DAUDIN CO., LTD.

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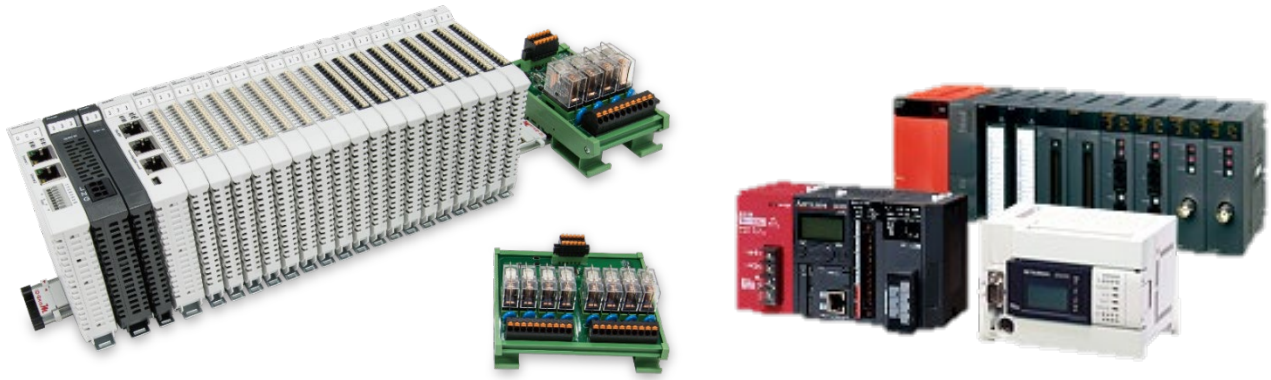
V2.0.0



iO-GRID M

and FX5U

Modbus RTU Connection Operating Manual

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1. Remote I/O Module System 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 FX5U's communication module (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.**

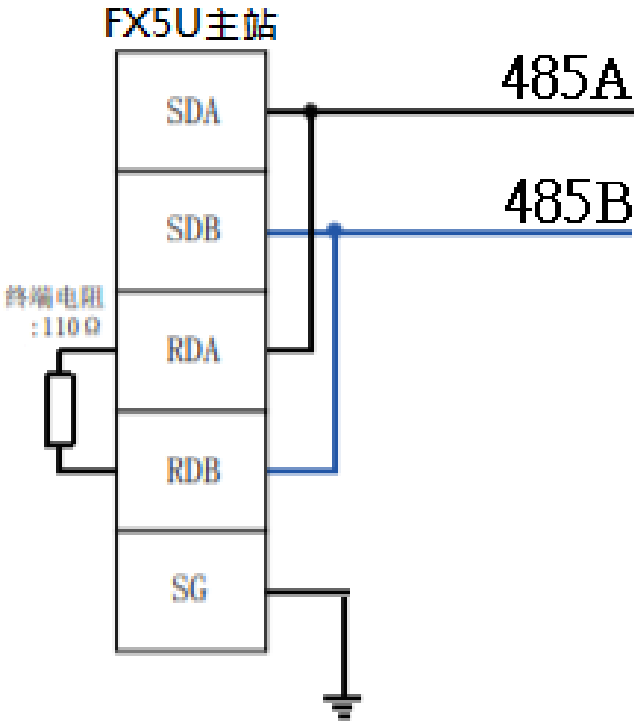
III. **The power module and interface module are standard for remote I/Os and users can choose the model or brand they prefer.**

2. MLESEC-FX5U Connection Setup

This section details how to use the GX Works3 software to connect FX5U and ioGRIDM. For more details, please refer to the "*Commands/Universal FUN/FB*" chapter of the *MELSEC iQ-F FX5 Programming Manual*

2.1 FX5U Hardware Connection

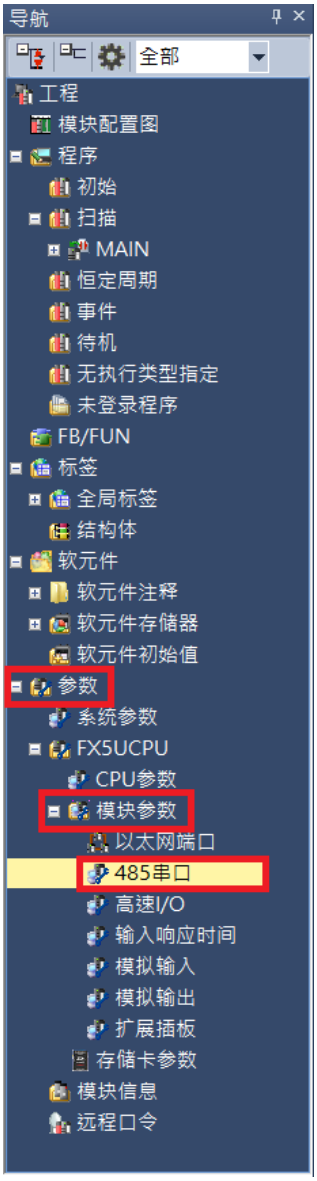
I. The connector is on the left side of the FX5U and uses RS485 connections



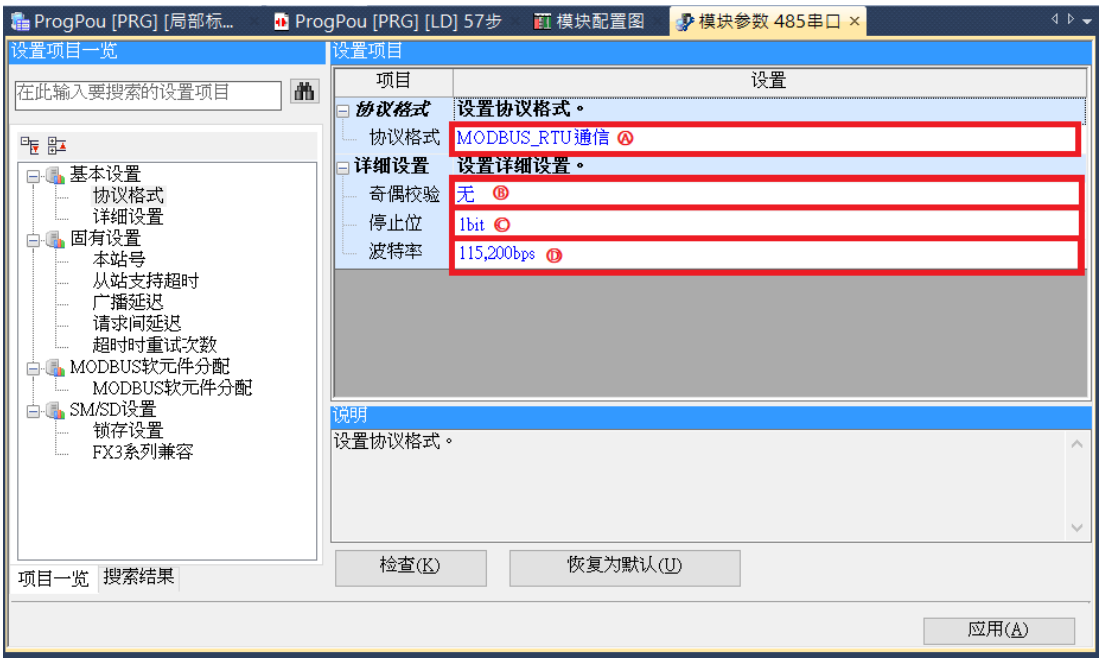
II. Connect the COM (RS485 A, B) on the left of the FX5U to the interface module (1/2) to convert it to a RJ45 connector before connecting it to the main controller

2.2 FX5U Connection Setup

I. Launch GX Works3 and select the “Parameters” menu from the “Navigate” on the left side, then click on “485 Connector” under the “Module Parameters” menu



II. Set up the communication format in “Protocol Format”



Ⓐ From the drop-down menu, select “MODBUS_RTU Communication”
Ⓑ From the drop-down menu, select “None”
Ⓒ From the drop-down menu, select “1bit”
Ⓓ From the drop-down menu, select “Equipment Baud”

※The communication format setting must be consistent with iO-GRID M

III. Reading of the communication register

Command functions are listed below:

Station No.	Function code	Register for reading	Data Amount for Reading	Register for storage	Initial address of the command execution

This line of code is equivalent to Modbus Function Code			
Station No.	Function code	Register for reading	Data Amount for Reading
01	03	10 00	00 01

IV. Writing of the communication register

I.

Command functions are listed below:

Station No.	Function code	Register for writing	Data Amount for Writing	Register for reading	Initial address of the command execution

This line of code is equivalent to Modbus Function Code			
Station No.	Function code	Register for writing	Data Amount for Writing
01	10	20 00	00 02

Notes:

※ iO-GRID M's first GFDI-RM01N has the register address at 1000(HEX)

※ iO-GRID M's first GFDO-RM01N has the register address at 2000(HEX)

V. Programming Example:

Control with one GFDI-RM01N and one GFDO-RM01N

When DI_1000.0 has received a signal and is triggered, DO_2000.0 will output a signal as it is connected