



放伴智能股份有限公司
DAUDIN CO., LTD.

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iO-GRIDTM 与MELSEC-Q Modbus TCP 连线操作手册



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1. 远程 I/O 模块配套列表

料号	规格	说明
GFGW-RM01N	Modbus TCP-to-Modbus RTU/ASCII, 4 Ports	网关
GFMS-RM01S	Master Modbus RTU, 1 Port	主控制器
GFDI-RM01N	Digital Input 16 Channel	数字输入
GFDO-RM01N	Digital Output 16 Channel / 0.5A	数字输出
GFPS-0202	Power 24V / 48W	电源
GFPS-0303	Power 5V / 20W	电源

1.1 产品描述

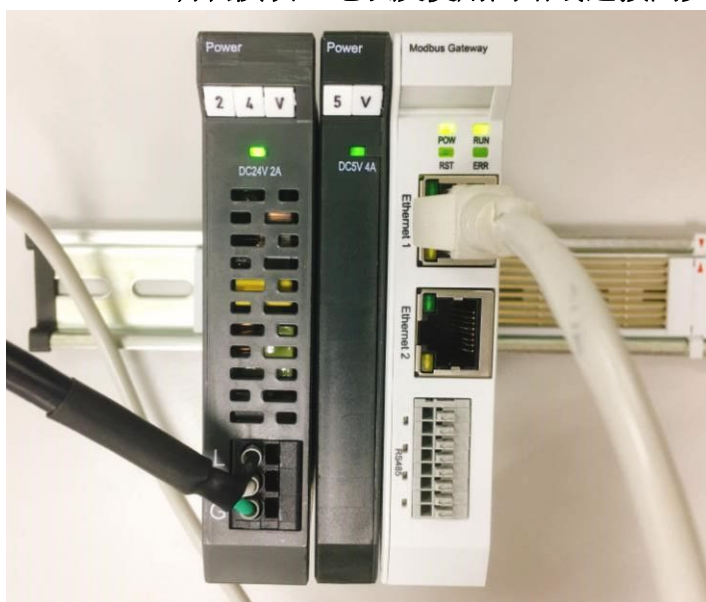
- I. 网关用于外部与 MELSEC-Q series 通讯接口(Modbus TCP)。
- II. 主控制器负责管理并组态配置 I/O 参数...等。
- III. 电源模块为远程 I/O 标准品，使用者可自行选配。

2. 网关参数设定

本章节主要说明网关如何与MELSEC-Q series连接，**iO-GRID[™]**详细说明请参考 **iO-GRID[™]** 系列产品手册

2.1 i-Designer 软件设定

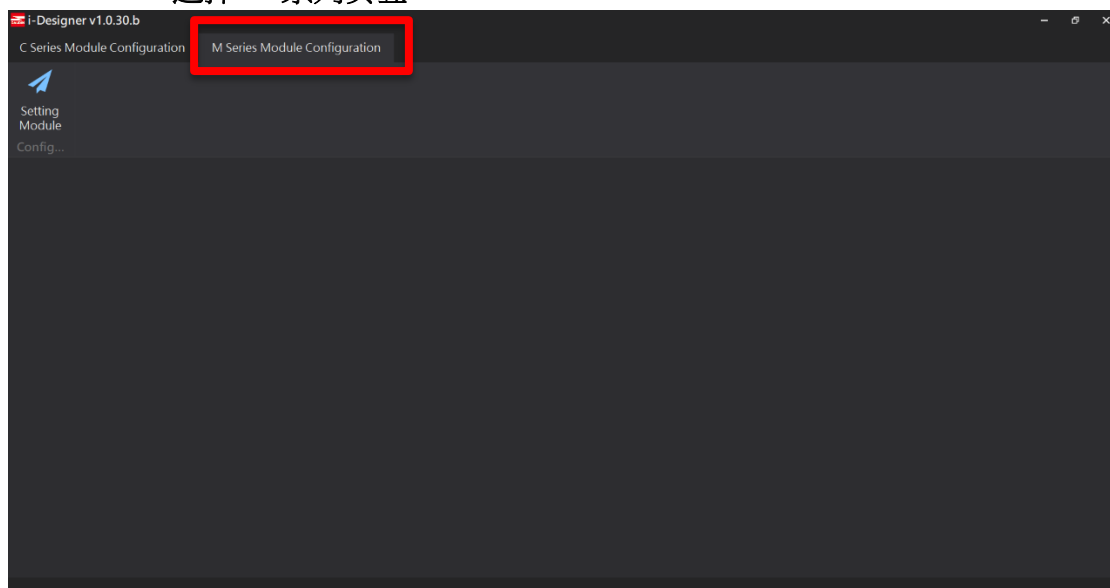
I. 确认模块上电以及使用网络线连接网关模块



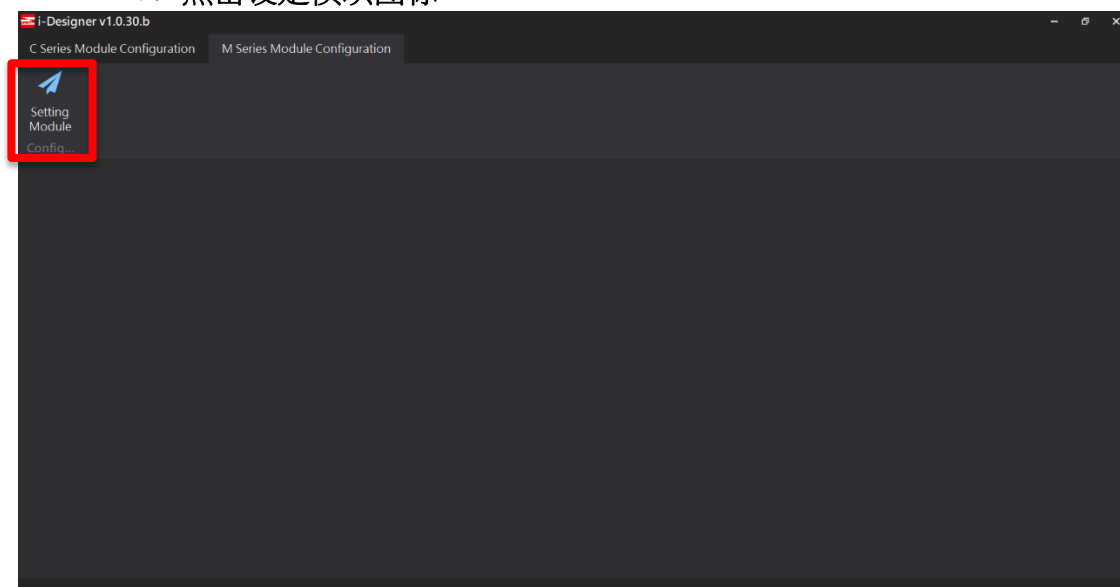
II. 点击并开启软件



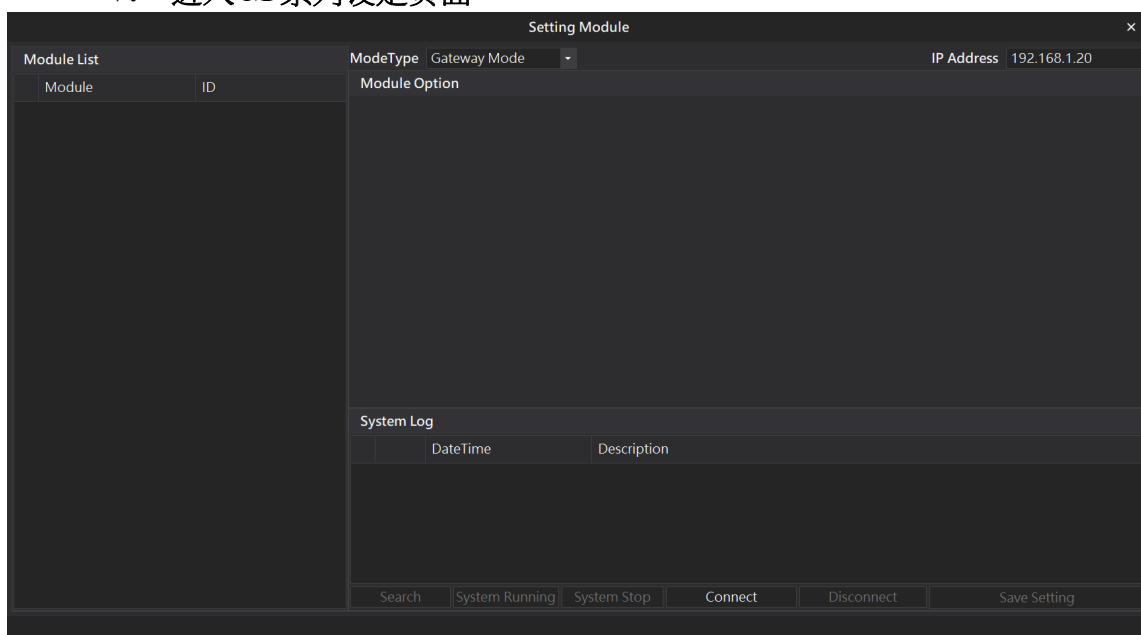
III. 选择 M 系列页签



IV. 点击设定模块图标



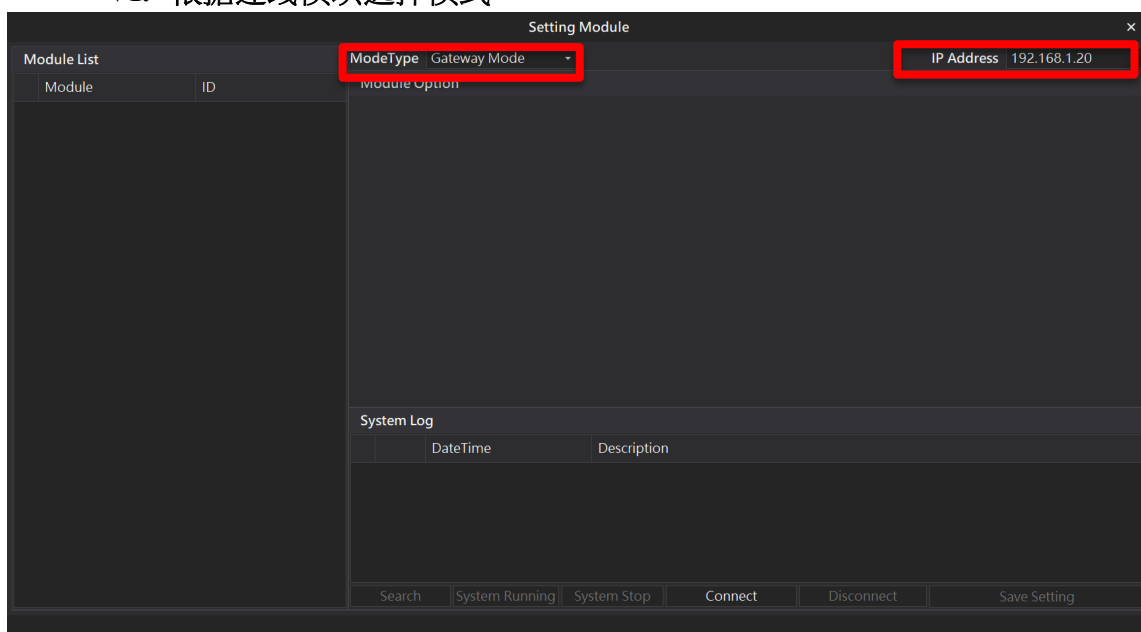
V. 进入 M 系列设定页面



The screenshot shows the 'Setting Module' window with the following components:

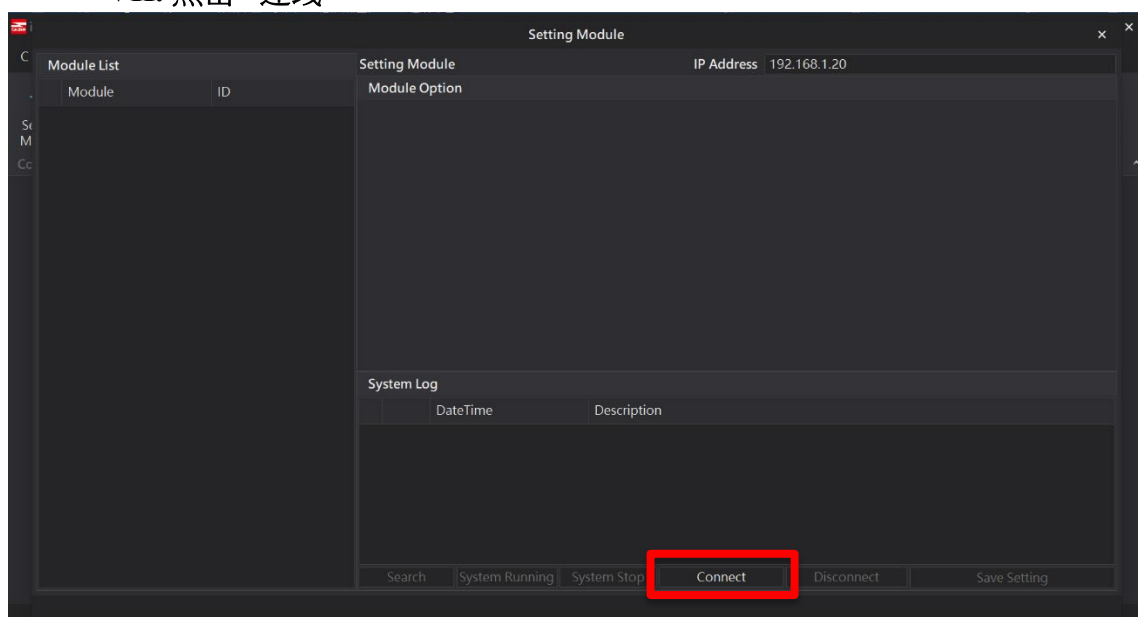
- Module List:** A table with columns 'Module' and 'ID'.
- ModeType:** A dropdown menu currently set to 'Gateway Mode'.
- IP Address:** A text field containing '192.168.1.20'.
- Module Option:** A large empty area for configuration.
- System Log:** A table with columns 'DateTime' and 'Description'.
- Buttons:** 'Search', 'System Running', 'System Stop', 'Connect', 'Disconnect', and 'Save Setting'.

VI. 根据连线模块选择模式

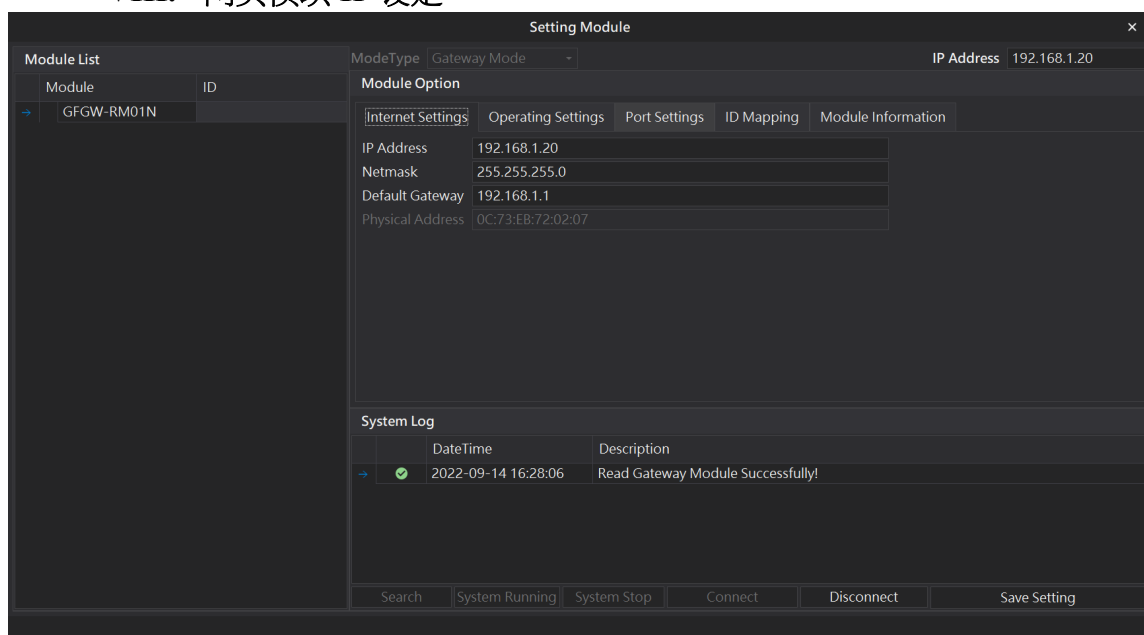


This screenshot is identical to the one above, but with red rectangular boxes highlighting the 'ModeType' dropdown menu and the 'IP Address' text field to indicate the selection process.

VII. 点击”连线”



VIII. 网关模块 IP 设定



注: IP 地址需与 MELSEC-Q 控制器相同网域

IX. 网关操作模式

The screenshot displays the 'Setting Module' application window. On the left, the 'Module List' shows 'GFGW-RM01N' selected. The main area is titled 'Module Option' and contains several tabs: 'Internet Settings', 'Operating Settings', 'Port Settings', 'ID Mapping', and 'Module Information'. The 'Operating Settings' tab is active, showing a table with four channels, all configured as 'Slave' mode with a 'Timeout' of 25 ms. Below this, the 'System Log' shows a successful read operation for the gateway module. At the bottom, there are buttons for 'Search', 'System Running', 'System Stop', 'Connect', 'Disconnect', and 'Save Setting'.

Channel	Mode	Timeout
Channel 1	Slave	25 ms
Channel 2	Slave	25 ms
Channel 3	Slave	25 ms
Channel 4	Slave	25 ms

DateTime	Description
2022-09-14 16:28:06	Read Gateway Module Successfully!

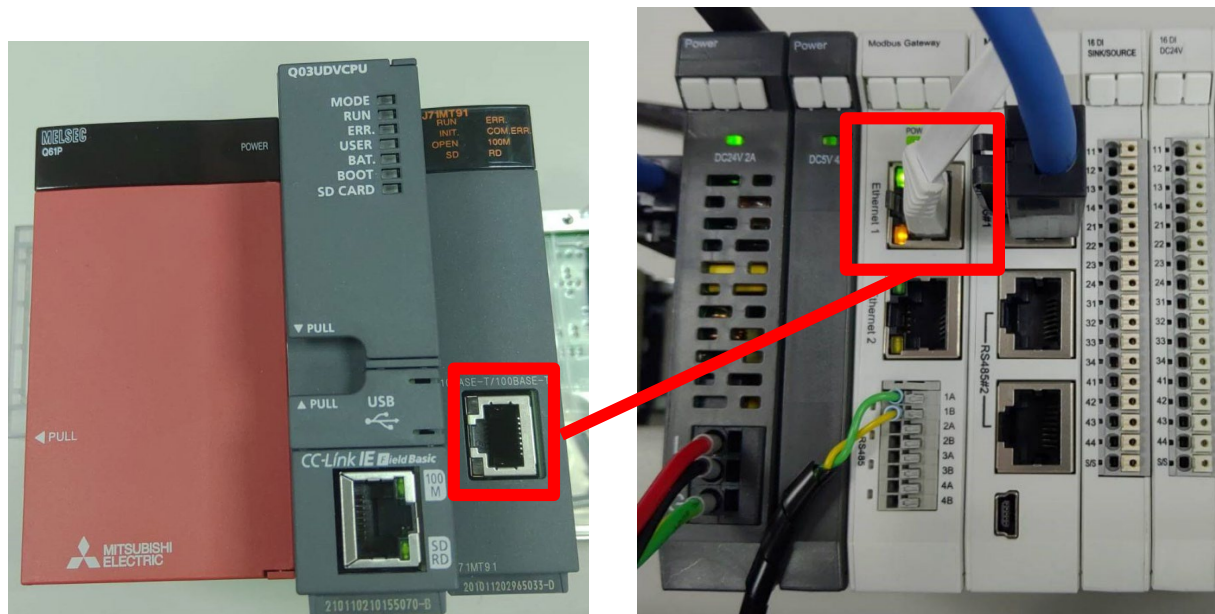
注: 设定 Group1 为 Slave，网关使用第一组RS485
与主控制器 (GFMS-RM01N) 对接

3. MELSEC-Q series 连结设定

本章节说明如何使用GX Works2 软件，将MELSEC-Q series使用模块QJ71MT91与网关模块进行链接，并增设远程 I/O 模块，详细说明请参考说明书 [MELSEC-Q series](#)

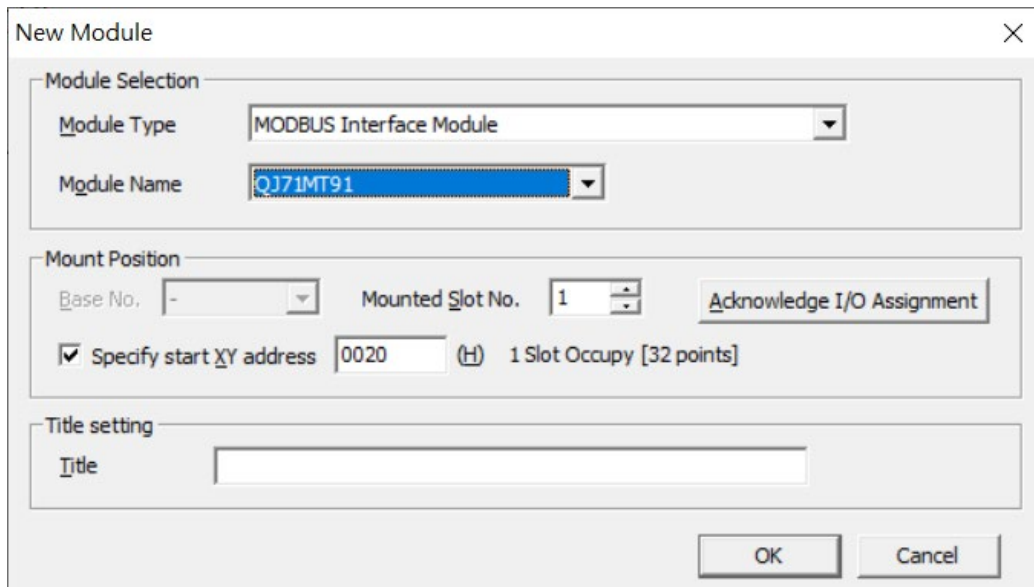
3.1 MELSEC-Q series 硬件接线

I. QJ71MT91模块网口位于中下方，并模块下方网口与网关网口对接

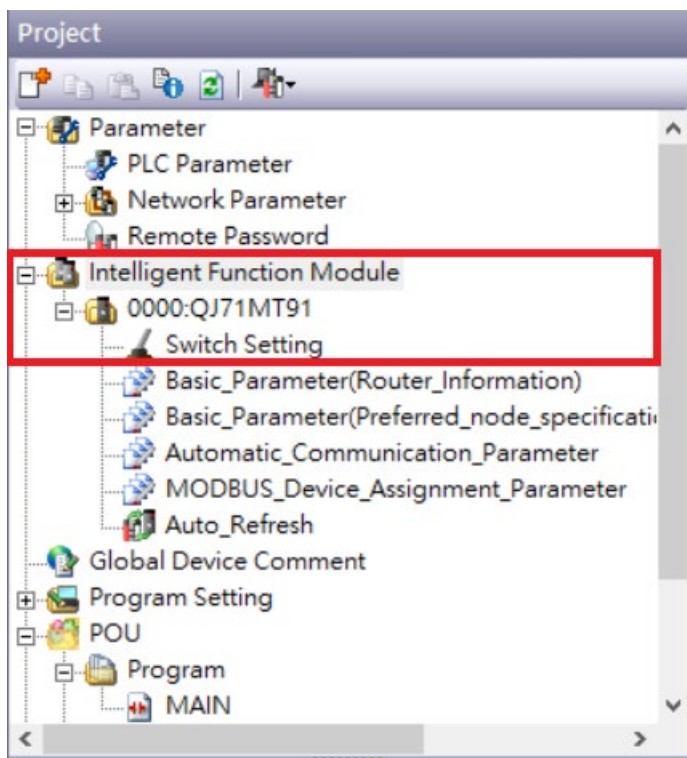


3.2 MELSEC-Q series IP 位置以及连线设定

- I. 开启 GX Works2 从左方” Project”右键点选” Intelligent Function Module”选单，点击”New Module”创建 QJ71MB91 模块



- II. 左方” Project”点选” Intelligent Function Module”选单，点击” QJ71MT91”选单内的”Switch Setting ”



III. 将”IP 地址”设定为与网关同网域 192.168.1.XXX

Switch Setting 0000:QJ71MT91
×

IP Address Setting

192 . 168 . 1 . 10

Operation Mode Setting

Online

Communication Condition Setting/Redundant Setting

	Item	Setting Value
Communication Condition Setting	Basic parameter starting method	User Setting Parameter
	MODBUS device assignment parameter starting method	User Setting Parameter
	Online change enable/disable setting	Online Change Disabled
	Send frame specification	Data are sent in the Ethernet(V2.0)-compliant frame
Redundant Setting	Enable/Disable Redundant Setting	Disable
	IP mode type	Fixed IP Mode
	System switching at disconnection	Disable
	System switching at communication error	Disable
	System switching at communication error	Disable
	Disconnection detection time	4

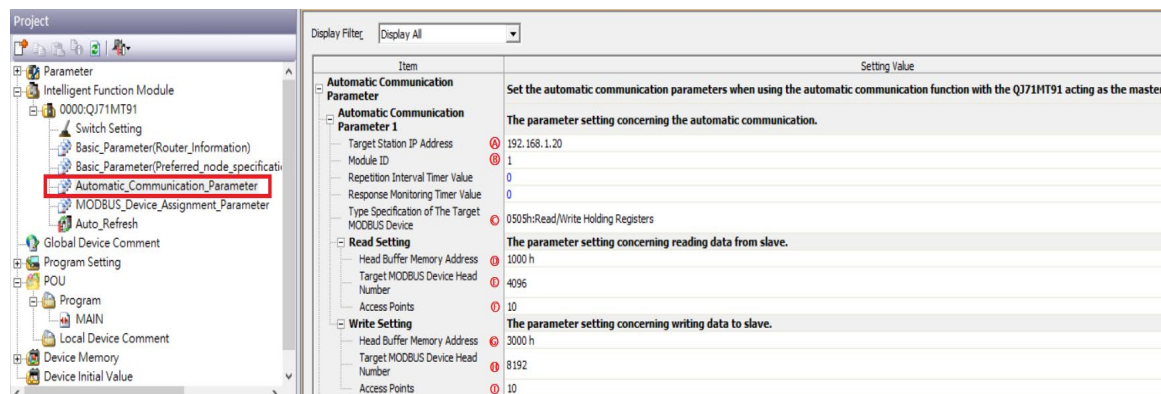
Redundant setting is available for Product Information 161020000000000-D or later.
The range of 'disconnection detection time' is 0 to 60 (unit : x500ms)

* This dialog setting is linked to the Switch Setting of the PLC parameter.
Default value will be shown in the dialog if the Switch Setting of the PLC parameter contains an out-of-range value.

OK

Cancel

IV. 点击”Automatic_Communication_Parameter”设置读取以及写入方式

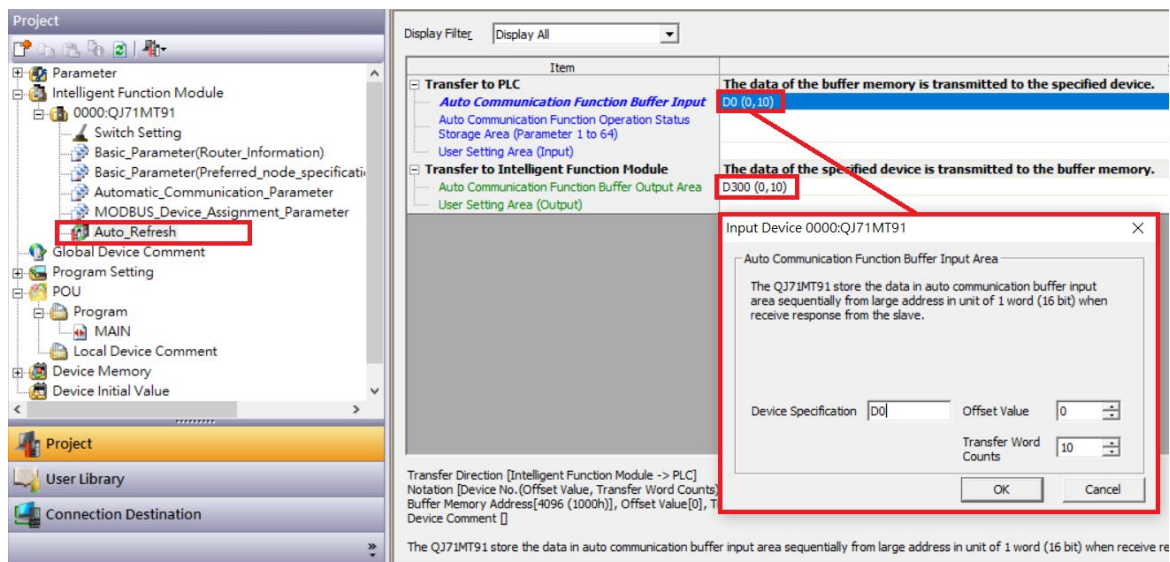


- Ⓐ 联机设备 IP 设置，网关模块默认”192.168.1.20”
- Ⓑ 欲联机的 **iO-GRID^m** 站号
- Ⓒ 下拉式选单选取”0505h:Read/Write Holding Registers”
- Ⓓ 设定为 1000h
- Ⓔ 读取目标缓存器起始地址设定为 4096
- Ⓕ 读取数量
- Ⓖ 设定为 3000h
- Ⓗ 写入目标缓存器起始地址设定为 8192
- Ⓘ 写入数量

备注:

- ※ **iO-GRID^m** 第一组 GFDI-RM01N，缓存器地址1000(HEX)转成4096
- ※ **iO-GRID^m** 第一组 GFDO-RM01N，缓存器地址2000(HEX) 转成8192

V. 点击”Auto_Refresh”设置读取以及写入的内部缓存器



4. MELSEC-Q series 使用 **iQ-GRID[™]** 简易范例程式

在上方有定义读取 **iQ-GRID[™]** 缓存器地址4096 储存在对应内部缓存器D0开始
以及写入 **iQ-GRID[™]** 缓存器地址8192从对应内部缓存器D300开始写入
所以当您需要程控时，只需要使用内部缓存器控制写入以及读取即可

