DAUDIN CO., LTD.

iO-Grid M

and FATEK HMI Modbus RTU Connection Operating Manual

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1. Remote I/O Module Configuration List

Part No.	Specification	Description
GFMS-RM01S	Master Modbus RTU, 1 Port	Main Controller
GFDI-RM01N	Digital Input 16 Channel	Digital Input
GFDO-RM01N	Digital Output 16 Channel / 0.5A	Digital Output
GFPS-0202	Power 24V / 48W	Power Supply
GFPS-0303	Power 5V / 20W	Power Supply
0170-0101	8 pin RJ45 female connector/RS-485 Interface	Interface Module

1.1   Product Description

I.   **The interface module is used externally to convert FATEK HMI RS485's communication port (Modbus RTU) to a RJ45 connector**

II. **The main controller is in charge of the management and dynamic configuration of I/O parameters and so on.**

III. **The power module and interface module are standard for remote I/Os and users can choose the model or brand they prefer.**

2. FATEK HMI Connection Setup

This chapter explains how to use the FvDesigner program to connect FATEK HMI with iO-GRID M .For detailed information, please refer to *FATEK FvDesigner User Manual*

2.1 FATEK HMI Hardware Connection

I. **The connection port is at the bottom of the machine. Take P5070N for example. It uses COM3 (RS485 pin)**

PIN#	COM3 (RS-422)	COM3 (RS-485)	COM4
1			DATA+
2			DATA-
3	ISO_GND	ISO_GND	ISO_GND
4	RX+		
5	RX-		
6	TX+	DATA+	
7	TX-	DATA-	

II. **Connect the COM (RS485 6/7) at the bottom of the machine to the interface module (1/2) to convert it into a RJ45 connector, which will be connected to the main controller**
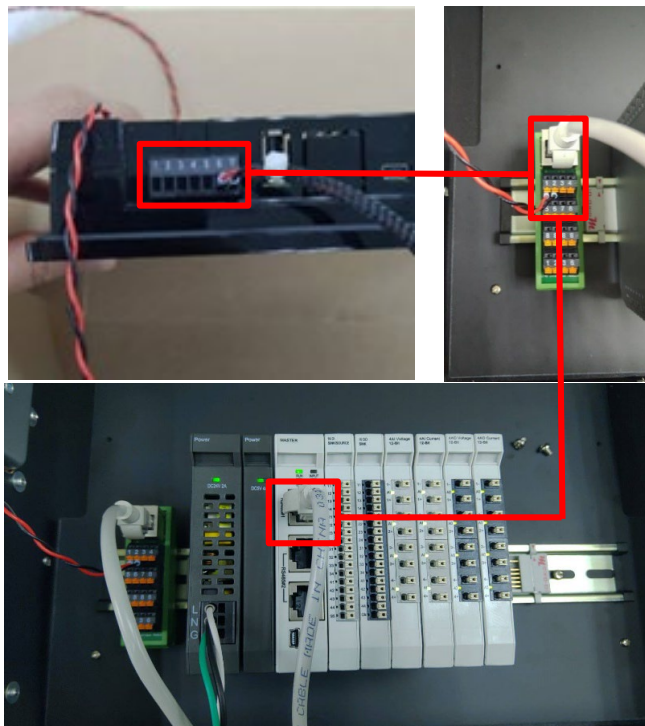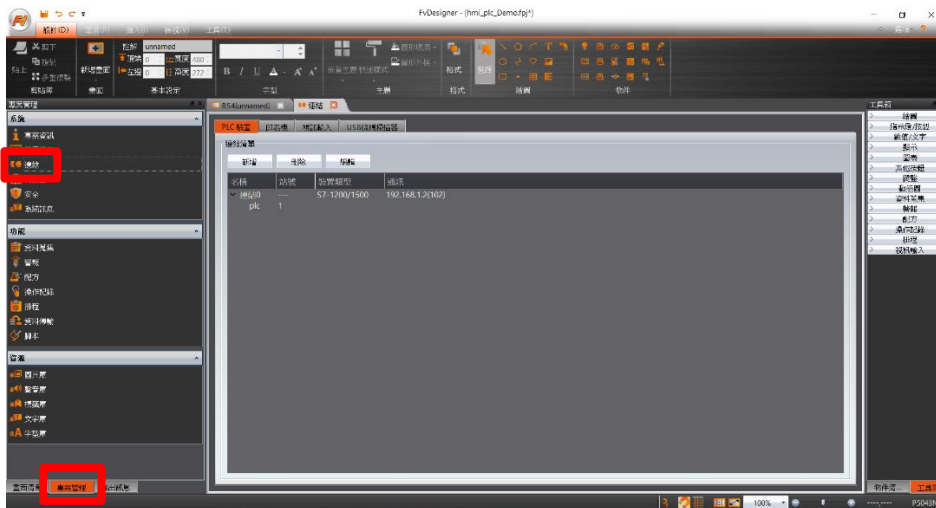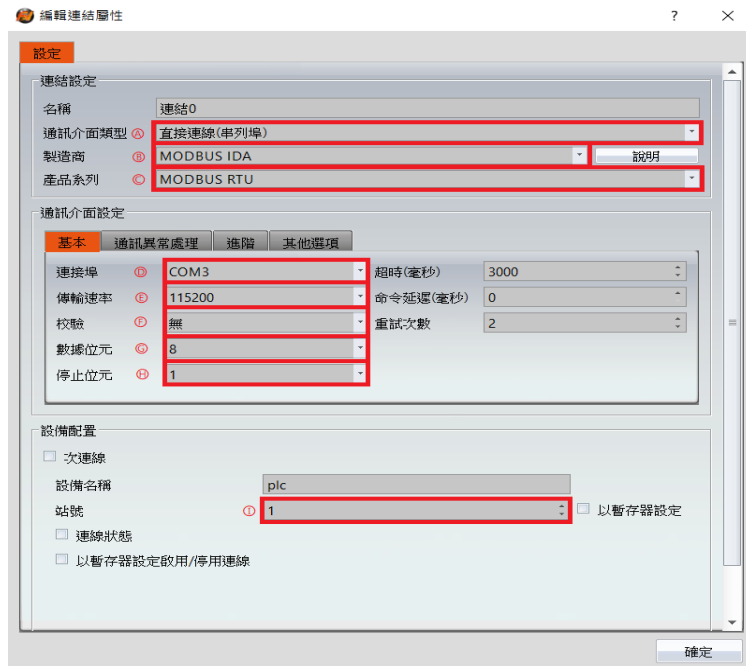
2.2 FATEK HMI Connection Setup

I. **Launch FvDesigner, open a new file, select the controller page and then click on "Add"**

II. **Or you can click to open an existing file, select "Project Management" page and then click on "Connect"**

III. Connection method setup

Ⓐ From the "Communication Interface Type" drop-down menu, select "Connect Directly (Serial Port)"

Ⓑ From the "Manufacturer" drop-down menu, select "MODBUS IDA"

Ⓒ From the "Product Series" drop-down menu, select "MODBUS RTU"

Ⓓ From the "Connection Port" drop-down menu, select "COM3"

Ⓔ From the "Transmission Rate" drop-down menu, select "115200"

Ⓕ From the "Calibrate" drop-down menu, select "No"

Ⓖ From the "Data Bits" drop-down menu, select "8"

Ⓗ From the "Stop Bits" drop-down menu, select "1"

Ⓘ Set up based on the device

Notes:
　※The demonstration in the Connection Operating Manual uses COM3.
　　　For using 485 pin with COM3, please refer to *2.1FATEK HMI Hardware Connection*
　※Regarding iO-GRID *M* 's parameter settings, please refer to iO-GRID *M* *Control Module Operating Manual*

IV. Set up the location for the tag register

Ⓐ From the "Device" drop-down menu, select the device to be connected
Ⓑ From the "Type" drop-down menu, select "4x"
Ⓒ Set up according to the plan

Example:

iO-GRID M register address		HMI's corresponding address*
R	0x1000	4097
R	0x1001	4098
R	0x1000.0	4097.0
W	0x2000	8193
W	0x2001	8194
W	0x2000.0	8193.0

Note:
※HMI's corresponding address:
iO-GRID M 's first GFDI-RM01N has the register address at 1000(HEX) converted to 4096(DEC)+1
iO-GRID M 's first GFDO-RM01N has the register address at 2000(HEX) converted to 8192(DEC)+1
※Regarding iO-GRID M 's register address and format, please refer to iO-GRID M Control Module Operating Manual