

iO-GRID™

and Delta SS2

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

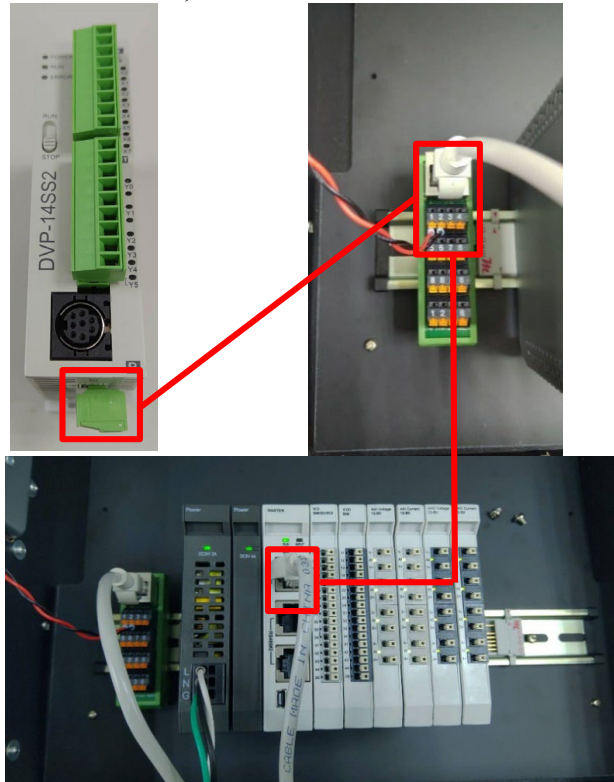
- I. The interface module is used externally to convert Delta SS2 RS485's communication port (Modbus RTU) to a RJ45 connector
- II. The main controller is in charge of the management and dynamic configuration of I/O parameters and so on.
- III. The power module and interface module are standard for remote I/Os and users can choose the model or brand they prefer.

2. Delta PLC Connection Setup

This chapter explains how to use the ISPSOft program to connect Delta SS2 with **iO-GRID™**. For detailed information, please refer to *ISPSOft User Manual*

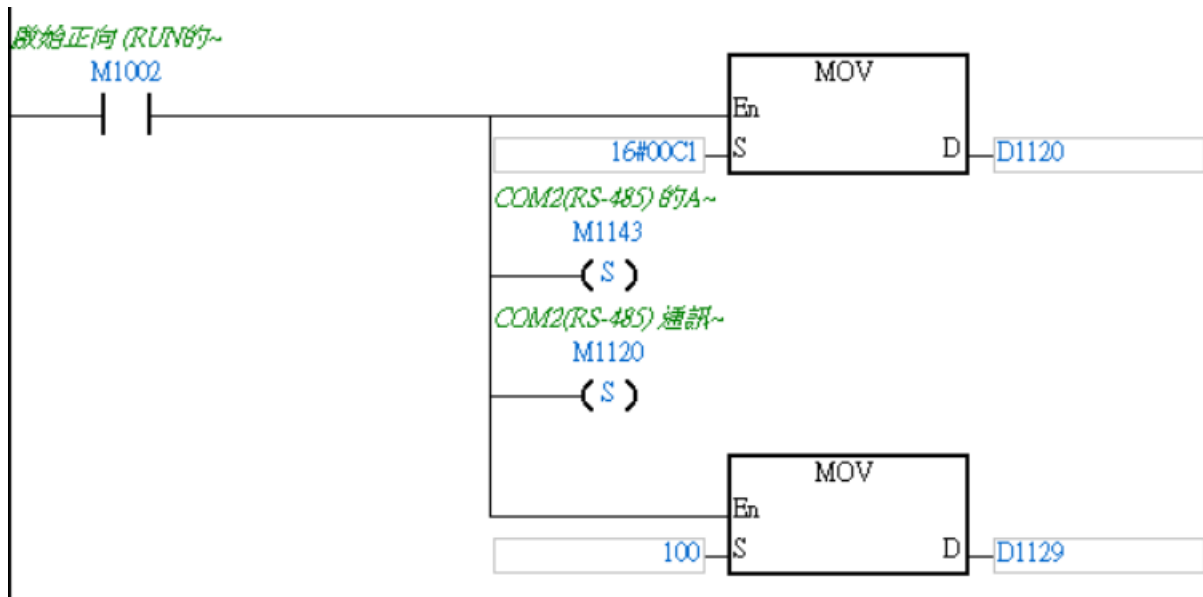
2.1 Delta PLC Hardware Connection

- I. The connection port is at the bottom of the machine. Using DVP-14SS2 for demonstration, connect Port 2(RS485 A/B) to the interface module (1/2) to convert it into a RJ45 connection, which will be connected to the main controller



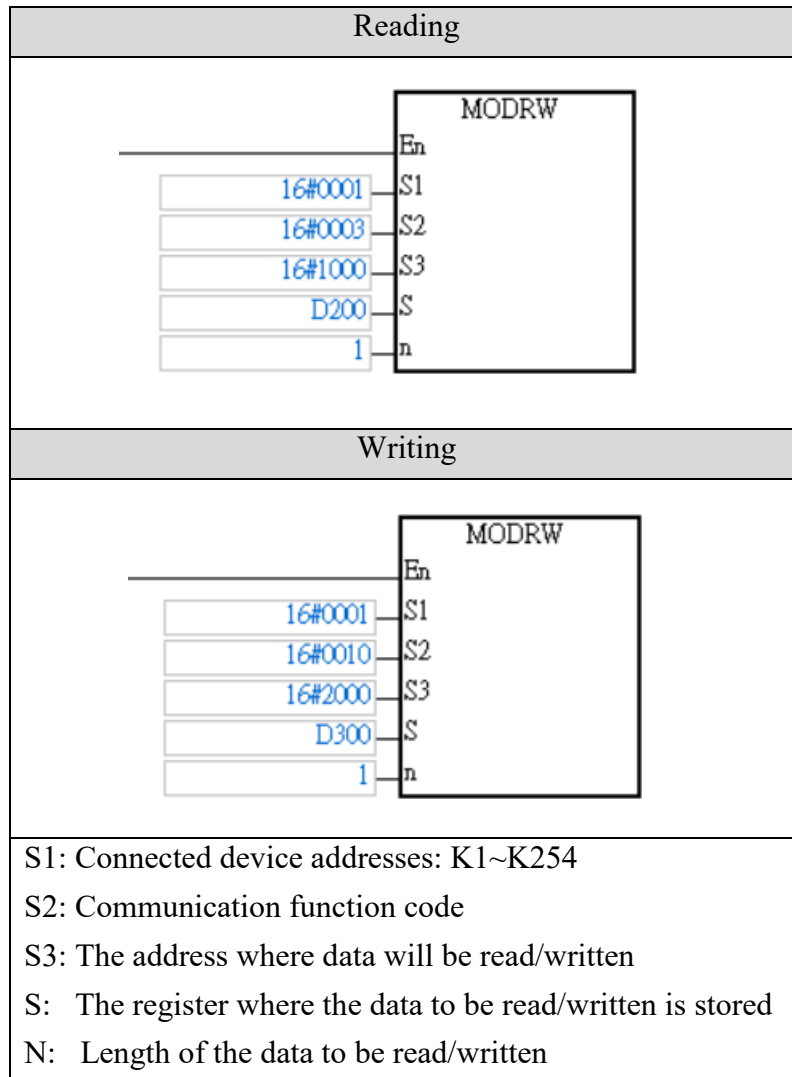
2.2 Delta PLC Connection Setup

- I. Launch ISPSOft and set COM2's communication settings to the RTU mode, 115200bps, 8 data bits, None parity and 1 stop bits (115200, 8, N, 1). Programming example:



※The communication parameter setting must be consistent with **iQ-GRID™** to enable communication

II. Use the MODRW command to setup the reading/writing of iO-GRID^M's I/O module



- ※ 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)

※Note: When using the read command, please use register D1296 to start using the stored data

Use the “read” command above to set up D200 to read 2 registers with first point of DI as the example.

| Register | DATA | Description | |
|------------------------|-----------|----------------------------------|---|
| D200 (Low-order byte) | “0” | ADR 1 ADR 0 | |
| D200 (High-order byte) | “1” | | |
| D201 (Low-order byte) | “0” | CMD 3 CMD 0 | |
| D201 (High-order byte) | “3” | | |
| D202 (Low-order byte) | “0” | Data Bytes | |
| D202 (High-order byte) | “2” | | |
| D203 (Low-order byte) | “0” | Content at the address 2100 H | PLC will automatically convert ASCII characters into values and store them at D1296=H0001 |
| D203 (High-order byte) | “0” | | |
| D204 (Low-order byte) | “0” | | |
| D204 (High-order byte) | “1” | | |
| D205 (Low-order byte) | “0” | Content at the address 2101 H | PLC will automatically convert ASCII characters into values and store them at D1297=H0000 |
| D205 (High-order byte) | “0” | | |
| D206 (Low-order byte) | “0” | | |
| D206 (High-order byte) | “0” | | |
| D207 (Low-order byte) | LRC CHK 1 | | |
| D207 (High-order byte) | LRC CHK 0 | | |

※ Based on this table, users can use D1296 register to read the entire data (Word).

III. Programming Example:

This example is for communications and using RS485 communication to read/write **iD-GRID^M** module

