transfer Direction [Intelligent Function Module -> PLC] Notation [Device No.(Offset Value, Transfer Word Counts] Buffer Memory Address[8192 (2000h)], Offset Value[0], Ti Device Comment []	OK Cancel	
*	The QJ71MB91 store the data in auto communication buffe	er input area sequentially from large address in unit of 1 word (16 bit) when receive respo	onse from the slave.