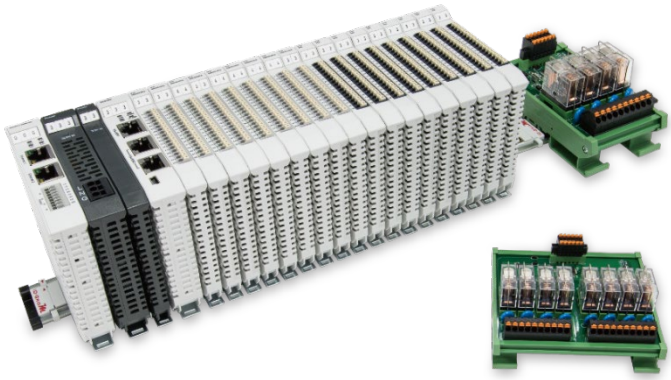
DAUDIN CO., LTD.

2302EN
V2.0.0



iO-GRID M

and KV-Nano Series

Modbus RTU Connection Operating Manual

Table of Contents

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 KV-NC20L'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.**

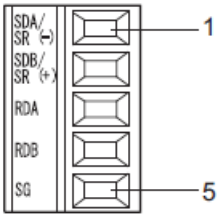
2. KV-NC32T Connection Setup

This section details how to use the KV STUDIO software to connect KV-NC32T and iO-GRID M.
For more details, please refer to the *KV Nano Series Communication Functions Manual*

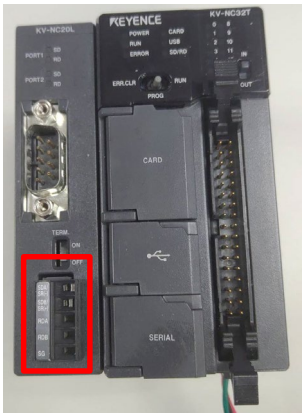
2.1 KV-NC32T Hardware Connection

I. The connector is at the bottom of the KV-NC20L communication module and uses RS485 connections

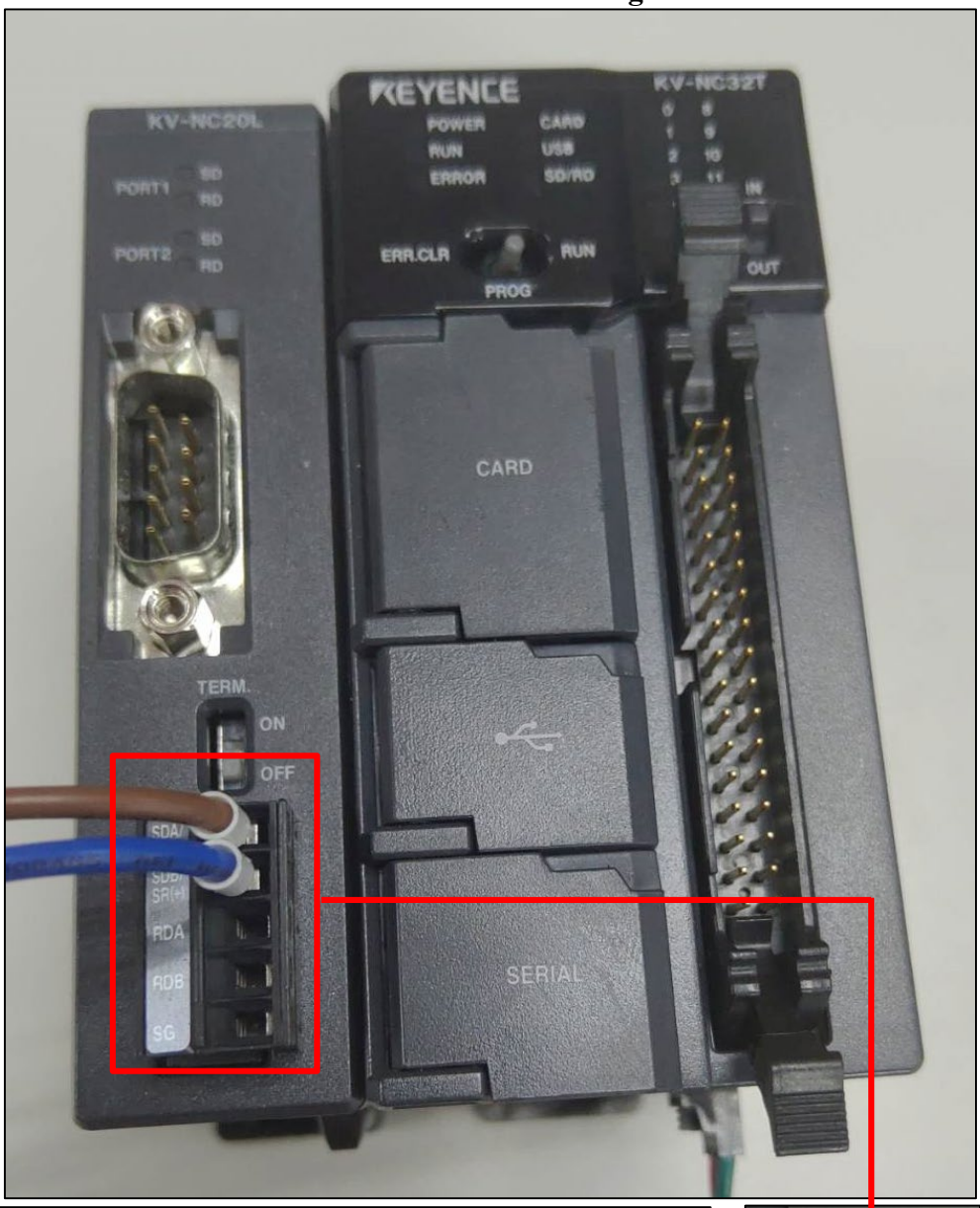
KV-NC20L

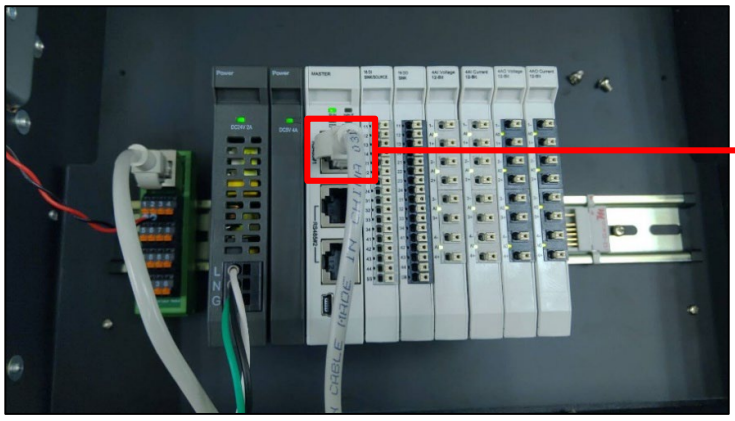


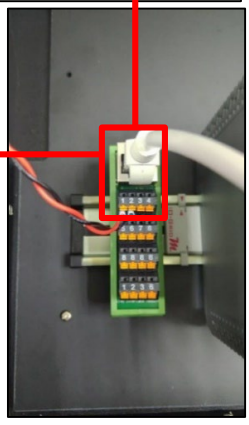
RS-485（2 線制）	
信號	方向
S/R (-)	-
S/R (+)	-
-	-
-	-
SG	-



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

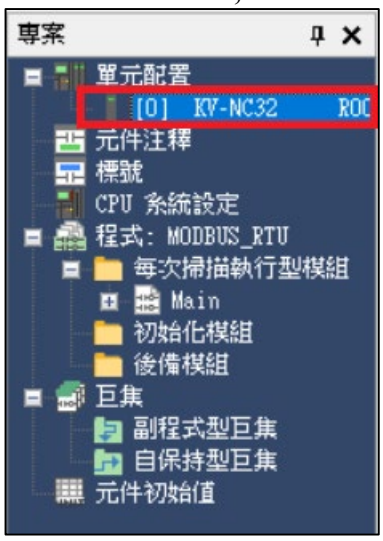




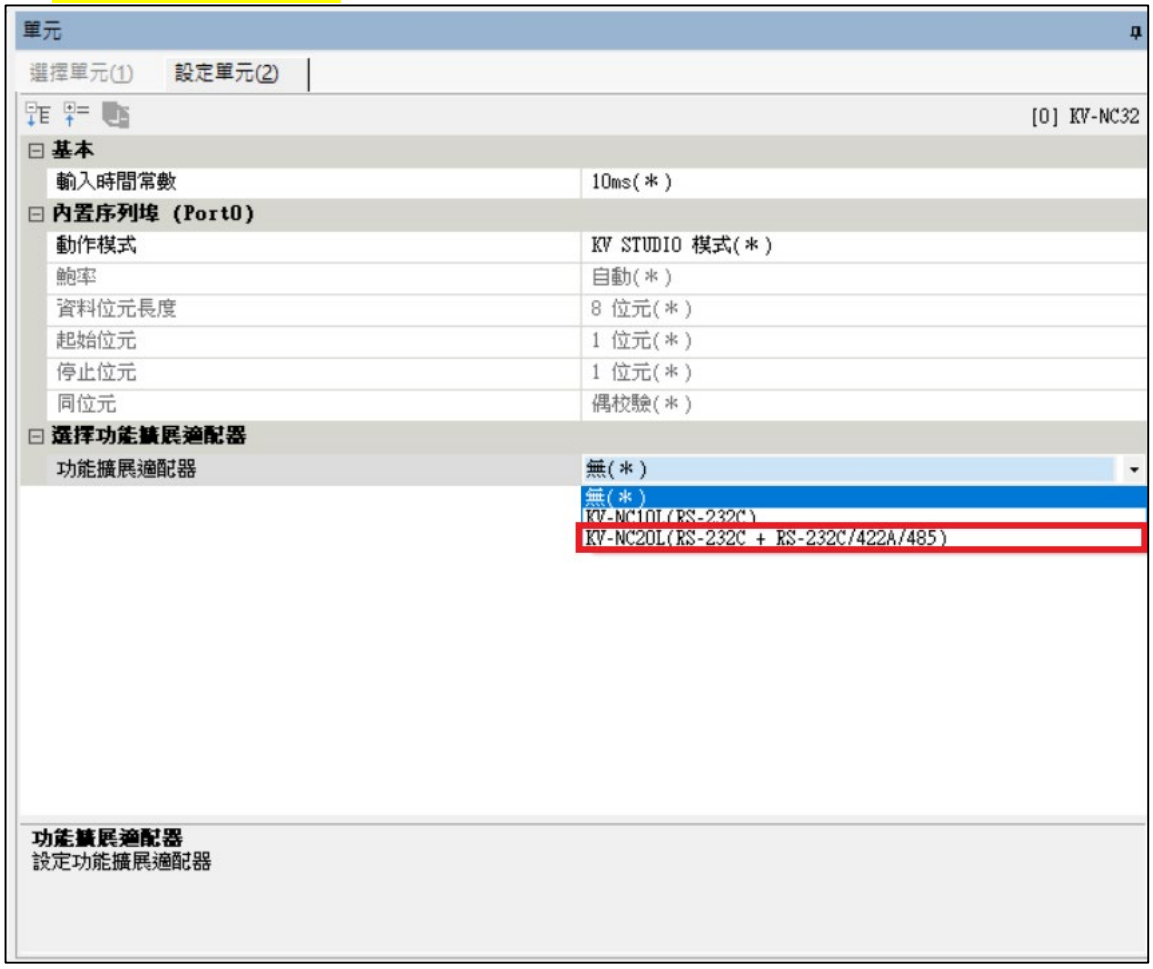


2.2 KV-NC32T Connection Setup

I. Launch KV STUDIO, click on “Unit Configuration” on the left and select “KV-NC32”



II. Under “選擇功能擴展適配器", select “KV-NC20L”



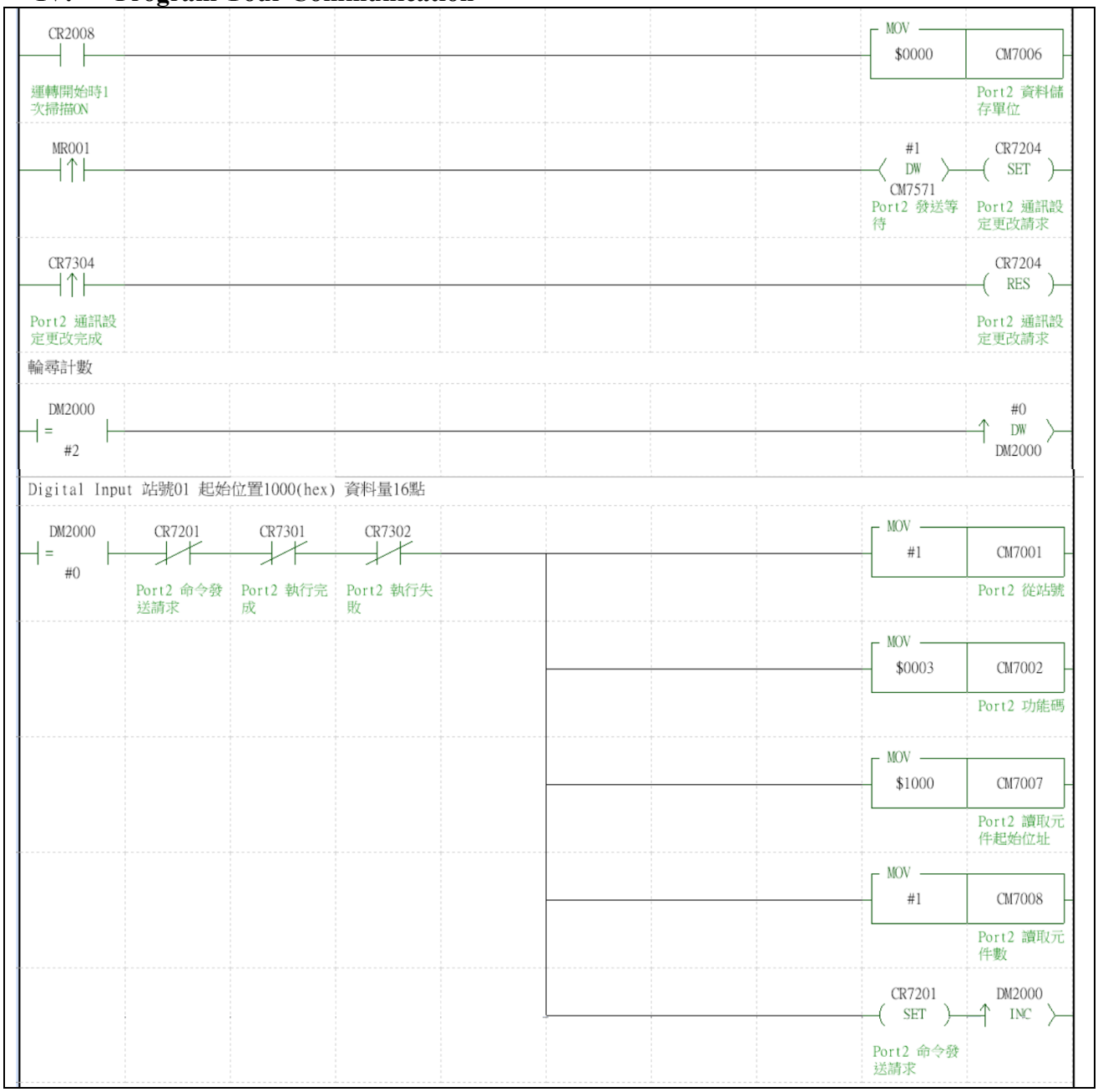
III. Use Port 2 here

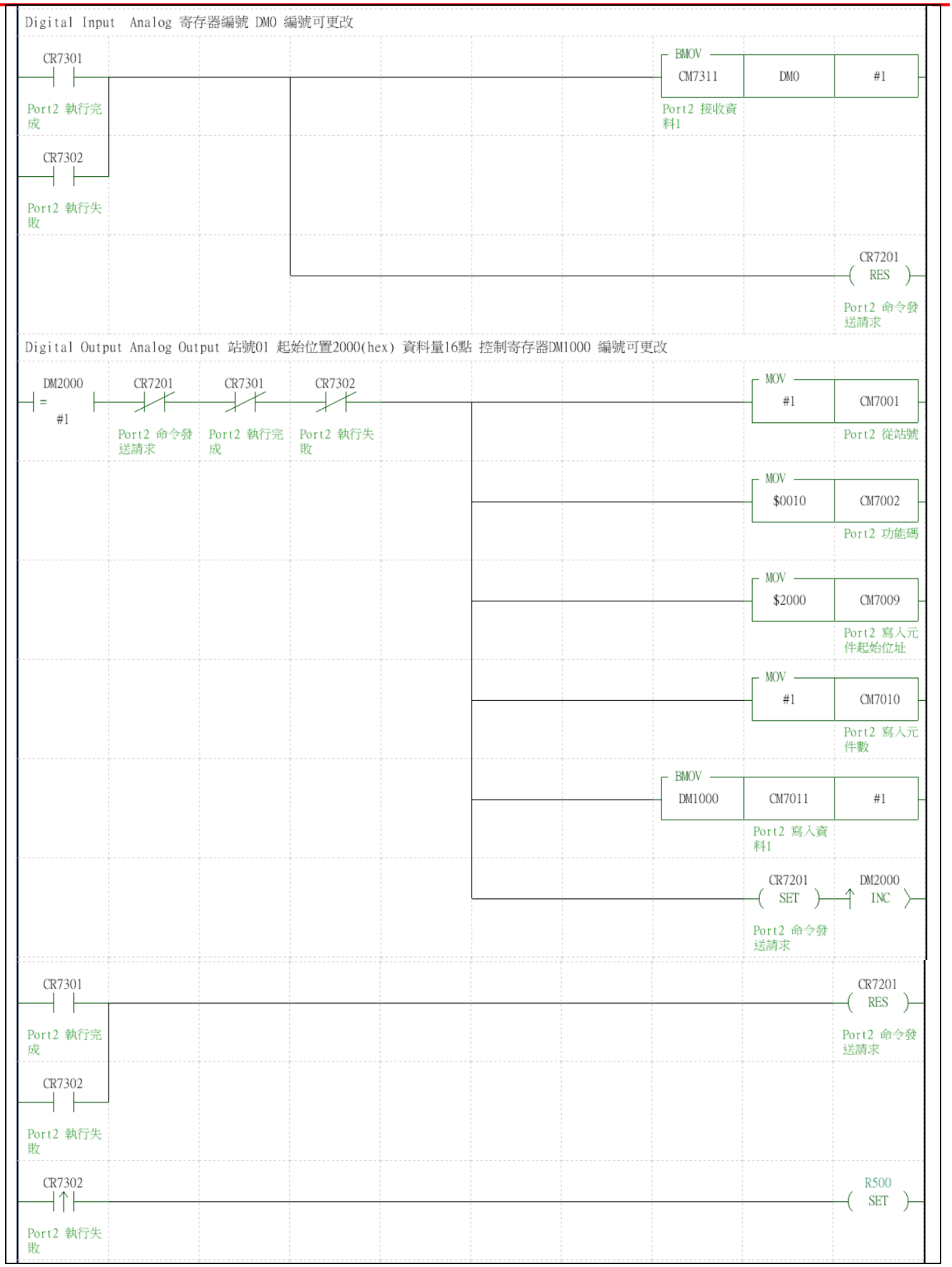
選擇功能擴展適配器	
功能擴展適配器	KV-NC20L(RS-232C + RS-232C/422A/485)
功能擴展適配器(Port1)	
動作模式	KV STUDIO 模式(＊)
介面	RS-232C(＊)
鮑率	自動(＊)
資料位元長度	8 位元(＊)
起始位元	1 位元(＊)
停止位元	1 位元(＊)
同位元	偶校驗(＊)
RS/CS 流程控制	不執行(＊)
功能擴展適配器(Port2)	
動作模式	Modbus 主站模式
介面	RS-485 (2 線制) (＊)
鮑率	115200bps
資料位元長度	8 位元(＊)
起始位元	1 位元(＊)
停止位元	1 位元(＊)
同位元	無

For “Action Mode”, select “Modbus Master”
Interface: RS-485 (2-wire)
Baud: Select 115200bps
Stop Bit: 1
Parity Bit: None

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

IV. Program Your Communication

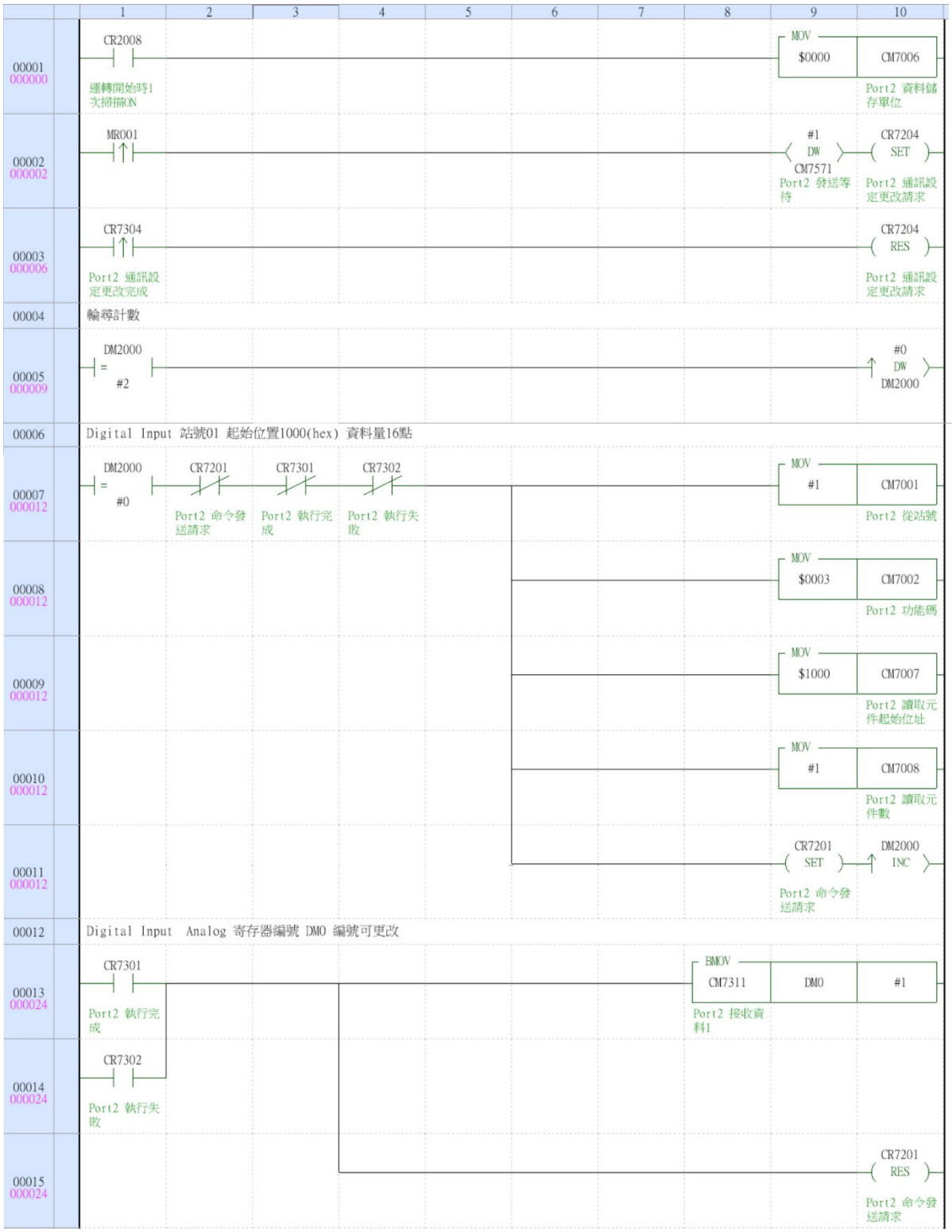


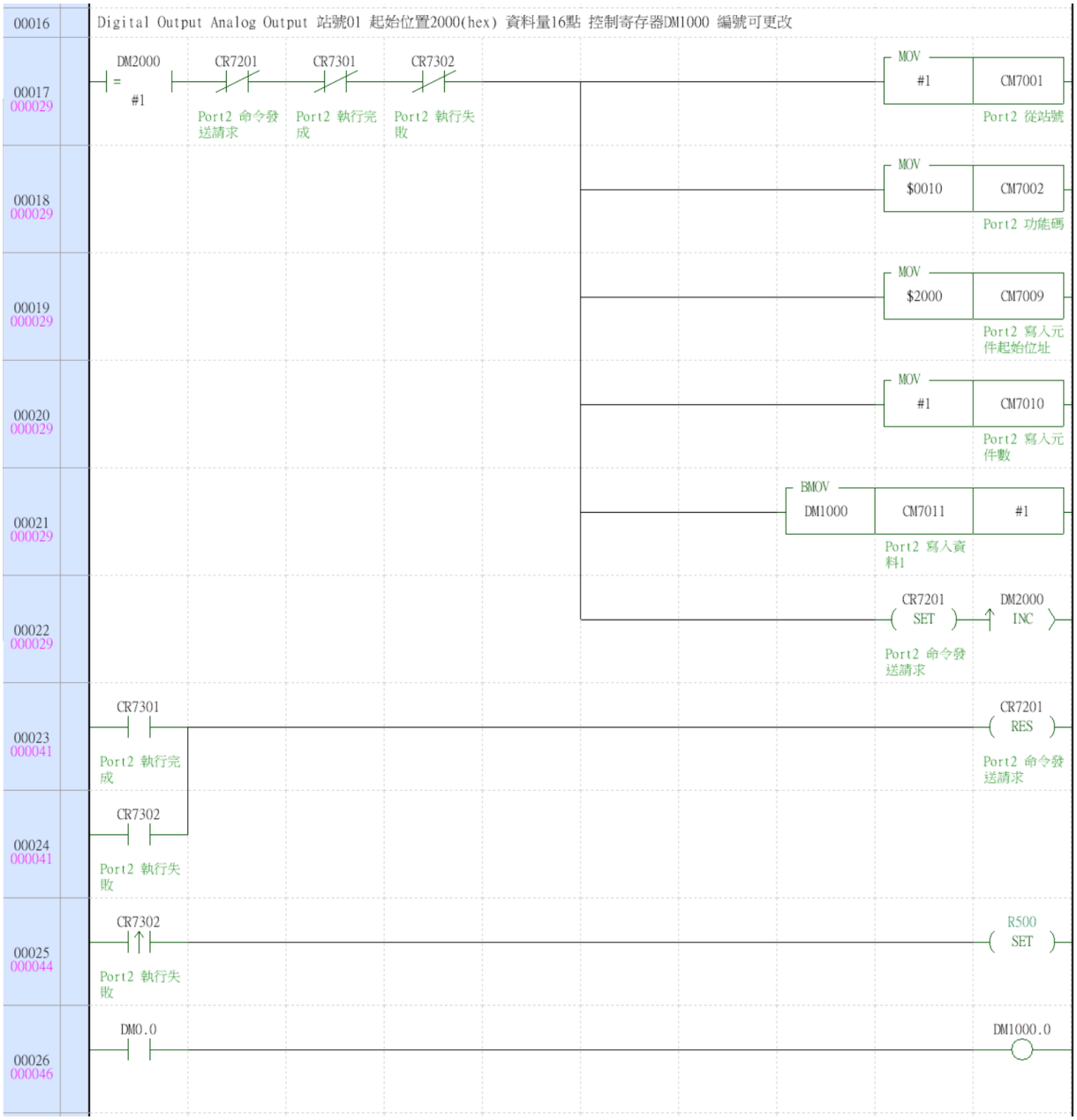

Digital Input Analog 寄存器編號 DM0 編號可更改
CR7301
Port2 執行完成
CR7302
Port2 執行失敗
BMOV
CM7311
DM0
#1
Port2 接收資料1
CR7201
RES
Port2 命令發送請求
Digital Output Analog Output 站號01 起始位置2000(hex) 資料量16點 控制寄存器DM1000 編號可更改
DM2000
=
#1
CR7201
Port2 命令發送請求
CR7301
Port2 執行完成
CR7302
Port2 執行失敗
MOV
#1
CM7001
Port2 從站號
MOV
$0010
CM7002
Port2 功能碼
MOV
$2000
CM7009
Port2 寫入元件起始位址
MOV
#1
CM7010
Port2 寫入元件數
BMOV
DM1000
CM7011
#1
Port2 寫入資料1
CR7201
SET
DM2000
INC
Port2 命令發送請求
CR7301
Port2 執行完成
CR7201
RES
Port2 命令發送請求
CR7302
Port2 執行失敗
CR7302
Port2 執行失敗
R500
SET

V. Programming Example:

Control with one GFDI-RM01N and one GFDO-RM01N

When DM0.0 has received a signal and is triggered, DM1000.0 will output a signal as it is connected




00016
Digital Output Analog Output 站號01 起始位置2000(hex) 資料量16點 控制寄存器DM1000 編號可更改
00017
000029
DM2000
=
#1
CR7201
Port2 命令發送請求
CR7301
Port2 執行完成
CR7302
Port2 執行失敗
MOV
#1
CM7001
Port2 從站號
00018
000029
MOV
$0010
CM7002
Port2 功能碼
00019
000029
MOV
$2000
CM7009
Port2 寫入元件起始位址
00020
000029
MOV
#1
CM7010
Port2 寫入元件數
00021
000029
BMOV
DM1000
CM7011
#1
Port2 寫入資料1
00022
000029
CR7201
SET
DM2000
INC
Port2 命令發送請求
00023
000041
CR7301
Port2 執行完成
CR7201
RES
Port2 命令發送請求
00024
000041
CR7302
Port2 執行失敗
00025
000044
CR7302
Port2 執行失敗
R500
SET
00026
000046
DM0.0
DM1000.0