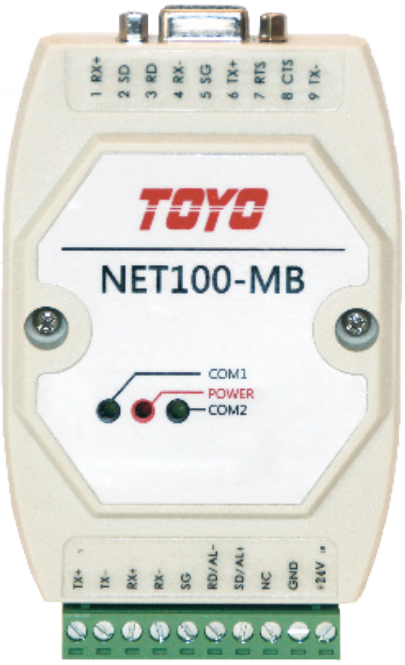
User's Manual

TOYO TC100 用通訊模組
操作手冊
V.1141

NET100-MB



1

概要

1. 概要

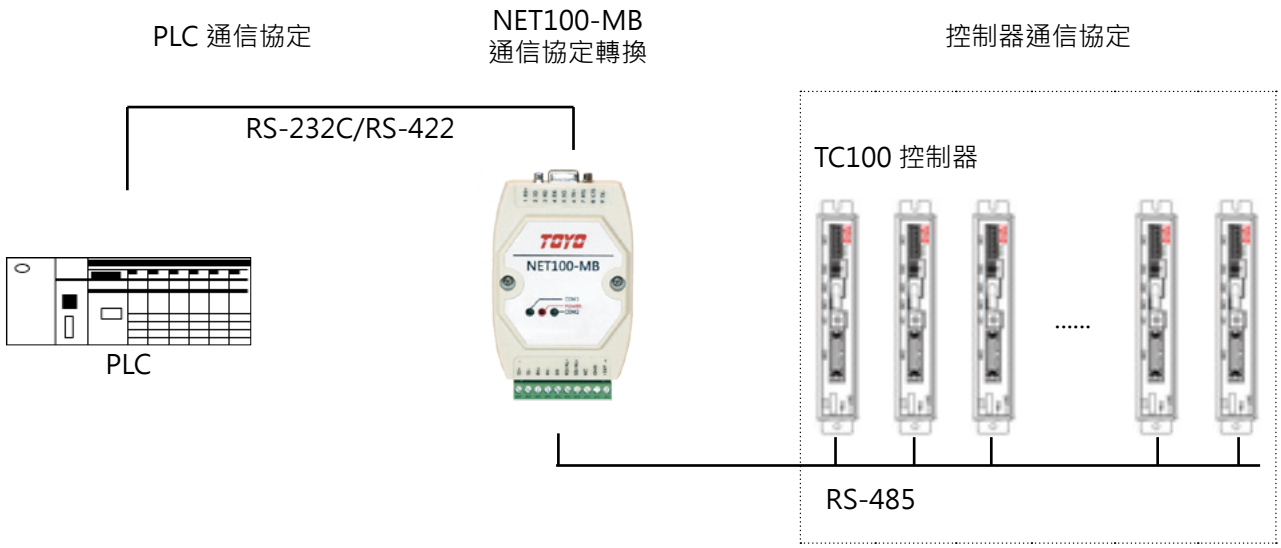
本章介紹 NET100-MB 的基本概念。

1.1 概觀

- NET100-MB 使用串列通信介面來對應連結 PLC 及控制器之間的資料。
- NET100-MB 配備 2 個串列通信介面 , 兩者皆可使用 RS-232C/RS-422。
- 最大 16 軸可被連結對應。
- NET100-MB 依照 PLC 的通信參數來對應連結 PLC 及控制器之間的資料。
  所以你必須在 PLC 資料記憶體填入對應參數 , 詳細請參考 “第 3 章 工作流程與設定程序” 。

1.2 TOYO NET100-MB 系統架構

- NET100-MB 從 PLC 讀取通信參數。
- NET100-MB 依照從 PLC 讀取通信參數 , 來對應連結 PLC 及控制器之間的資料。



⚠注意：
TC100 使用外部 pulse 模式，僅能使用部分功能。
設定請參考 TC100 操作手冊 9.6 章節。

2. 規格

本章敘述 NET100-MB 的規格。

2.1 一般規格

2.1.1 電氣規格

電源電壓	DC24V
電壓範圍	DC 22.5 V ~ DC 27.0 V
電力消耗	最大 1 W
接地	100 Ω 以下

2.1.2 環境規格

工作環境溫度	0 ~ 50 ℃
儲存溫度	-20 ℃ ~ + 60 ℃
工作溼度	10%RH ~ 90%RH

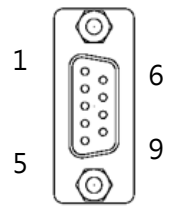
2.1.3 重量及外型尺寸

重量	250 gw
外部尺寸	115 x 75 x 30 mm

2.2 介面規格

2.2.1 COM 1 Port

COM1 Port 介面可使用 RS-232C 或 RS-422 來連接到 PLC。
本介面使用 D-Sub 9 Pins 的連接器。

接腳定義	接腳號碼	接腳名稱	訊號方向	接腳說明
D-Sub 9 Pins 母 	1	RX+	Input	Receive Data+(RS-422)
	2	SD	Output	Send Data(RS-232C)
	3	RD	Output	Receive Data(RS-232C)
	4	RX-	Input	Receive Data-(RS-422)
	5	SG	--------	Signal Ground
	6	TX+	Output	Transmit Data+(RS-422)
	7	RTS	Output	Request to Send(RS-232C)
	8	CTS	Input	Clear to Send(RS-232C)
	9	TX-	Output	Transmit Data-(RS-422)
	shell	FG	--------	Frame Ground

建議連接器 : D-sub 9 Pin socket XM2D-0901(Omron 製)
建議連接器外殼 : D-sub 9 Pin cover XM2S-0913 (Omron 製)
固定螺絲 : XM2Z-0073 (Omron 製)

※ 固定螺絲 , 使用 Inch 規格螺絲 , 螺牙 (#4-40UNC)。

2 規格

2.2.2 接線端子台 – 電源輸入 , COM 2 Port 及警報輸出

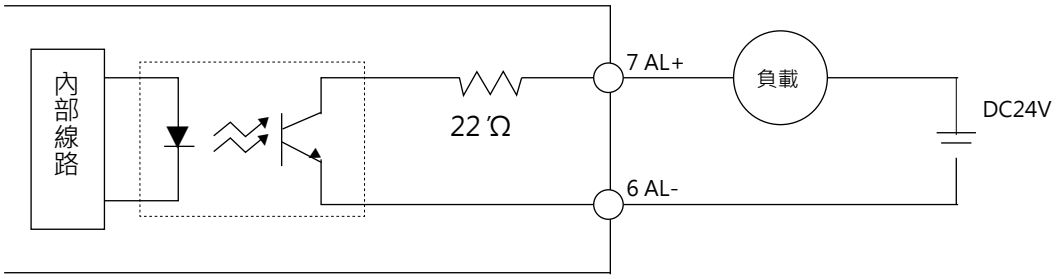
接線端子台包含了電源輸入 , COM2 Port (RS-232C , RS-422) 及警報輸出 (光偶合)。

接腳定義	接腳號碼	接腳名稱	訊號方向	接腳說明
接線端子台	1	TX+	Output	Transmit Data+ (RS-422)
1	2	TX-	Output	Transmit Data- (RS-422)
	3	RX+	Input	Receive Data+ (RS-422)
	4	RX-	Input	Receive Data- (RS-422)
	5	SG	--------	Signal Ground
	6 *1	RD	Input	Receive Data (RS-232C)
	7 *1	SD	Output	Send Data (RS-232C)
	6 *1 *2	AL-	Output	Alarm Output -
	7 *1*2	AL+	Output	Alarm Output +
	8	NC	--------	No Connection
	9	GND	Input	0 V - Ground
10	10	+24V	Input	+24V

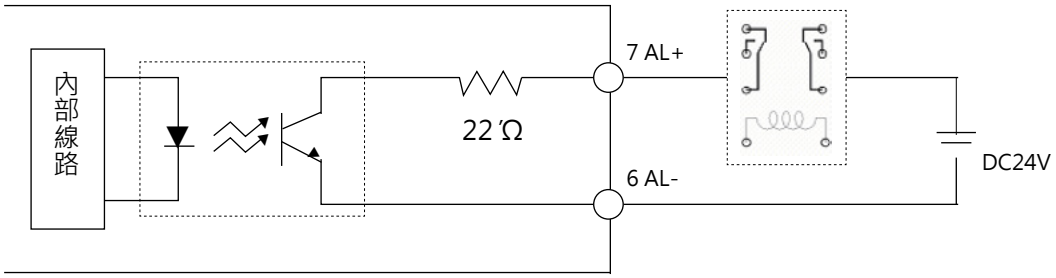
*1 No.6 及 No.7 接腳 , 可使用內部的 Jumper 來設定為 RD/SD(RS-232C) 或 AL+/AL- (警報輸出) 。
出廠值則為 AL+/AL- (警報輸出)。

*2 當 PLC 與 NET100-MB 發生通信錯誤時 , 警報輸出將為 ON。

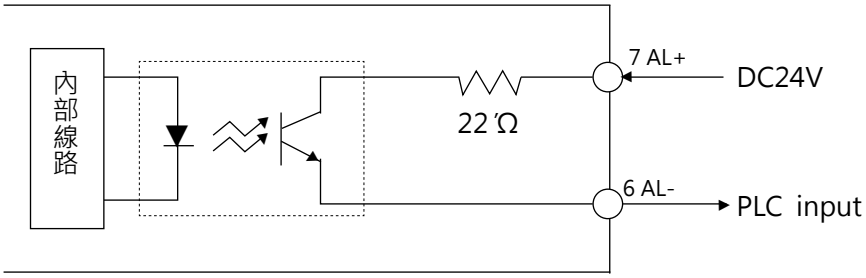
警報輸出最大電流 50mA



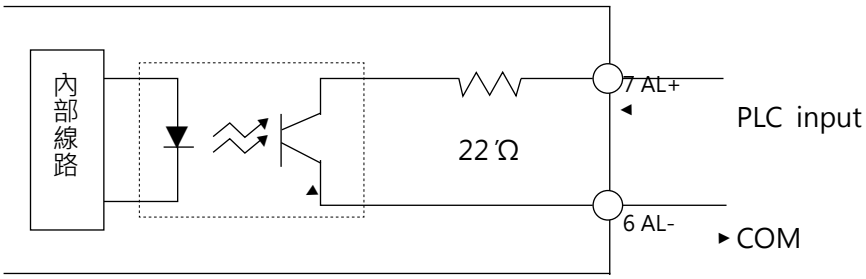
※ 連接到 DC24V 繼電器



※ 連接到輸入為 Source type 的 PLC



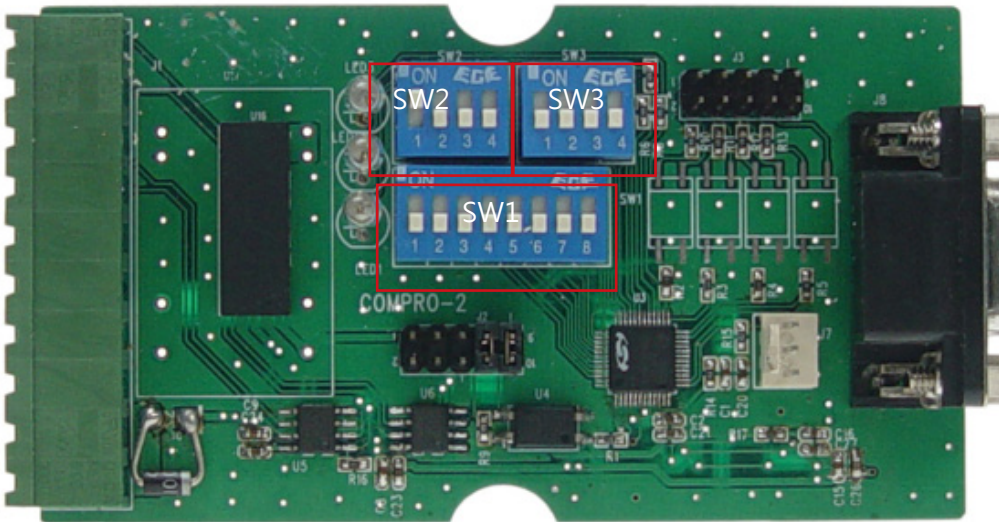
※ 連接到輸入為 Sink type 的 PLC



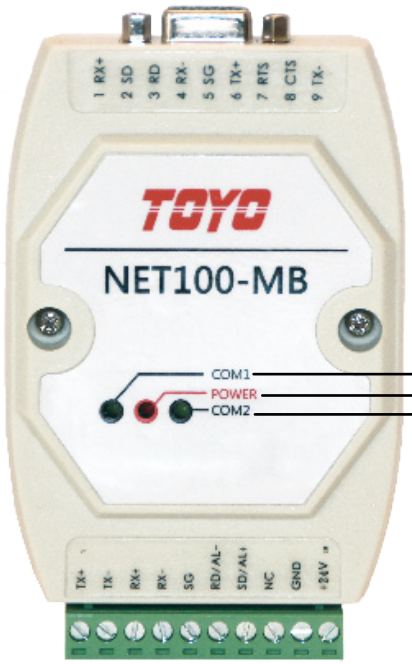
2.3 PLC 型式，通信速度及站號選擇的指撥開關

在打開 NET100-MB 的蓋子之後，你可看到如圖所示的 PC 板，板子上有 3 個 DIP 指撥開關。
指撥開關的定義如下：

- SW1：COM 1 選擇連接的 PLC 型式。
- SW2：COM 1 通信速度選擇 (Baud Rate)。
  ※ COM 2 TC100 控制器資料格式 Modbus RTU 57600/8/None/1。
- SW3：PLC 內部暫存器起始位置選擇。



2.4 NTE100-MB 燈號狀態



	PLC 連線	TC100 連線	COM1	POWER	COM2
狀態	NG	NG	同 POWER 燈閃爍	閃爍	OFF
	OK	NG	ON	閃爍	同 POWER 燈閃爍
	OK	OK	ON	恆亮	ON

3. 工作流程與設定程序

本章敘述使用本產品的工作流程與設定程序 , 請按照下列步驟進行。

3.1 工作流程

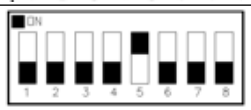
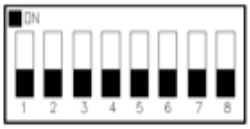
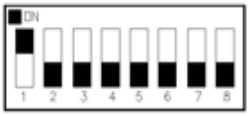
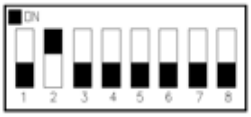
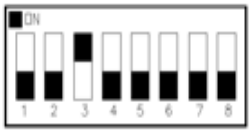
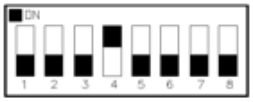
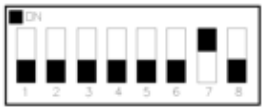
以下敘述使用 NET100-MB 的流程 , 請按照下列步驟進行。

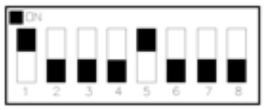
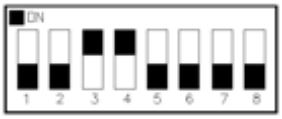
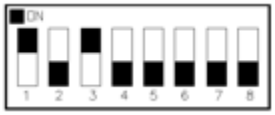
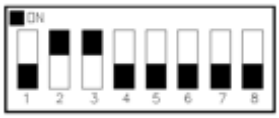
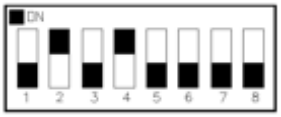
Step 01	3.2 NET100-MB 設定
Step 02	3.3 TC100 設定
Step 03	3.4 PLC 設定

3.2 NET100-MB 設定

3.2.1 以指撥開關 DIP SW1 設定 PLC 的型式

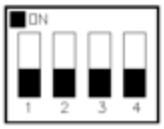
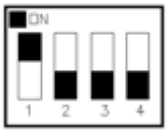
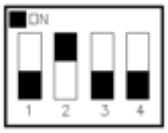
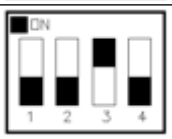
DIP SW1 : COM 1 PLC 型式選擇

項目	DIP SW1	PLC 通信協定型式	支援 DM 區	通信格式 (固定)
01		Delta DVP (台達)	D0000 D1500	7 Bits/Even/1
02		Fatek Facon FB (永宏) Computer Link	R0000 R1500	7 Bits/Even/1
03		Fuji Micrex SX (IEC Mode)	WL0000 WL1500	8 Bits/Even/1
04		Fuji Micrex SX CPU (SPB N Mode)	D0000 D1500	8 Bits/Odd/1
05		Fuji Micrex SX Link (SPB N Mode)	D0000 D1500	7 Bits/Even/1
06		Fuji Micrex F Link	BD0000 BD1500	7 Bits/Even/1
07		Mitsubishi FX Link (Format 4)	D0000 D1500	7 Bits/Even/2
08		Mitsubishi A Link (Format 4)	D0000 D1500	7 Bits/Even/2
09		Mitsubishi /Keyence Q Link (Format 4)	D0000 D1500	7 Bits/Even/2
10		Mitsubishi FX CPU	D0000 D1500	7 Bits/Even/1
11		OMRON C Host Link	DM0000 DM1500	7 Bits/Even/2
12		OMRON CS1 Host Link	D0000 D1500	7 Bits/Even/2
13		Panasonic FP Computer Link	DT0000 DT1500	8 Bits/Odd/1
14		Siemens S7-200 PPI	VW0000 VW1500	8 Bits/Even/1

15		Vigor M/VB Computer Link	D0000 D1500	7 Bits/Even/1
16		保留	--------	--------
17		保留	--------	--------
18		保留	--------	--------
19		保留	--------	--------

3.2.2 以指撥開關 DIP SW2 設定 PLC 的通信速度

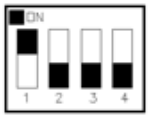
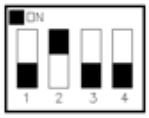
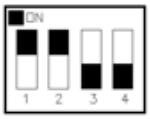
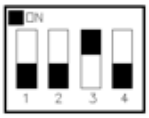
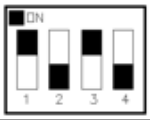
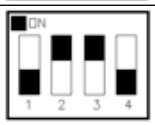
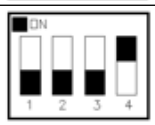
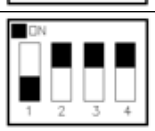
DIP SW2 : COM 1 PLC 的通信速度選擇

項目	DIP SW2	PLC 的通信速度
01		9600 bps
02		19200 bps
03		38400 bps
04		57600 bps
05		115200 bps

3.2.3 以指撥開關 DIP SW3 設定 PLC 起始暫存器位置

※ 以下 Data Memory 簡稱 DM

站號	DIP	通信參數的指標位址
00		DM0

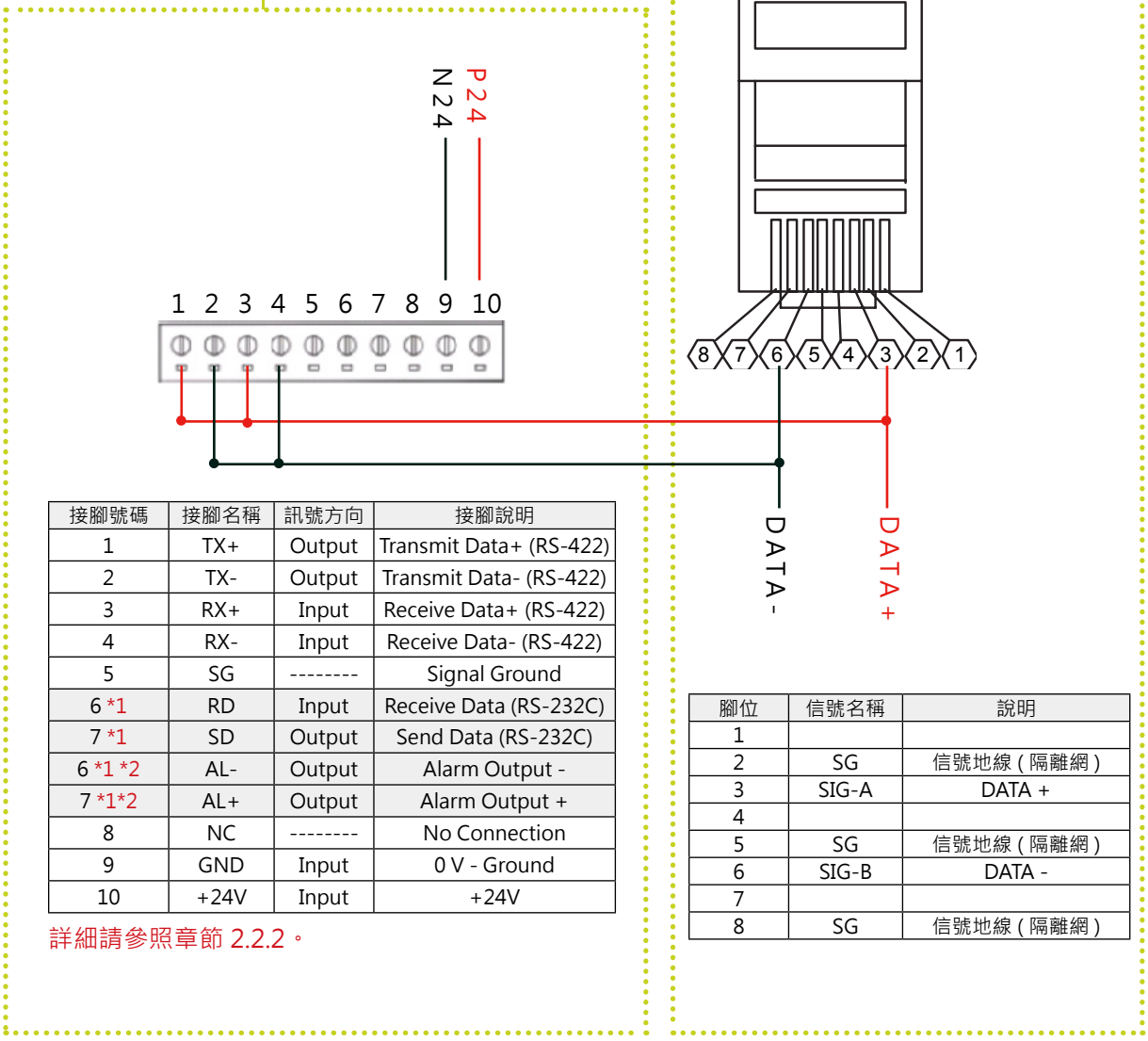
01		DM100
02		DM200
03		DM300
04		DM400
05		DM500
06		DM600
07		DM700
08		DM800
09		DM900
10		DM1000
11		DM1100
12		DM1200
13		DM1300
14		DM1400
15		DM1500

3

工作流程與設定程序

3.3 TC100 設定

3.3.1 TC100 硬體配線



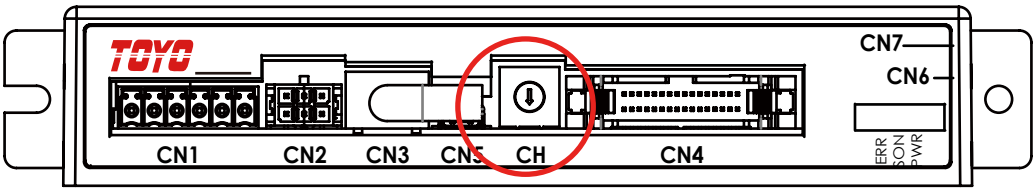
接腳號碼	接腳名稱	訊號方向	接腳說明
1	TX+	Output	Transmit Data+ (RS-422)
2	TX-	Output	Transmit Data- (RS-422)
3	RX+	Input	Receive Data+ (RS-422)
4	RX-	Input	Receive Data- (RS-422)
5	SG	--------	Signal Ground
6 *1	RD	Input	Receive Data (RS-232C)
7 *1	SD	Output	Send Data (RS-232C)
6 *1 *2	AL-	Output	Alarm Output -
7 *1*2	AL+	Output	Alarm Output +
8	NC	--------	No Connection
9	GND	Input	0 V - Ground
10	+24V	Input	+24V

詳細請參照章節 2.2.2。

腳位	信號名稱	說明
1		
2	SG	信號地線 (隔離網)
3	SIG-A	DATA +
4		
5	SG	信號地線 (隔離網)
6	SIG-B	DATA -
7		
8	SG	信號地線 (隔離網)

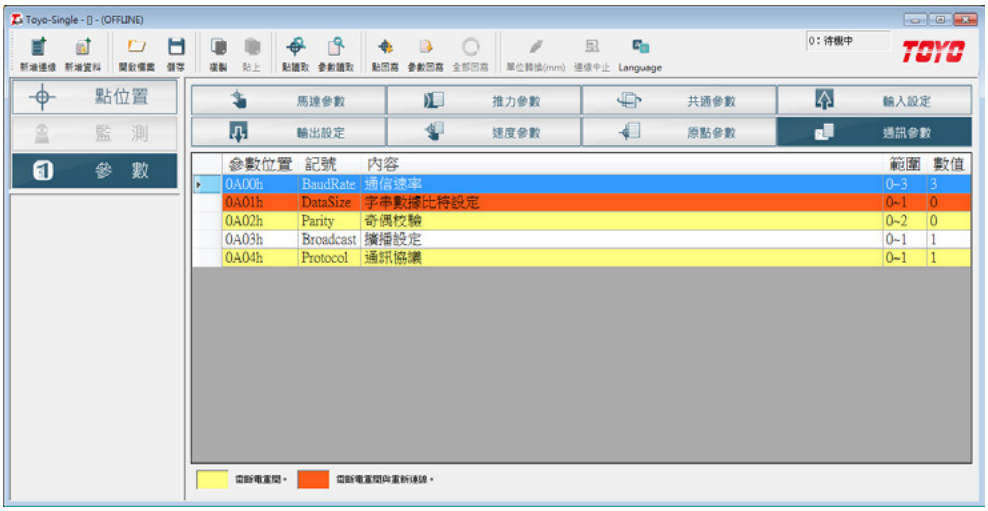
3.3.2 TC100 硬體設定

當使用通訊控制多台 TC100 時，需調整 CH 旋鈕設定站號。



※ 假設需控制 3 台 TC100、CH 旋鈕值分別調整為 0、1、2。

3.3.3 TC100 軟體設定



設定步驟如下：

Step 01	選擇參數
Step 02	選擇通訊參數
Step 03	將通訊速率設為 3 (57600Hz) 將 字串數據比特設定設為 0 (8bit) 將奇偶校驗設為 0 (None) 將廣播設定設為 1 (開啟) 將通訊協議設為 1 (RTU)
Step 04	點選參數回寫
Step 05	將 TC100 斷電重開

3.4 PLC 設定

3.4.1 將 TC100 數量寫入 PLC

例如 . 通信參數區起始位址為 DM100

PLC 位址	例如當參數區 起始位址為 DM100	基本參數區的內容
DMnnnn+0	DM100	設定 TC100 控制器台數

DMnnnn+0 為 TC100 控制器連接台數 (請常時寫入數值)

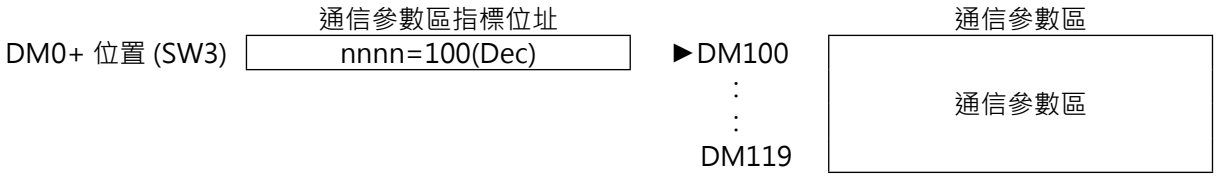
例如 . 當 DM100 的內容為 8 (10 進制), 則 TC100 控制器連接數量為 8 台。

4 NET100-MB 系統參數說明

4.1 PLC 與控制器之間的通信參數

- 通信參數 20 個 Words :

例如 : 通信參數區起始位址為 DM100, 則參數區的配置如下圖所示 :



※ 以下 Data Memory 簡稱 DM

每個基本參數區的位址說明如下 :

PLC 位址	例如當參數區起始位址為 DM100	基本參數區的內容
DMnnnn+0	DM100	設定 TC100 控控器台數
DMnnnn+1	DM101	廣播寫入控制旗標
DMnnnn+2~12	DM102	保留
DMnnnn+13	DM113	軟體板本 1141h
DMnnnn+14	DM114	TC100 通信週期 (unit : 1ms)
DMnnnn+15	DM115	TC100 通信週期計數
DMnnnn+16	DM116	TC100 通信狀態 0 : 正常 1 : 異常
DMnnnn+17	DM117	TC100 異常站號
DMnnnn+18	DM118	TC100 異常位址
DMnnnn+19	DM119	TC100 異常碼

每個位址說明如下 :

- DMnnnn+0 為 TC100 控制器連接台數 (請常時寫入數值)
  例如 :
  當 DM+0 的內容為 8 (10 進制), 則控制器連接台數為 8 台 TC100。
- DMnnnn+1 為廣播 (同動) 控制啟動位置 (控制完成自動歸 0)
  例如 :
  當 DM+1 的內容為 1 (10 進制), 則執行 DMnnnn+20 位址命令。
- DMnnnn+2~12 : 保留。
- DMnnnn+13 : NET100-MB 的韌體版本。
- DMnnnn+14 : NET100-MB 的通信週期 (10 進制 Dec)
  NET100-MB 的通信週期 , 單位為 1 ms, 每完成一個通信週期 , NET100-MB 會寫入與控制器的通信週期到 PLC。
- DMnnnn+15 : NET100-MB 的通信週期次數 (10 進制 Dec)
  每完成一個通信週期 , NET100-MB 會寫入與控制器的通信次數到 PLC. 當通信次數到 65,535 時 , 下一個通信週期完成將會把通信次數歸為 0. 重新計數。
- DMnnnn+16 : COM2 通信狀態
  通信狀態 0 : 正常 1 : 異常
- DMnnnn+17 : COM2 通信異常站號 (10 進制 Dec)
- DMnnnn+18 : COM2 通信異常位址
- DMnnnn+19 : COM2 通信異常碼
  0xFF : Time Out
  0xFE : Check Sum 錯誤

4.2 控制 1 軸通訊參數位置

PLC 位址	例如當參數區 起始位址為 DM100	基本參數區的內容
DMnnnn+20	201Eh	廣播移動類型 (須配合 DMnnnn+1 使用)
DMnnnn+21	1020h	整體出力狀態
DMnnnn+22	1005h	警告狀態
DMnnnn+23/24	100Ah/100Bh	編碼器位置
DMnnnn+25	2040h	入力狀態變更
DMnnnn+26/27	2000h/2001h	相對移動資料
DMnnnn+28/29	2002h/2003h	絕對移動資料
DMnnnn+30	2014h	位置 / 扭力控制時的動作速度設定
DMnnnn+31	201Eh	移動類型
DMnnnn+32/33	0804h/0805h	加減速時間 ms
DMnnnn+34	0400h	+ 方向的推壓扭矩值
DMnnnn+35	0401h	- 方向的推壓扭矩值

註 : 若控制多軸，請參考 NET100-MB 多軸位置手冊。

4.3 詳細參數定義

命令數	位置	WORD		簡述	內容說明	數值範圍
1	D21=1020H	1	ServoStatus	整體出力狀態	出力 bit 0(OUT 1)~bit 9(OUT 10) 0 : OFF 1 : ON (預設 IO 定義如下) OUT1:ORG-S OUT2:INP OUT3:READY OUT4:SERVO-S OUT5:PRGSEL0-S OUT6:PRGSEL1-S OUT6:PRGSEL2-S OUT6:PRGSEL3-S OUT6:PRGSEL4-S OUT10:PRGSEL5-S	
2	1005 H	1	AlarmStatus	告警狀態	0 : 無告警 1 : 過扭力 2 : 位置偏差過大 3 : 過速度 4 : 增益調整不良 5 : 過電壓 6 : 初期化異常 7 : EEPROM 異常 8 : 主回路電源電壓不足 9 : 過電流 10 : 回生異常 11 : 急停中 12 : 馬達斷線 13~14 : 未使用 15 : 需斷電重開	
3	100A H	2	EcdPos	編碼器位置		
4	2040 H	1		入力狀態變更	入力 bit 0(IN 1)~bit 9(IN 12) 0 : OFF 1 : ON (預設定義如下) IN1 : ORG IN2 : SERVO IN3 : ALM-RESET IN4 : START IN5 : PRGSEL0 IN6 : PRGSEL1 IN7 : PRGSEL2 IN8 : PRGSEL3 IN9 : PRGSEL4 IN10 : PRGSEL5 IN11 : PRGSEL6 IN12 : ORGSIG	
5	2000 H	2	INCamount	相對移動資料	設定相對移動距離 (位置控制、扭力控制時為有效)(初始值 0)	
6	2002 H	2	ABSamount	絕對移動量	設定絕對移動距離 (位置控制、扭力控制時為有效)(初始值 0)	

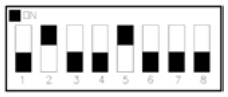
7	2014 H	1	MovSpeedSet	位置 / 扭力控制時的動作速度設定 絕對位置移動	最高速度 (依 0802 H 的設定值) 為 100% 進行 設定 (初始值 100) 若設定值為 0% 時則以起始速度移動 (0800 H)	0~100 %
8	廣播 D20=201EH	1	MovType	移動類型	0：相對位置移動 1：絕對位置移動 3：原點復歸 6：警報復歸 8：減速停止 B：JOG + C：JOG - D：清除命令	
9	0804 H	2	AccelTime	加減速時間 ms		
10	400 H	1	DigPushTrqRateCw	+ 方向的推壓，扭矩值 (x0.1)		0~1000
11	401 H	1	DigPushTrqRateCcw	- 方向的推壓，扭矩值 (x0.1)		0~1000

5. 與各家 PLC 連線資料

5.1 台達 Delta DVP PLC series

5.1.1Delta DVP PLC

5.1.1.1 NET100-MB 設定

NET100-MB Settings		PLC Interface Settings	
Baud Rate	9600	Baud Rate	9600
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	1 bit (fixed)	Stop Bit	1 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Delta Protocol	RS-232C/485
		Station Number	1
SW2		-----	-----
		-----	-----
SW3	根據 PLC	-----	-----
		-----	-----

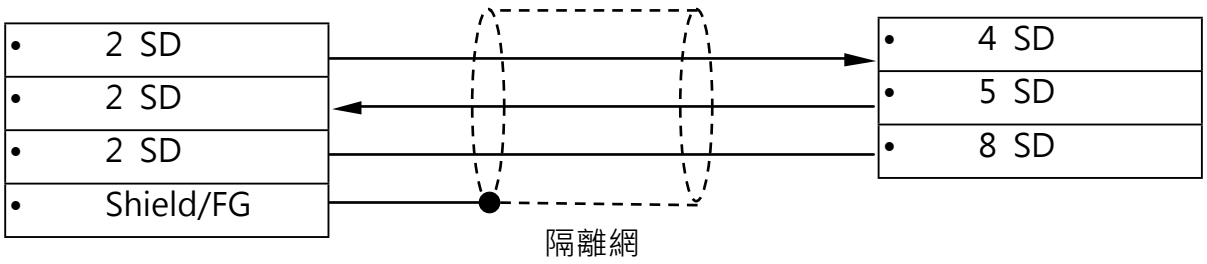
5.1.1.2 接線圖及相關設定對照表

系列名稱	CPU	CPU/Link 模組	接線圖	相關設定
Delta DVP	EH,EP,ES,EX,SS	RS-232C CPU Port RS-485 on CPU	RS-232C(接線圖 1) RS-485(接線圖 2)	固定格式

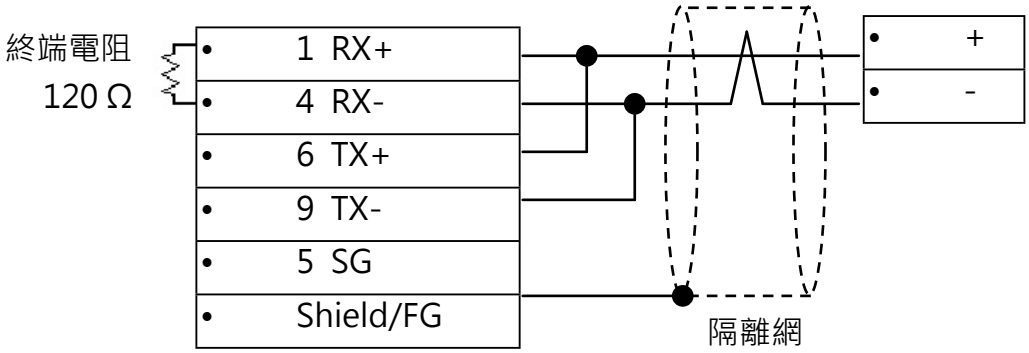
5.1.1.3 接線圖

- 接線圖 1 (RS-232C)

連接到 CPU 的 RS-232C port



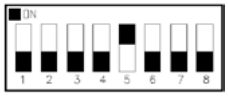
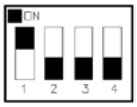
- 接線圖 2 (RS-485)
  連接到 PLC 上的 RS-485 port



5.2 永宏 Fatek PLC

5.2.1 Fatek Facon FB PLC

5.2.1.1 NET100-MB 設定

NET100-MB Settings		PLC Interface Settings	
Baud Rate	19200	Baud Rate	19200
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	1 bit (fixed)	Stop Bit	1 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Facon FB Protocol	RS-232C/485
		Station Number	0
SW2		-----	-----
		-----	-----
SW3	Depend on PLC	-----	-----
		-----	-----

5.2.1.2 接線圖及相關設定對照表

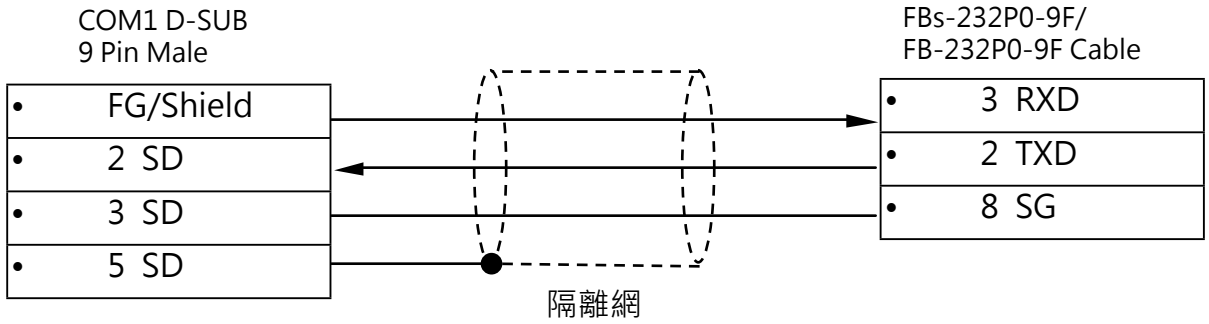
系列名稱	CPU	CPU/Link 模組	接線圖	相關設定
FATEK FACON FB	FBs	CPU Port	RS-232C(接線圖 1)	永宏通信協定
		RS-232C 模組	RS-232C(接線圖 2)	
		RS-485 模組	RS-485 (接線圖 3)	
	FBe	CPU Port 0	RS-232C(接線圖 1)	
		CPU Port 1	RS-232C(接線圖 5)	
		CPU Port 2	RS-485 (接線圖 4)	
	FBe	DTBR Port 0	RS-232C(接線圖 2)	
		DTBR Port 1	RS-232C(接線圖 2)	
		DTBR Port 2	RS-485 (接線圖 3)	

- 接線圖 1 (RS-232C)

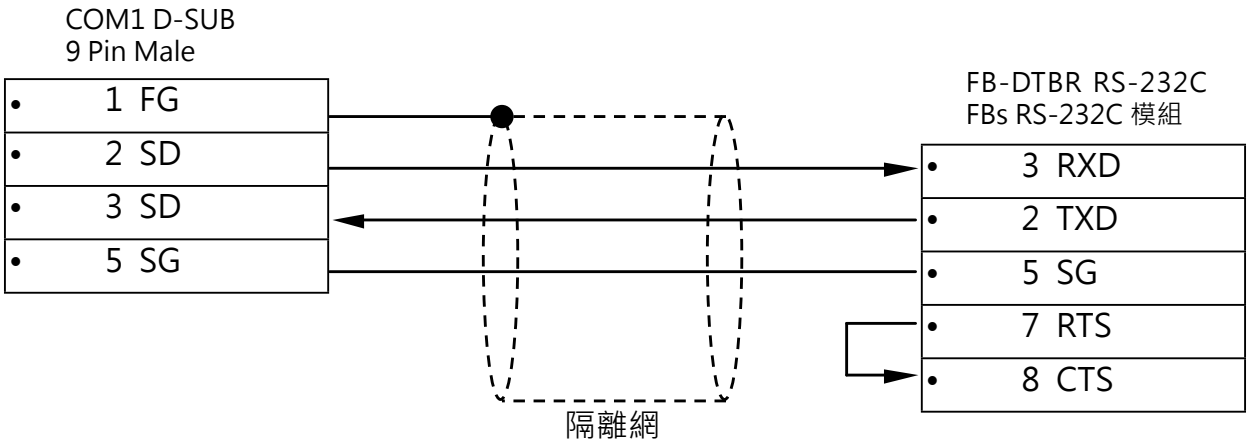
◆ 連接到 Facon FBs/FBe 的 CPU port

◆ 經由 FBs-232P0-9F/ FB-232P0-9F 程式傳輸線 , 連接 CPU 上的 port 0.

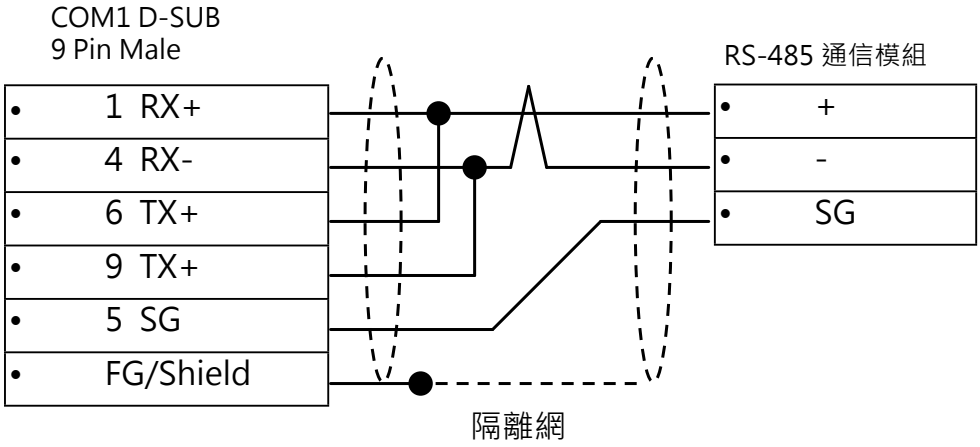
※ 無法直接連接 CPU 上的 port 0



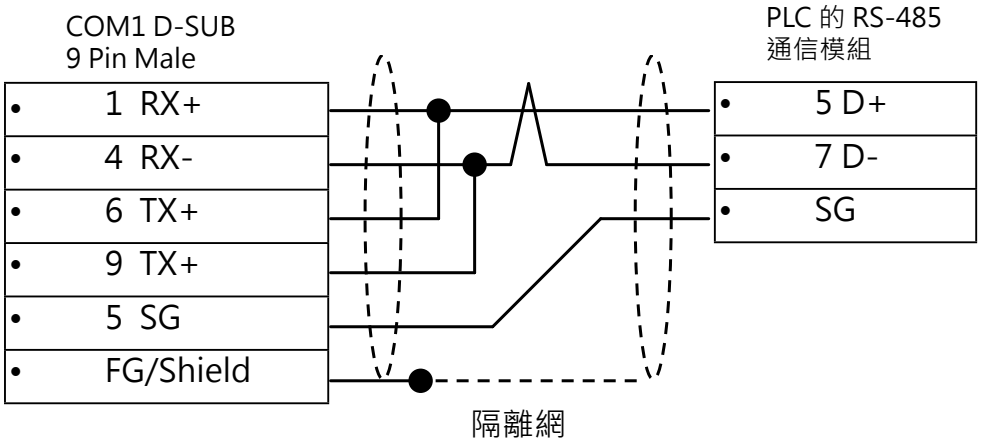
- 接線圖 2 (RS-232C)



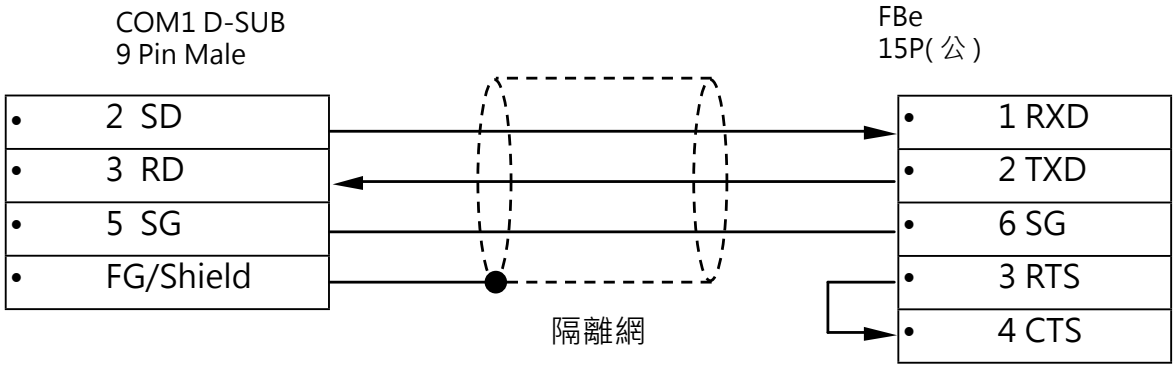
- 接線圖 3 (RS-485)
  連接到 FBs 的 RS-485 通信模組



- 接線圖 4 (RS-485)
  連接到 CPU 的 port 2 (RS-485) 或經由 FB-DTBR 通信分配器



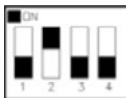
- 接線圖 5 (RS-232C)



5.3 三菱 PLC

5.3.1 三菱 FX-Link(Format 4)

5.3.1.1 NET100-MB 設定

NET100-MB Settings		PLC Interface Settings	
Baud Rate	38400	Baud Rate	38400
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	2 bit (fixed)	Stop Bit	2 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Computer Link	RS-232C/422/485
		Station Number	0
SW2		Sum Check	Yes
		Protocol	Format 4
SW3	Depend on PLC	Header	No
		Terminator	No

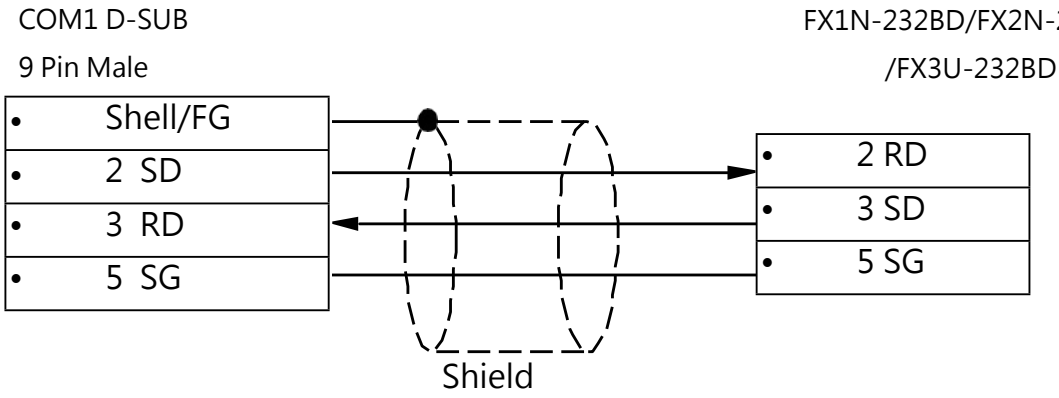
5.3.1.2 接線圖及相關設定對照表

系列名稱	CPU	Link 模組	接線圖	相關設定
MELSEC FX	FX0N	FX0N-232ADP,	RS-232C(接線圖 3)	設定 1
		FX0N-485ADP	RS-485(接線圖 2)	設定 2
	FX2NC	FX2NC-232ADP,	RS-232C(接線圖 3)	設定 1
		FX2NC-485ADP	RS-485(接線圖 2)	設定 2
	FX1N	FX1N-232-BD	RS-232C(接線圖 1)	設定 1
		FX1N-485(422)-BD	RS-485(接線圖 2)	設定 2
	FX2N	FX2N-232-BD	RS-232C(接線圖 1)	設定 1
		FX2N-485(422)-BD	RS-485(接線圖 2)	設定 2
		FX2NC-232ADP,	RS-232C(接線圖 3)	設定 1
		FX2NC -485ADP	RS-485(接線圖 2)	設定 2
	FX3U	FX3U-232-BD	RS-232C(接線圖 1)	設定 1
		FX3U-485-BD	RS-485(接線圖 2)	設定 2
		FX3U-232ADP,	RS-232C(接線圖 1)	設定 1
		FX3U-485ADP	RS-485(接線圖 2)	設定 2

5.3.1.3 接線圖

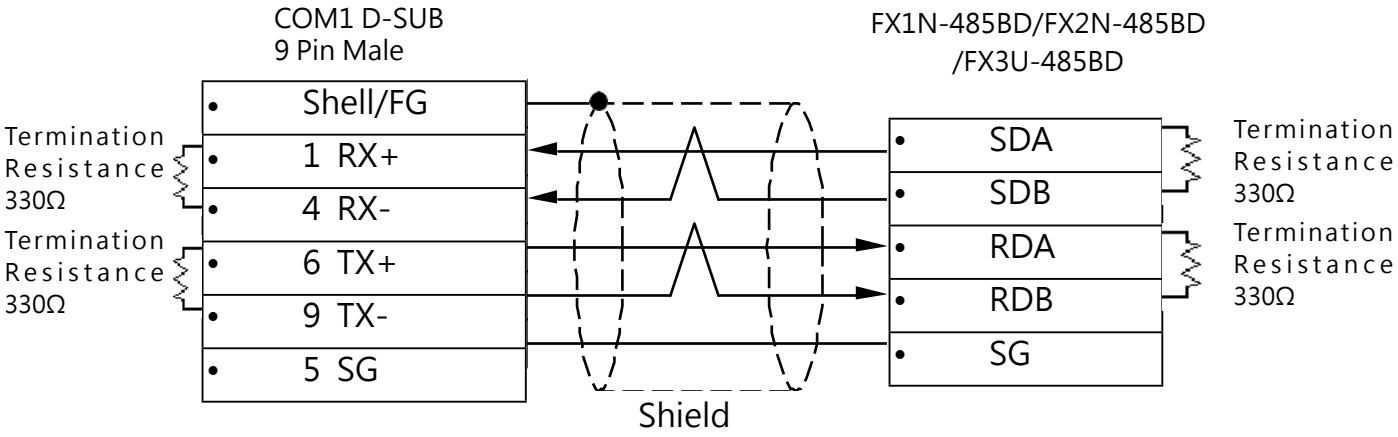
- 接線圖 1

FX1N-232BD/FX2N-232BD/FX3U-232BD Link I/F

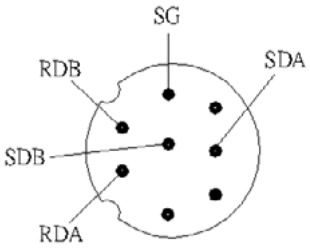


- 接線圖 2

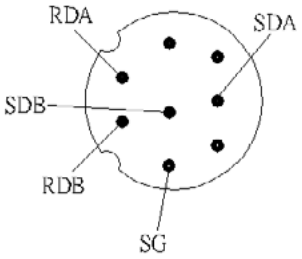
FX1N-485BD/FX2N-485BD/FX3U-485BD Link I/F



Front view of connection cable

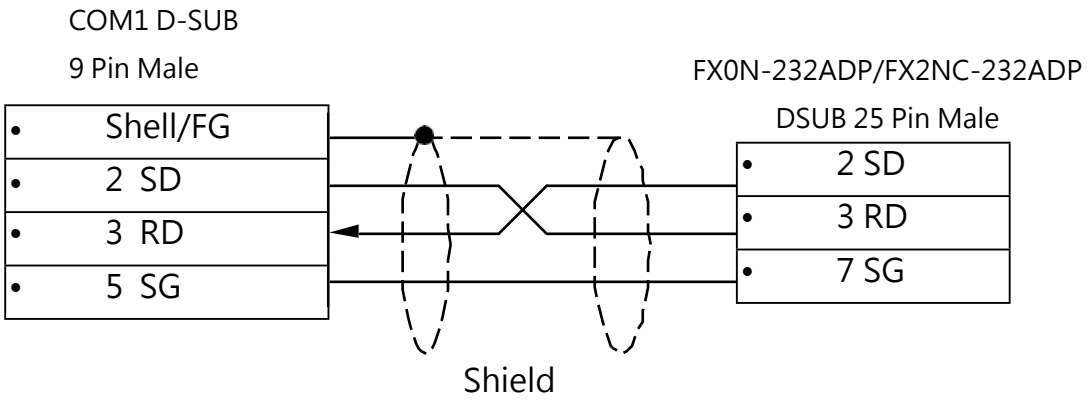


Front view of FX-422BD



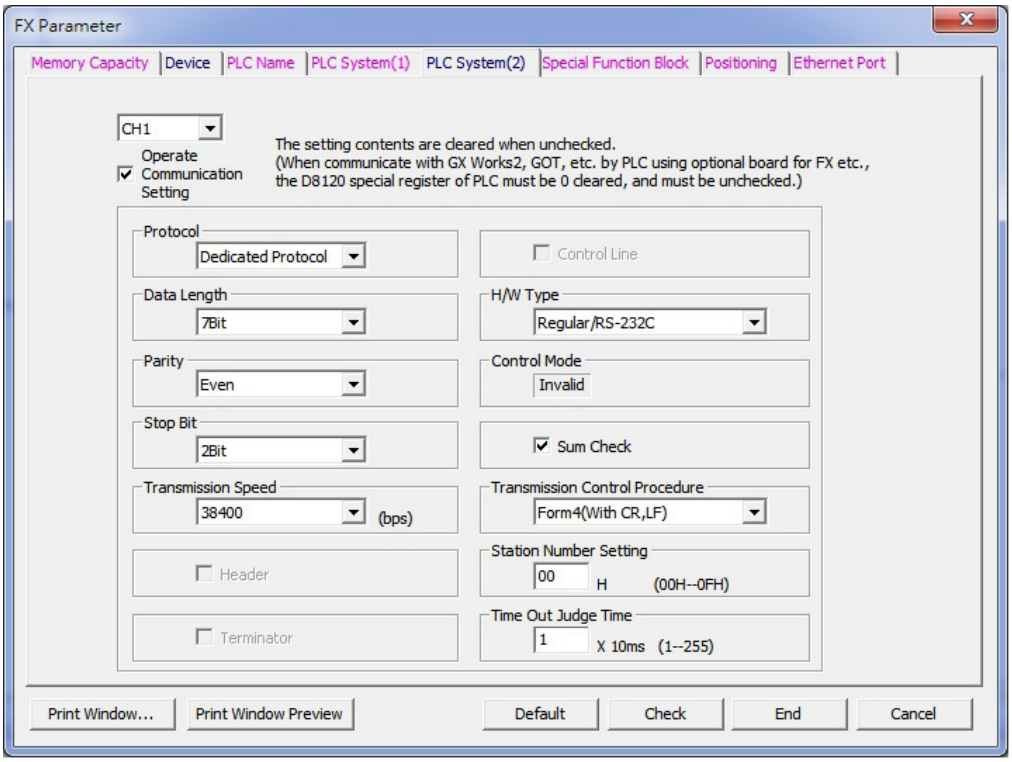
- 接線圖 3

  FX0N-232ADP/FX2NC-232ADP Link I/F

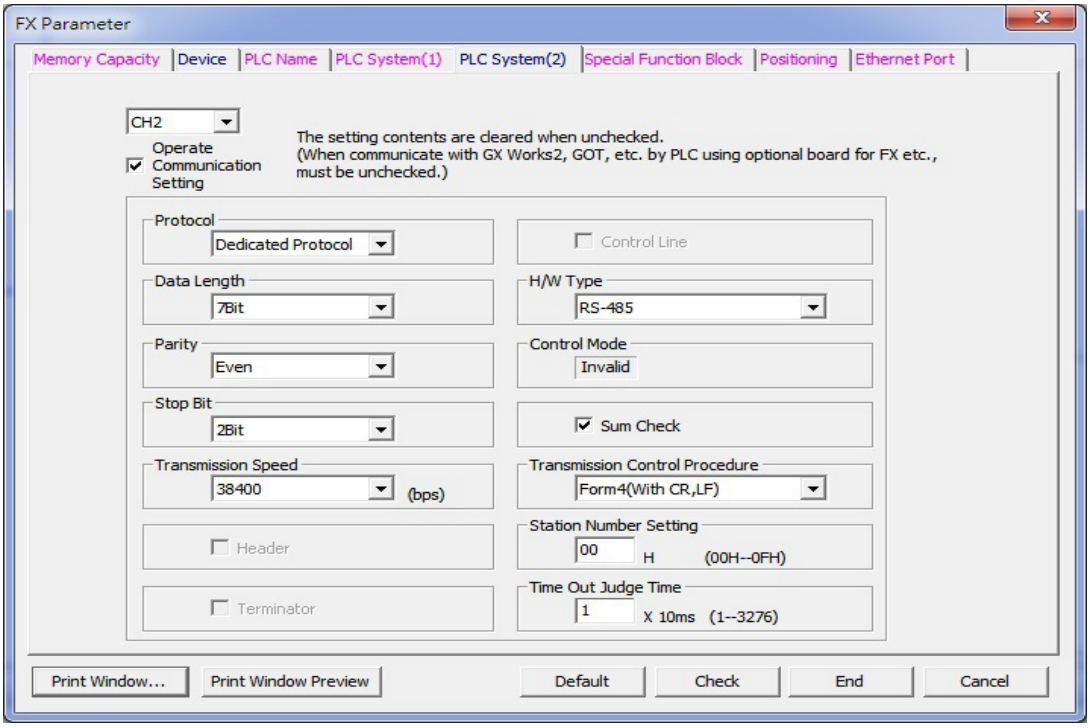


5.3.1.4 PLC 相關設定

FX3U-RS232 設定範例 :



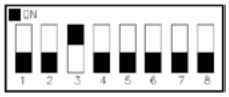
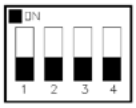
FX3U-RS485 設定範例



◆ D8120 的內容意義

Bit No.	Name	Description	
		0(bit=off)	1(bit=on)
b0	Data Len.	7 bit	8 bit
b1 b2	Parity	(b1,b2) (0 , 0):None (0 , 1):Odd (1 , 1):Even	
b3	Stop bit	1 bit	2 bit
b4 b5 b6 b7	Baud rate(bps)	(b7,b6,b5,b4) (b7,b6,b5,b4) (0, 1, 0, 1):1,200 (0, 1, 1, 1):4,800 (0, 1, 1, 0):2,400 (1, 0, 0, 0):9,600 (1, 0, 0, 1):19,200	
b8	Header	None	Effective(D8124) Default:STX(02H)
b9	Terminator	None	Effective(D8124) Default:ETX(03H)
b10 b11 b12	Control line	No protocol	(b12,b11,b10) (0 , 0, 0) :No use<RS232C interface> (0 , 0, 1) :Terminal mode <RS232C interface> (0 , 1, 0) :Interlink mode<RS232C interface> (0 , 1, 1) :Normal mode 1<RS232C/RS485(422) interface> (1 , 0, 1) : Normal mode 2 <RS232C interface>
		Computer link	(b12,b11,b10) (0 , 0, 0) : RS485(422) interface (0 , 1, 0) : RS232C interface
b13	Sum check	Sum check code is not added	Sum check code is added auto
b14	Protocol	No protocol	Dedicated protocol
b15	Control protocol	Protocol format 1	Protocol format 4

5.3.2 三菱 FX CPU
5.3.2.1 NET100-MB 設定

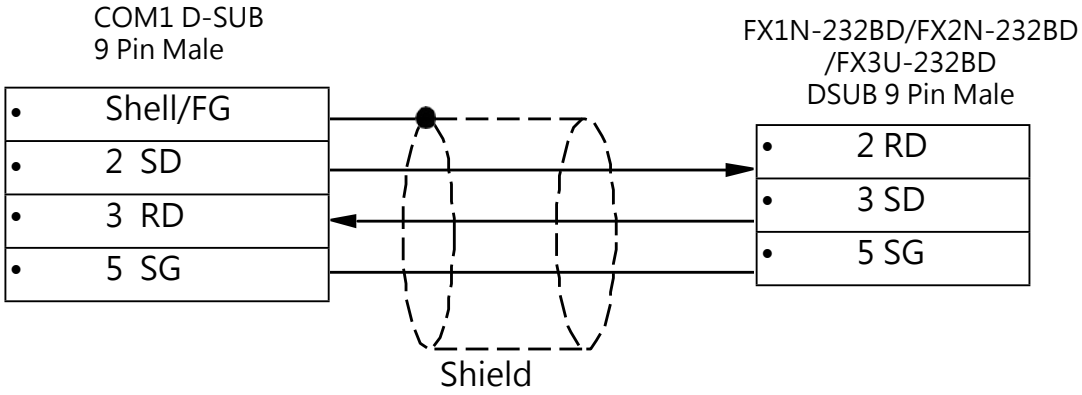
NET100-MB Settings		PLC Interface Settings	
Baud Rate	9600	Baud Rate	9600
Data Length	7 bits (fixed)	Data Length	7 bits (fixed)
Stop Bit	1 bit (fixed)	Stop Bit	1 bit (fixed)
Parity Bit	Even (fixed)	Parity Bit	Even (fixed)
SW1			
SW2			
SW3	Depend on PLC		

5.3.2.2 接線圖及相關設定對照表
一般通信 FX 通信模組，亦可使用 FX CPU 通信協定 .

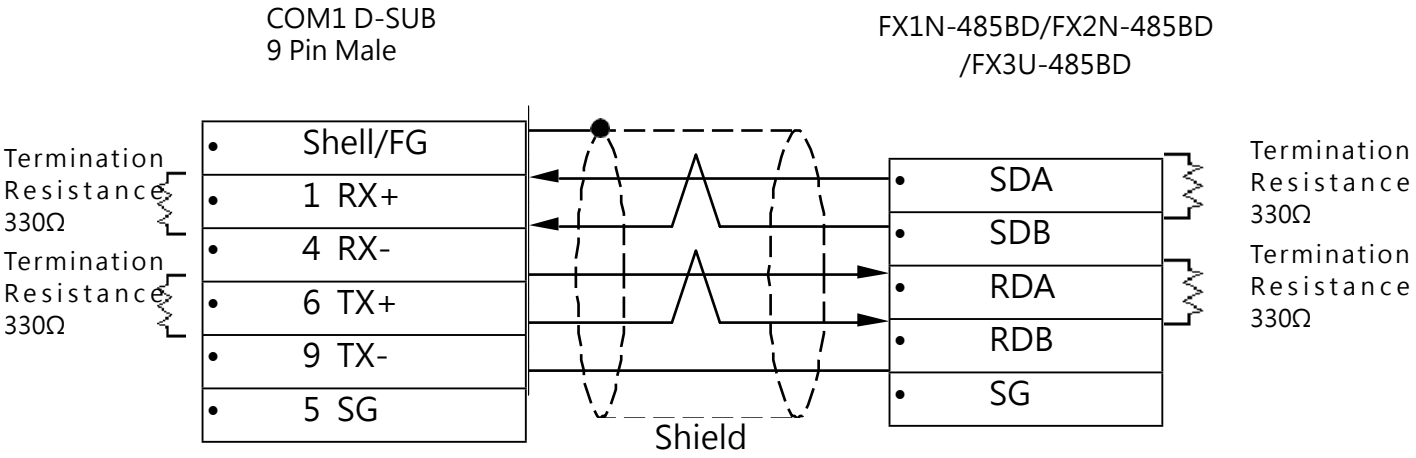
系列名稱	CPU	Link 模組	接線圖	相關設定
MELSEC FX	FX1S,FX0N, FX1N, FX2N, FX3U		RS-422(接線圖 2)	固定 , 無需設定
	FX0N	FX0N-232ADP,	RS-232C(接線圖 3)	設定 1
		FX0N-485ADP	RS-485(接線圖 2)	設定 2
	FX2NC	FX2NC-232ADP,	RS-232C(接線圖 3)	設定 1
		FX2NC-485ADP	RS-485(接線圖 2)	設定 2
	FX1N	FX1N-232-BD	RS-232C(接線圖 1)	設定 1
		FX1N-485(422)-BD	RS-485(接線圖 2)	設定 2
	FX2N	FX2N-232-BD	RS-232C(接線圖 1)	設定 1
		FX2N-485(422)-BD	RS-485(接線圖 2)	設定 2
		FX2NC-232ADP,	RS-232C(接線圖 3)	設定 1
		FX2NC -485ADP	RS-485(接線圖 2)	設定 2
	FX3U	FX3U-232-BD	RS-232C(接線圖 1)	設定 1
		FX3U-485-BD	RS-485(接線圖 2)	設定 2
		FX3U-232ADP,	RS-232C(接線圖 1)	設定 1
		FX3U-485ADP	RS-485(接線圖 2)	設定 2

5.3.2.3 接線圖

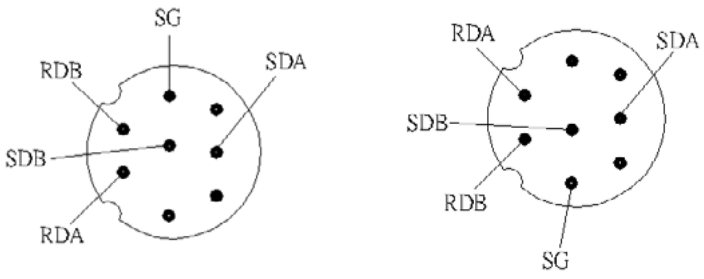
- 接線圖 1
  FX1N-232BD/FX2N-232BD/FX3U-232BD Link I/F



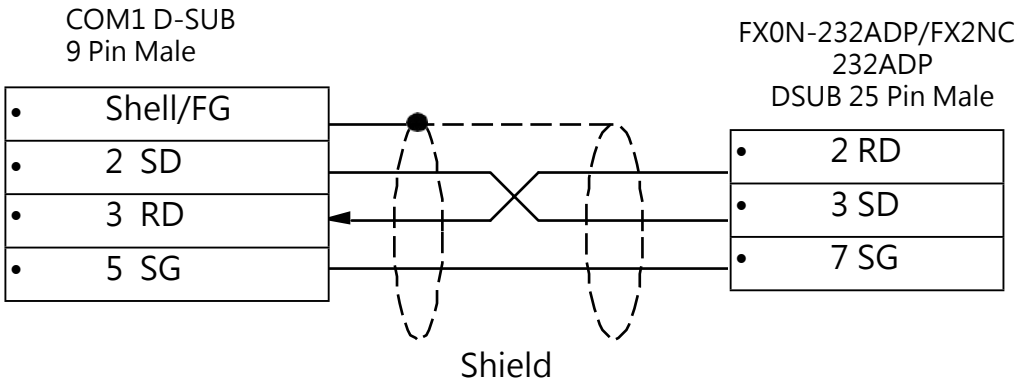
- 接線圖 2
  FX CPU/FX1N-485BD/FX2N-485BD/FX3U-485BD Link I/F



Front view of connection cable Front view of FX-422BD



- 接線圖 3
  FX0N-232ADP/FX2NC-232ADP Link I/F



5.3.2.4 PLC 相關設定：

你可使用 PLC 編輯軟體直接填入參數 , 填入完成後 , 請關閉電源 , 重新開啟電源 . FX CPU 為固定格式 , 無需設定

- 設定 1 (RS-232C)

相關參數暫存器位址		寫入值
FX 或 FX3U CH1	FX 或 FX3U CH2	
D8120	D8420	0 (預設值)
D8121	D8421	0 (預設值)

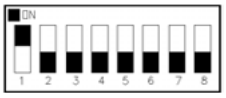
- 設定 2 (RS-422, RS-485)

相關參數暫存器位址		寫入值
FX 或 FX3U CH1	FX 或 FX3U CH2	
D8120	D8420	0 (預設值)
D8121	D8421	0 (預設值)

※FX CPU 通信速度及格式固定為 9600, 7, Even, 1

5.3.3 三菱 A-Link(Format)

5.3.3.1 NET100-MB 設定 :

NET100-MB Settings		PLC Interface Settings	
Baud Rate	19200	Baud Rate	19200
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	2 bit (fixed)	Stop Bit	2 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Computer Link	RS-232C/422
		Station Number	0
SW2		Sum Check	Yes
		Protocol	Format 4
SW3	Depend on PLC	Header	No
		Terminator	No
		Write during Run	Yes

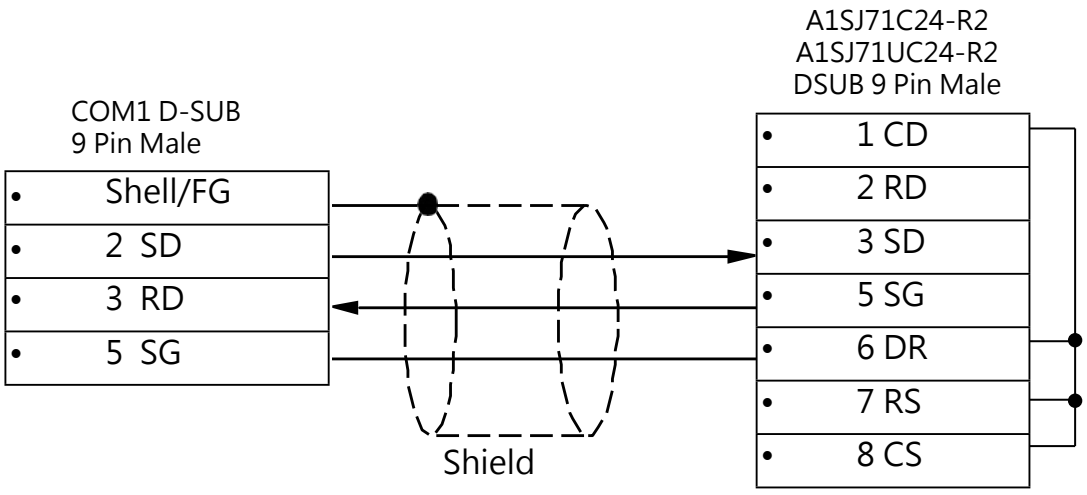
5.3.3.2 接線圖及相關設定對照表

系列名稱	CPU	Link 模組	接線圖	相關設定
MELSEC A	A2A,A3A,A2U A3U,A4U	AJ71C24-S6 AJ71C24-S8	RS-232C(接線圖 3)	設定 3
			RS-422(接線圖 2)	設定 3
	A1N,A2N,A3N	AJ71C24 AJ71C24-S3 AJ71C24-S6 AJ71C24-S8	RS-232C(接線圖 3)	設定 3
			RS-422(接線圖 2)	設定 3
	A2US,A2USH A1S,A1SJ, A2SH,A1SH	A1SJ71C24-R2 A1SJ71UC24-R2	RS-232C(接線圖 1)	設定 1
		A1SJ71UC24-R4	RS-422(接線圖 2)	設定 2

5.3.3.3 接線圖

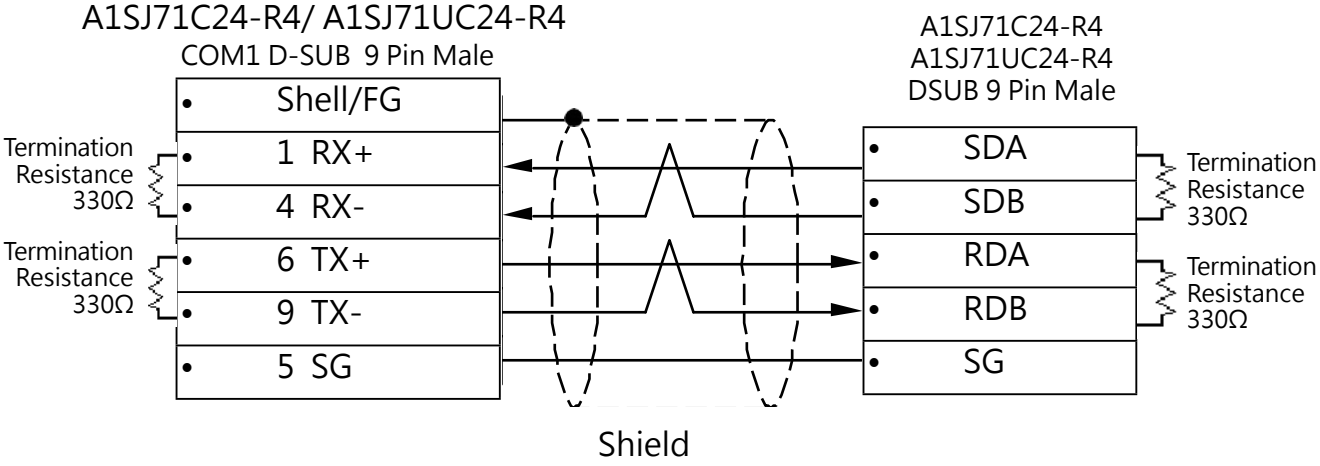
- 接線圖 1

  A1SJ71C24-R2/ A1SJ71UC24-R2



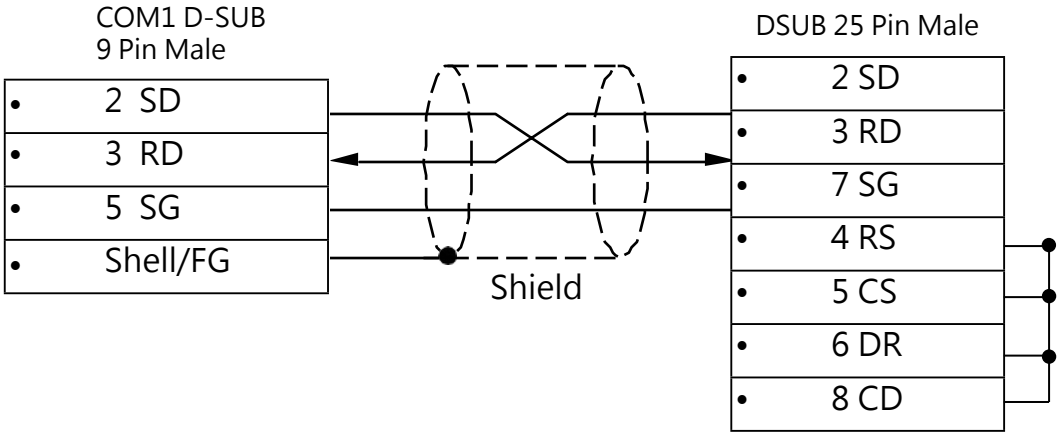
- 接線圖 2

  A1SJ71C24-R4/ A1SJ71UC24-R4



- 接線圖 3

  AJ71C24 (CH1 RS-232C)



5.3.3.4 PLC 相關設定：

- 設定 1 A1SJ71UC24-R2

Mode Setting Switch	Mode Setting Switch Number	Mode Setting
		RS-232C
	0	Unusable
	1	Type 1 dedicated Protocol mode
	2	Type 1 dedicated Protocol mode
	3	Type 1 dedicated Protocol mode
	4	Type 1 dedicated Protocol mode
	5 ~ F	Use prohibited

Setting of Switches	Setting Switches	Setting Items	Position Setting Switch	
			ON	OFF
	SW03	Unused	---------	---------
	SW04	Write During RUN	Enabled	Disabled
	SW05	Transmission speed Setting	Please refer to Table 1	
	SW06			
	SW07			
	SW08	Data bit setting	8 bits	7bits
	SW09	Parity check	Enabled	Disabled
	SW10	Parity setting	Even	Odd
	SW11	Stop bit	2 bits	1 bit
	SW12	Sum check	Enabled	Disabled

Table1 :

300	400	1200	2400	4800	9600	19200	Unusable
OFF	ON	OFF	ON	OFF	ON	OFF	ON
OFF	OFF	ON	ON	OFF	OFF	ON	ON
OFF	OFF	OFF	OFF	ON	ON	ON	ON

設定 2　A1SJ71UC24-R4

Mode Setting Switch	Mode Setting Switch Number	Mode Setting
		RS-422
	1 ~ 3	Use prohibited
	4	Non procedure mode
	5	Type 1 dedicated Protocol mode
	6	Type 2 dedicated Protocol mode
	7	Type 3 dedicated Protocol mode
	8	Type 4 dedicated Protocol mode
	9 ~ F	Use prohibited
	F	For module

Setting of Switches	Setting Switches	Setting Items	Position Setting Switch	
			ON	OFF
	SW01	Unused	---------	---------
	SW02	Computer Link/Multi drop Link selection	Computer Link	Multi drop link
	SW03	Unused	---------	---------
	SW04	Write During RUN	Enabled	Disabled
	SW05	Transmission speed Setting	Please refer to Table 1	
	SW06			
	SW07			
	SW08	Data bit setting	8 bits	7 bits
	SW09	Parity check	Enabled	Disabled
	SW10	Parity setting	Even	Odd
	SW11	Stop bit	2 bits	1 bit
	SW12	Sum check	Enabled	Disabled

300	400	1200	2400	4800	9600	19200	Unusable
OFF	ON	OFF	ON	OFF	ON	OFF	ON
OFF	OFF	ON	ON	OFF	OFF	ON	ON
OFF	OFF	OFF	OFF	ON	ON	ON	ON

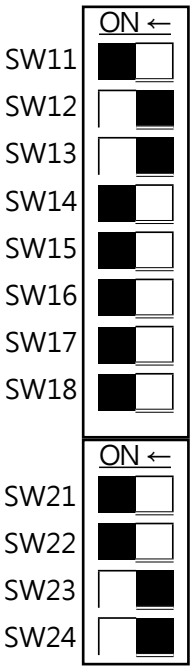
- 設定 3 : AJ71C24

  AJ71C24 模組的 SW 如何調整 , 請參考下方 :

Mode Setting Switch	Mode Setting Switch Number	Mode Setting	
		R-232C	RS-422
	0	Unusable	
	1	Protocol 1	No-Protocol
	2	Protocol 2	No-Protocol
	3	Protocol 3	No-Protocol
	4	Protocol 4	No-Protocol
	5	No-Protocol	Protocol 1
	6	No-Protocol	Protocol 2
	7	No-Protocol	Protocol 3
	8	No-Protocol	Protocol 4
	9	No-Protocol	No-Protocol
	A	Protocol 1 ◄►	Protocol 1
	B	Protocol 2 ◄►	Protocol 2
	C	Protocol 3 ◄►	Protocol 3
	D	Protocol 4 ◄►	Protocol 4
	E	Unusable	
	F	For module	

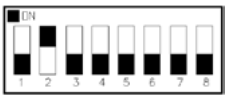
※ Format 4 Protocol

(使用 RS-232C 選擇 4,RS-422 選擇 8, 當 2 個 Prot 都要使用的話 , 請選擇 D)

<table>
<tr><th rowspan="2">Setting of Switches</th><th rowspan="2">Setting Switches</th><th rowspan="2">Setting Items</th><th colspan="2">Position Setting Switch</th></tr>
<tr><th>ON</th><th>OFF</th></tr>
<tr><td rowspan="11"> 
</td><td>SW11</td><td>Main channel Setting</td><td>RS-422</td><td>RS-232C</td></tr>
<tr><td>SW12</td><td>Data length</td><td>8 bits</td><td>7 bits</td></tr>
<tr><td>SW13</td><td colspan="3" rowspan="3"><table>
<tr><td>300</td><td>400</td><td>1200</td><td>2400</td><td>4800</td><td>9600</td><td>19200</td><td>Un- usable</td></tr>
<tr><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr>
</table></td></tr>
<tr><td>SW14</td></tr>
<tr><td>SW15</td></tr>
<tr><td>SW16</td><td>Parity check</td><td>Enabled</td><td>Disabled</td></tr>
<tr><td>SW17</td><td>Parity setting</td><td>Even</td><td>Odd</td></tr>
<tr><td>SW18</td><td>Stop bit</td><td>2 bits</td><td>1 bit</td></tr>
<tr><td>SW21</td><td>Sum check</td><td>Enabled</td><td>Disabled</td></tr>
<tr><td>SW22</td><td>Write During RUN</td><td>Enabled</td><td>Disabled</td></tr>
<tr><td>SW23</td><td>Send area terminal</td><td>Present</td><td>Absent</td></tr>
<tr><td>SW24</td><td>Receive area Terminal</td><td>Present</td><td>Absent</td></tr>
</table>

5.3.4 三菱 Q-Link(Format)

5.3.4.1 NET100-MB 設定

NET100-MB Settings		PLC Interface Settings	
Baud Rate	115200	Baud Rate	115200
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	2 bit (fixed)	Stop Bit	2 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Computer Link	RS-232C/422
		Station Number	0
SW2		Sum Check	Yes
		Protocol	Format 4
SW3	Depend on PLC	Header	No
		Terminator	No
		Write during Run	Yes

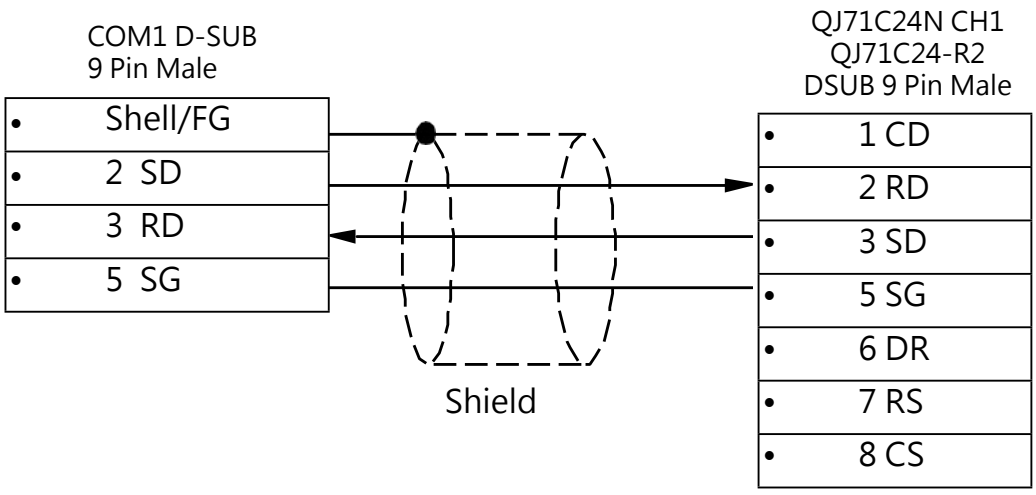
5.3.4.2 接線圖及相關設定對照表

系列名稱	CPU	Link 模組	接線圖	相關設定
MELSEC Q	Q00,Q01 Q02,Q02H, Q06H,Q12H	QJ71C24N CH1 QJ71C24-R2	RS-232C(接線圖 1)	設定 1
		QJ71C24N CH2 QJ71C24-R4	RS-422(接線圖 2)	設定 1

5.3.4.3 接線圖

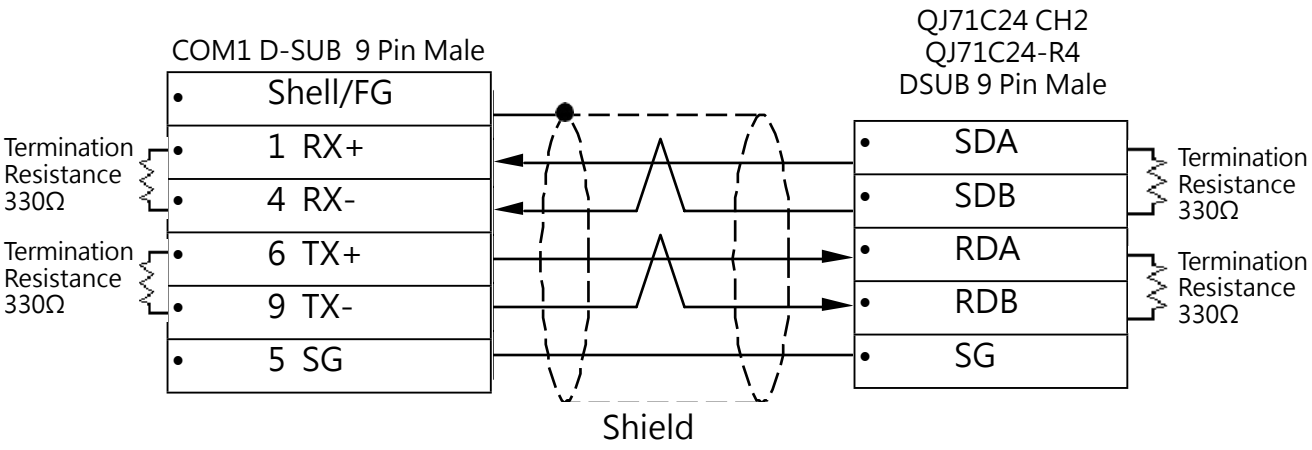
- 接線圖 1

  QJ71C24N CH1/ QJ71C24-R2



- 接線圖 2

  QJ71C24 CH2/ QJ71C24-R4

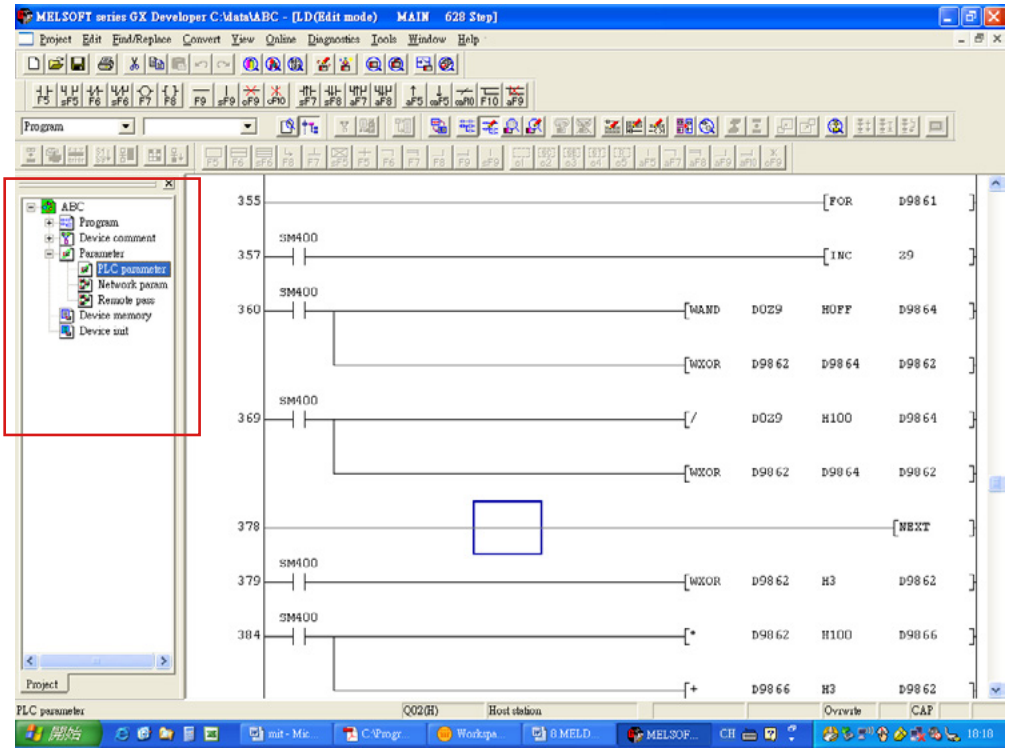


4.4.4 PLC 相關設定 :

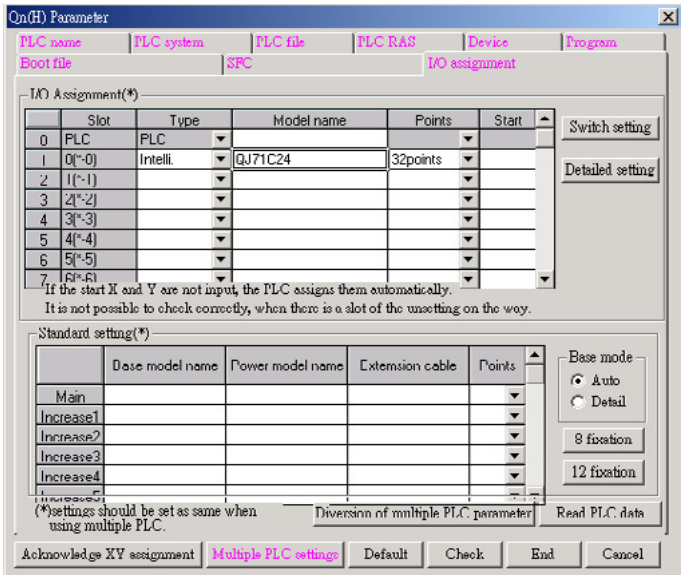
- 設定 1

請在三菱 PLC 編輯軟體 GX Developer

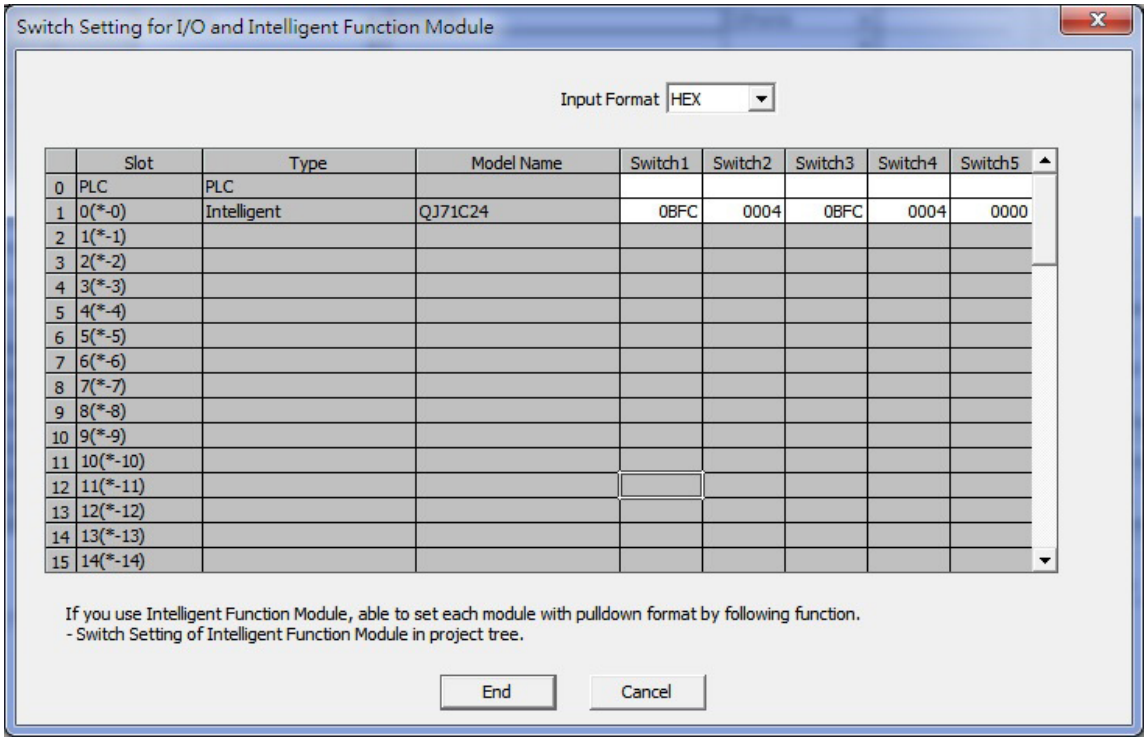
1. 在 GX Developer 的 Workspace 中選擇 [Parameter] – [PLC parameter]



2. 點選 [I/O assignment] 頁面，在 Type 欄位中選擇 “Intelli.” 形式 及在 Model name 欄位輸入 “QJ71C24”，輸入完成請按下 [Switch setting] 按鈕



3. 在按下 [Switch setting] 按鈕之後，將出現下列視窗



4. 設定參數 ：

CH 1 : Switch 1, Switch 2

CH 2 : Switch 2, Switch 3

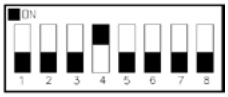
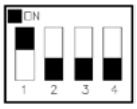
設定的內容說明如下表

Switch No.	Contents		Remarks
Switch 1	b15 to b8	b7 to b0	Refer to (1),(2)
	CH1 communication speed setting	CH1 Transmission Setting	
Switch 2	CH1 communication protocol setting		Refer to (3)
Switch 3	b15 to b8	b7 to b0	Refer to (1),(2)
	CH2 communication speed setting	CH2 Transmission Setting	
Switch 4	CH2 communication protocol setting		Refer to (3)
Switch 5	Station number setting		Refer to (4)

5.4 OMRON C 系列 Host Link

5.4.1 OMRON C 系列 Host Link

- 5.4.1.1 NET100-MB 設定

NET100-MB Settings		PLC Interface Settings	
Baud Rate	19200	Baud Rate	19200
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	2 bit (fixed)	Stop Bit	2 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Host Link	RS-232C/422
		Station Number	0
SW2		-----	-----
		-----	-----
SW3	根據 PLC	-----	-----
		-----	-----

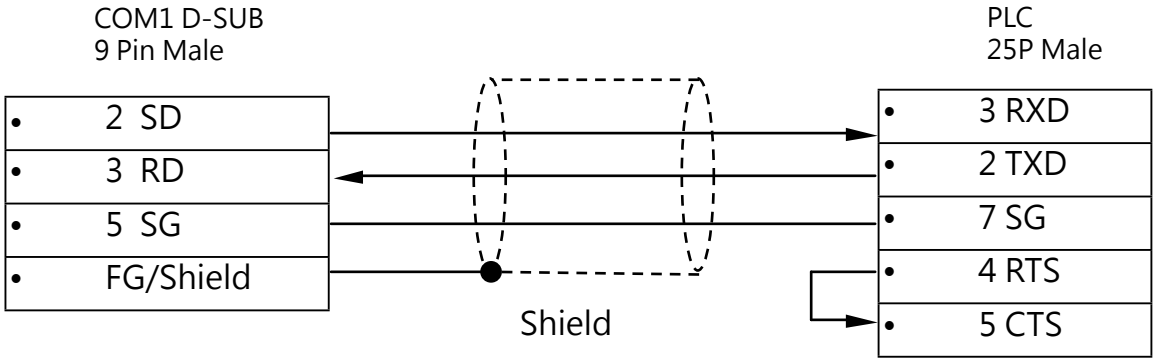
- 5.4.1.2 接線圖及相關設定對照表

系列名稱	CPU	Link 模組	接線圖	相關設定
SYSMAC-C	C200H C200HS	C200H-LK201 C200H-LK202	RS-232C(接線圖 1) RS-422(接線圖 2)	設定 1
	C20H, C28H,C40H C200HS CQM1, CQM1H	Link I/F on CPU Unit (RS-232C Port)	RS-232C(接線圖 3)	設定 2
	C120,C120F C500,C500F C1000H, C1000HF C2000, C2000H	C120-LK201-V1 C120-LK202-V1	RS-232C(接線圖 1) RS-422(接線圖 2)	設定 1

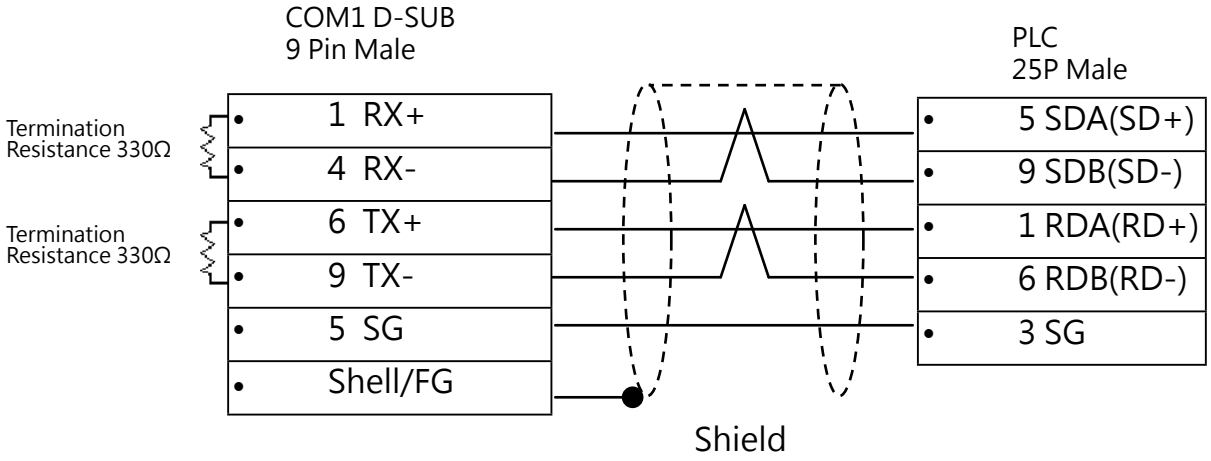
系列名稱	CPU	Link 模組	接線圖	相關設定
SYSMAC-α	C200HS C200HX C200HE C200HG	Host Link on CPU (RS-232C Port)	RS-232C(接線圖 3)	設定 2
		C200H-LK201 C200H-LK202	RS-232C(接線圖 1) RS-422(接線圖 2)	設定 1
		C200HW-COM06	RS-232C(接線圖 3) RS-422(接線圖 4)	設定 3
SYSMAC-CV	CV500 CV1000 CVM1	CPU unit Link I/F (有 RS-232C 及 RS-422 二種模式)	RS-232C(接線圖 3) RS-422(接線圖 4)	設定 4

5.4.1.3 接線圖

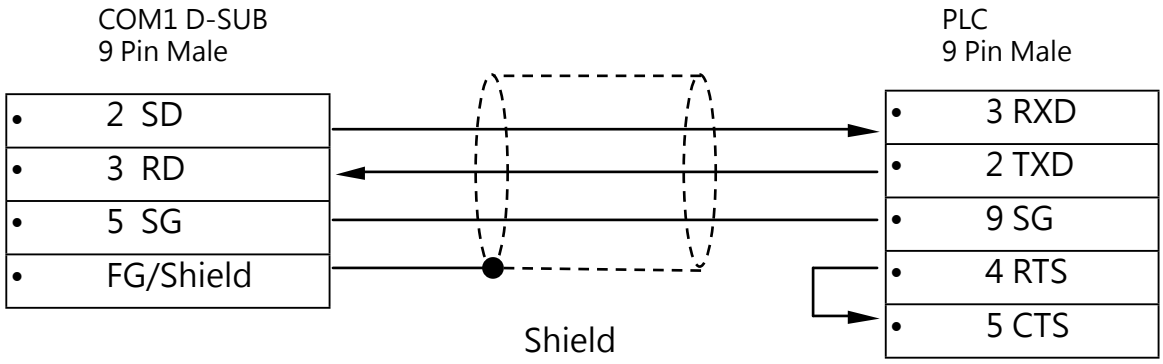
- 接線圖 1 (RS-232C)



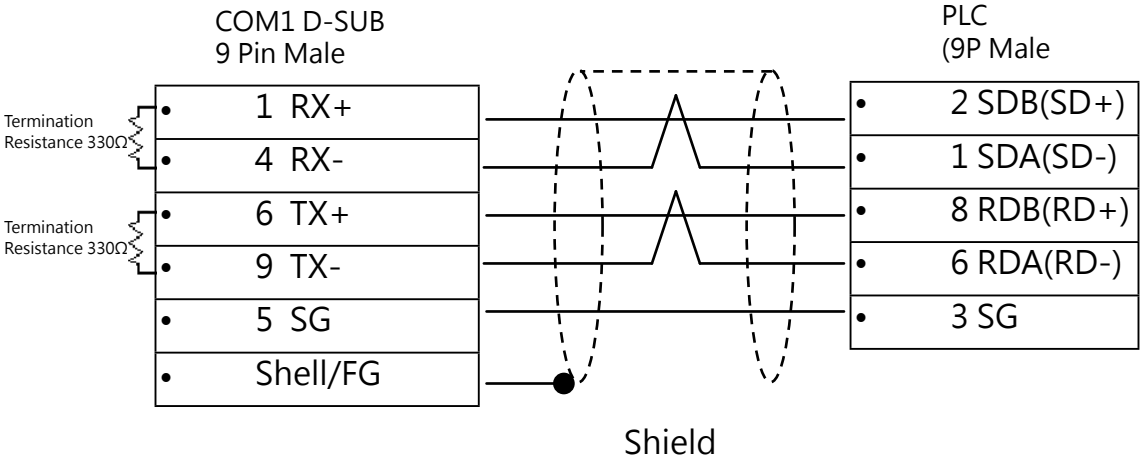
- 接線圖 2 (RS-422)



- 接線圖 3 (RS-232C)



- 接線圖 4 (RS-422)



5.4.1.4 PLC 相關設定

- 設定 1 : LK201/LK202 模組

  (1) SW1/SW2: 設定站號 SW1×10,SW2×1(請設定為 0).

  (2) SW3: 設定通信 Baud Rate (請設定為 6)

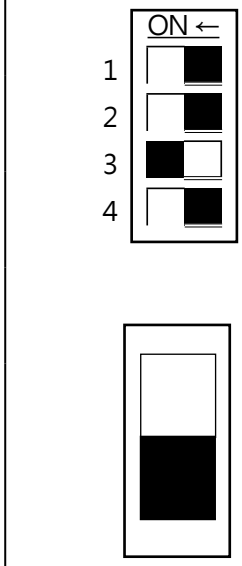
Switch	Baud Rate(bps)
0	300
1	600
2	1200
3	2400
4	4800
5	9600
6	19200

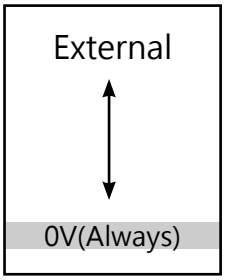
(3) SW4:Command Level Setting (請設定為 2)

Switch	Command Level	Parity	Data Bit	Stop Bit
0	Level 1 available	Even	ASCII 7bit	2 bits
1	Level 1, 2available			
2	Level 1,2,3 available			
3	Disable setting			
4	Level 1 available	Odd		
5	Level 1, 2available			
6	Level 1,2,3 available			
7	Disable setting			
8	Level 1 available	Even	JIS 8bit	1 bit
9	Level 1, 2available			
A	Level 1,2,3 available			
B	Disable setting			
C	Level 1 available	Odd		
D	Level 1, 2available			
E	Level 1,2,3 available			
F	Disable setting			

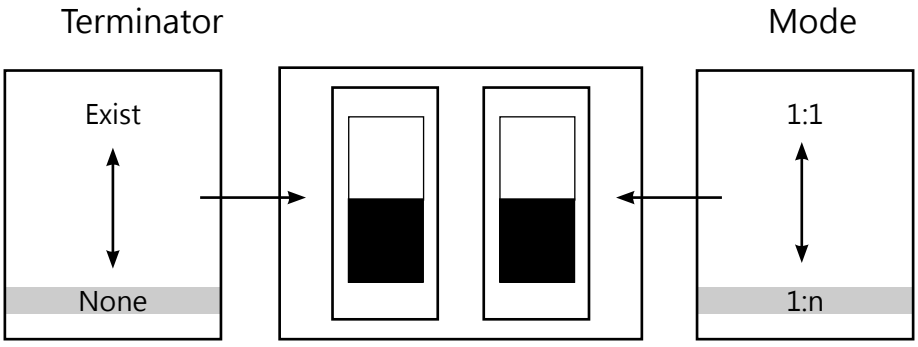
(4) DIP Switch 設定

(A) C200H-LK201-V1

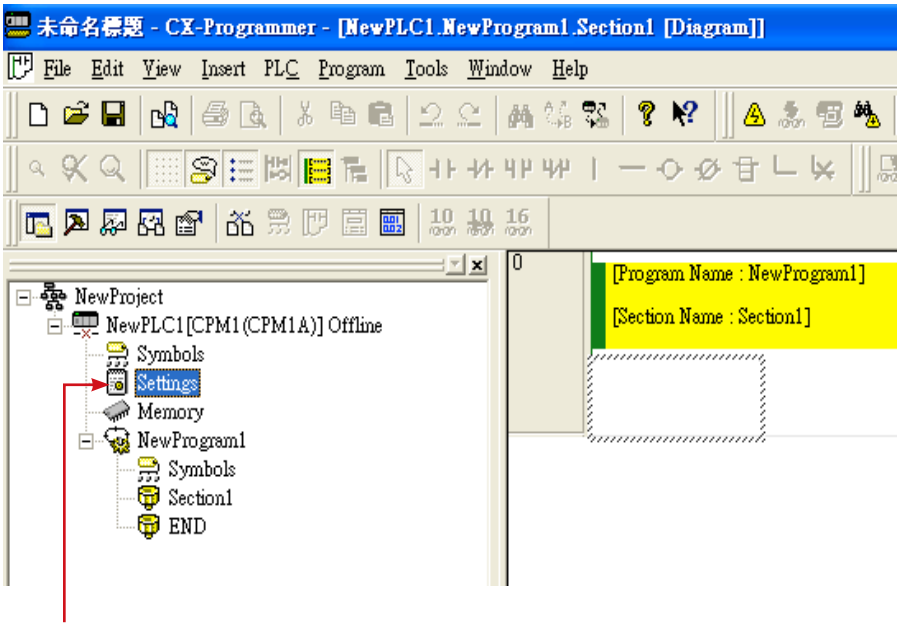


Switch No.	ON	OFF
1	OFF (Fixed)	
2	(OFF Fixed)	
3	1:N	1:1
4	5V Supply	None
CTS Toggle 	----	-----

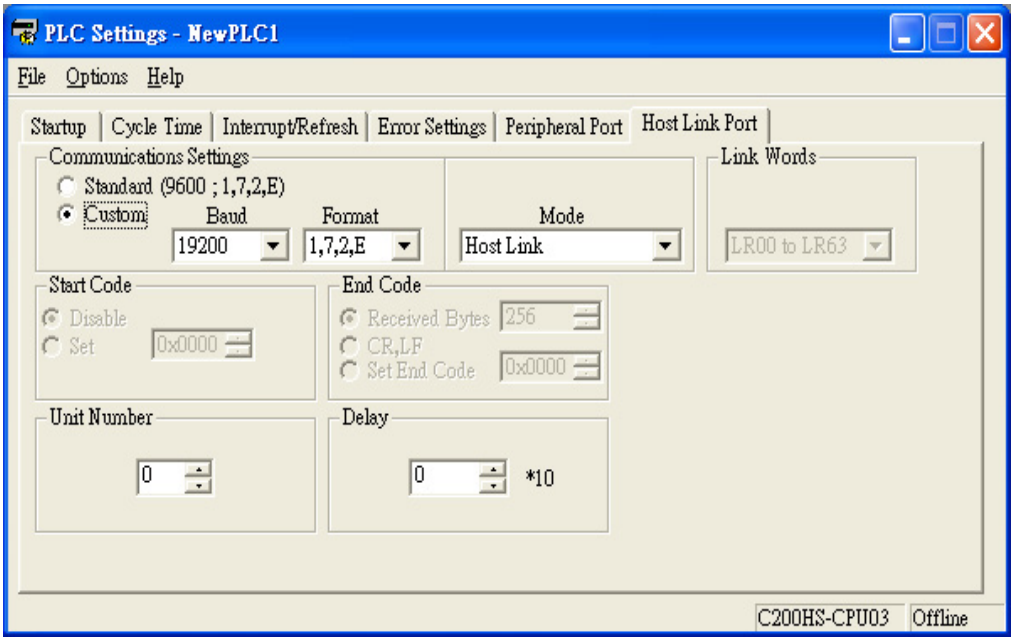
(B) C200H-LK202-V1



- 設定 2 : Host Link Port on CPU

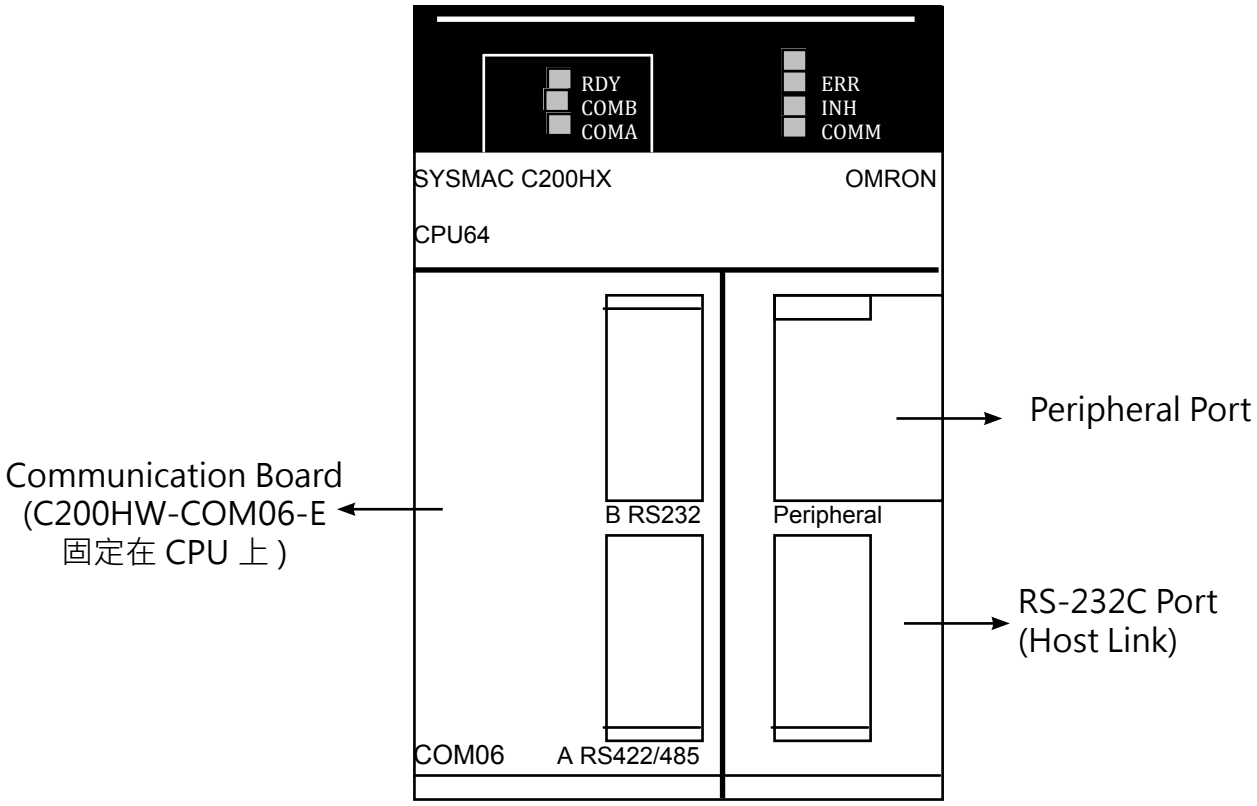


請用滑鼠連點 “Settings” 選項

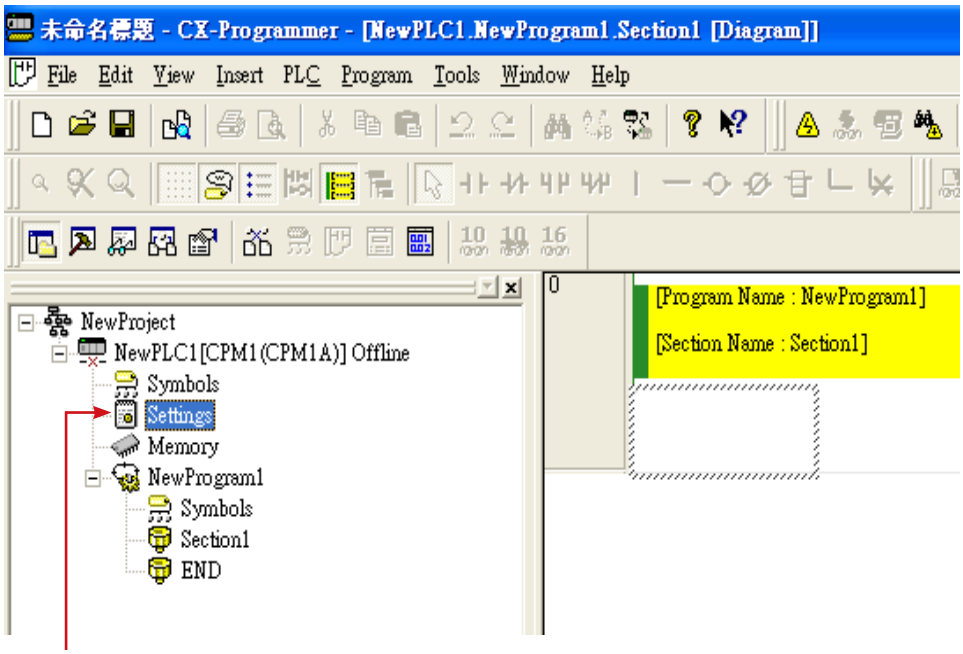


進入 Host Link Port 設定 , 選擇 Custom
設定 19200,1,7,2,Even

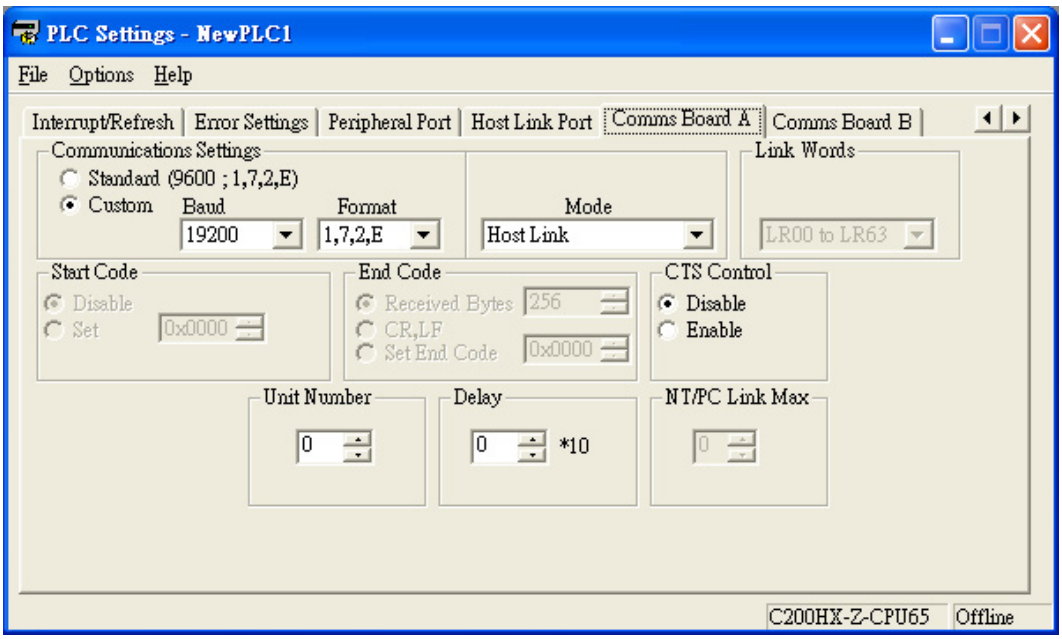
- 設定 3 : C200HW-COM06



在 PLC 軟體設定 :

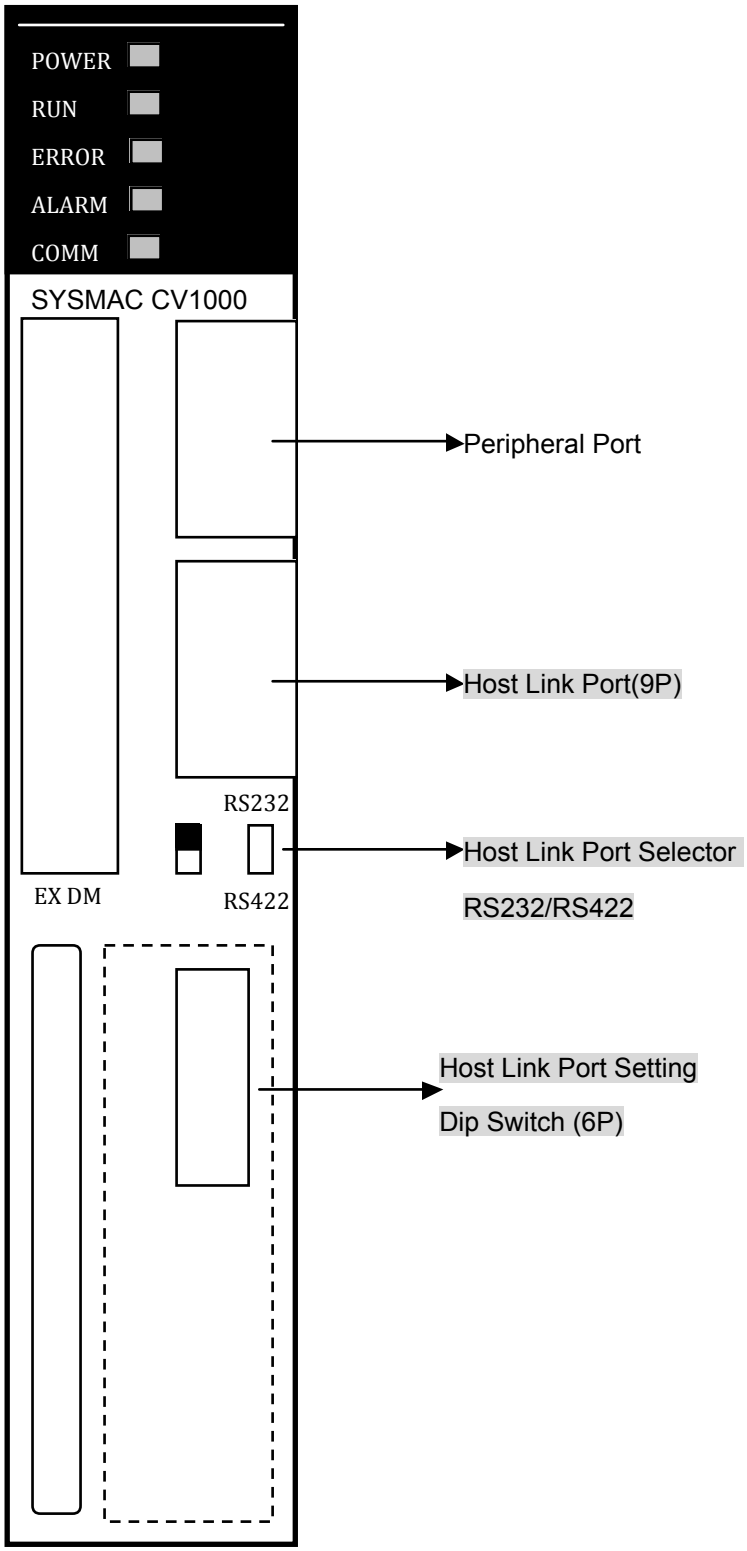


請用滑鼠連點兩下 , 進入" Settings"

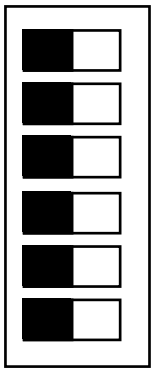


進入 Comms Board A,B 設定 , 選擇 Custom
設定 19200,1,7,2,Even

- 設定 4 : CV 系列 Host Link I/F
  使用 Host Link Port 的 RS-232C/RS422 介面來連接

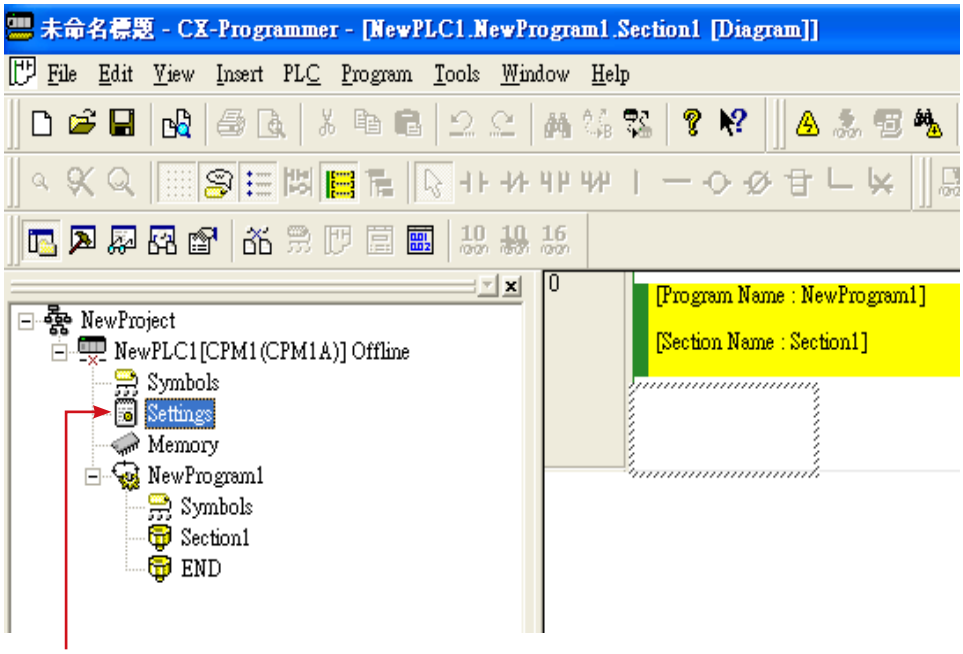


(1) DIP Switch Setting:

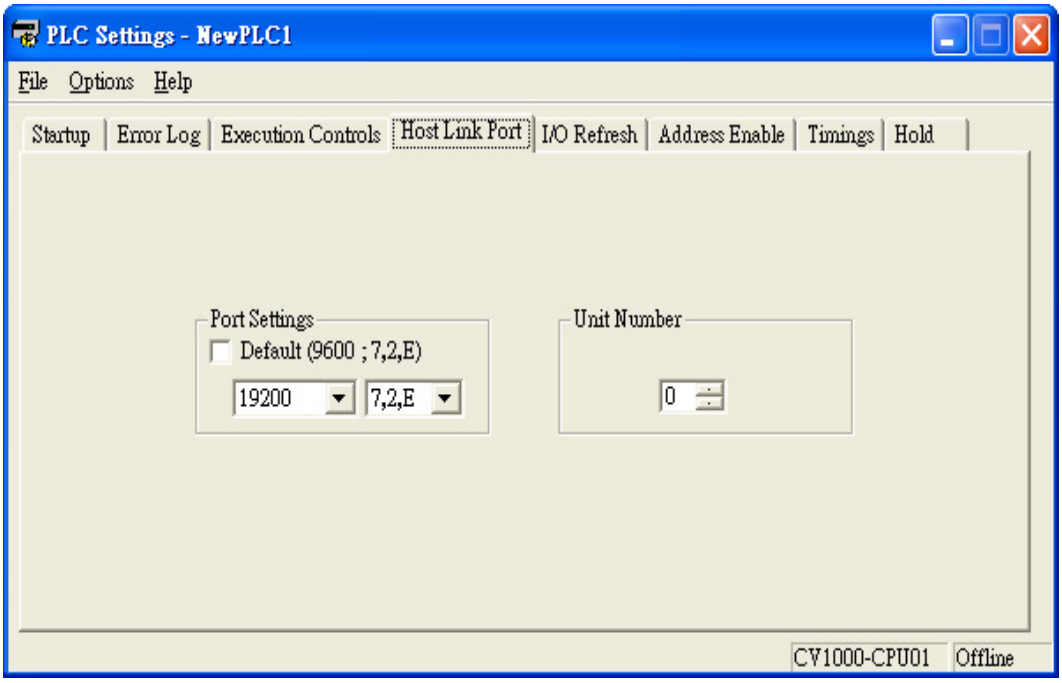
外觀	Pin	功能	
Pin 6  Pin 1	6	ON	Connects termination resistance for RS-422.
		OFF	Disconnects termination resistance for RS-422.
	5	ON	No Used
		OFF	No Used
	4	ON	可與 PC RS232 Port 連接 Sets the following communications parameters: Baud rate: 9,600 bps Unit number: 0 Parity: Even Data length: 7 bits Stop bits:2
		OFF	通訊參數要以軟體設定 Sets communications parameters from the PC Setup.
	3	ON	Enables connection to PT via host link connector.
		OFF	Enable connection to host link via host link connector.
	2	針對 Peripheral Port 的通訊設定	
	1		

Pin 1	Pin 2	Baud rate
0	0	50,000 bps
1	0	19,200 bps
0	1	9,600 bps
1	1	4,800 bps

(2) 在 PLC 軟體設定 :



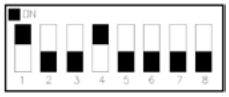
請用滑鼠連點兩下 , 進入 “Settings



進入 Host Link Port 設定 , 取消 Default 設定
設定 19200,7,2,E Unit No. 為 0

5.4.2 OMRON CS 系列 Host Link

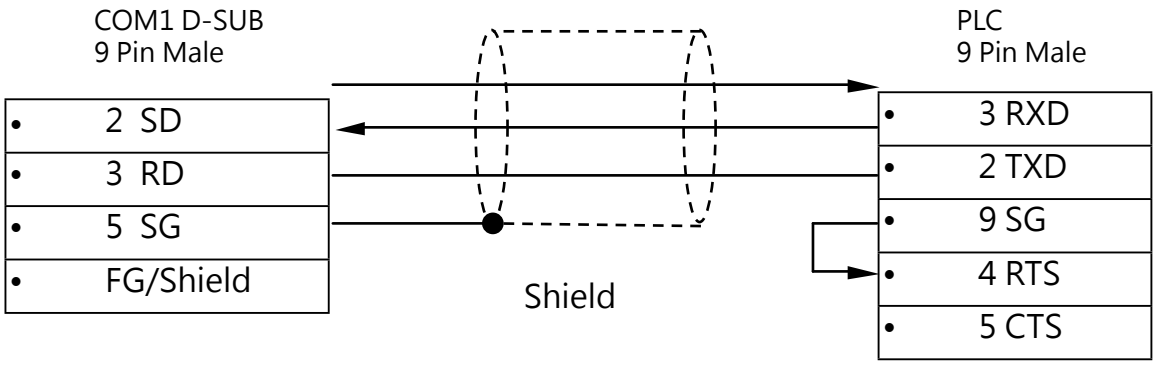
- 5.4.2.1 NET100-MB 設定 :

NET100-MB Settings		PLC Interface Settings	
Baud Rate	19200	Baud Rate	19200
Data Length	7 bits (fixed)	Data Length	7 bits
Stop Bit	2 bit (fixed)	Stop Bit	2 bit
Parity Bit	Even (fixed)	Parity Bit	Even
SW1		Host Link	RS-232C/422
		Station Number	0
SW2		-----	-----
		-----	-----
SW3	根據 PLC	-----	-----
		-----	-----

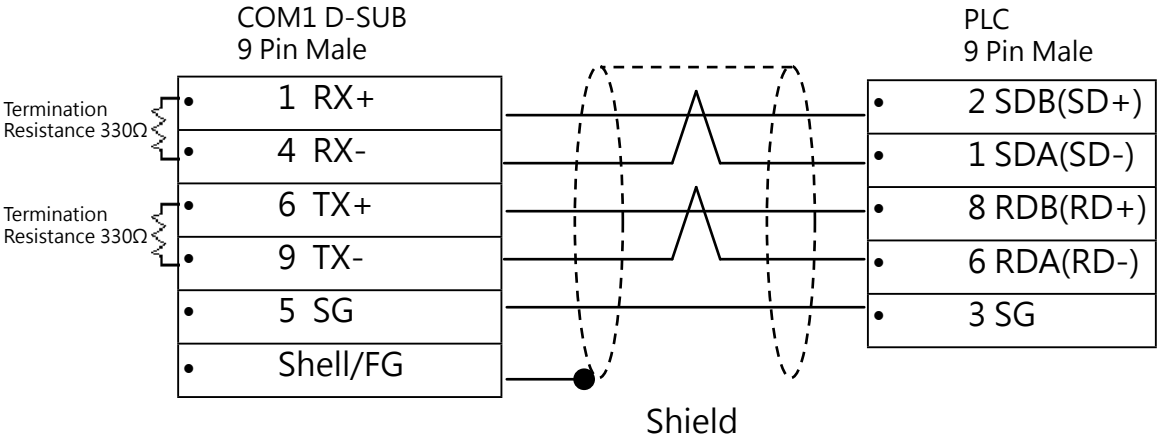
- 5.4.2.2 接線圖及相關設定對照表

系列名稱	CPU	Link 模組	接線圖	相關設定
SYSMAC-CS1	CS1G CS1G-H CS1H CS1H-H	RS-232C Port on CPU unit	RS-232C(接線圖 1)	設定 1
		CS1W-SCB21 (Port 1,2)	RS-232C(接線圖 1)	設定 2
		CS1W-SCB41 (Port 1,2)	RS-232C(接線圖 1) RS-422(接線圖 2)	設定 2
		CS1W-SCU21 (Port 1,2)	RS-232C(接線圖 1)	設定 3
SYSMAC-CJ SYSMAC-CJ1M	CJ1G CJ1M	RS-232C Port on CPU unit	RS-232C(接線圖 1)	設定 1
		CJ1W-SCU21/41 (Port 1,2)	RS-232C(接線圖 1) RS-422(接線圖 2)	設定 4

- 接線圖 1 (RS-232C)

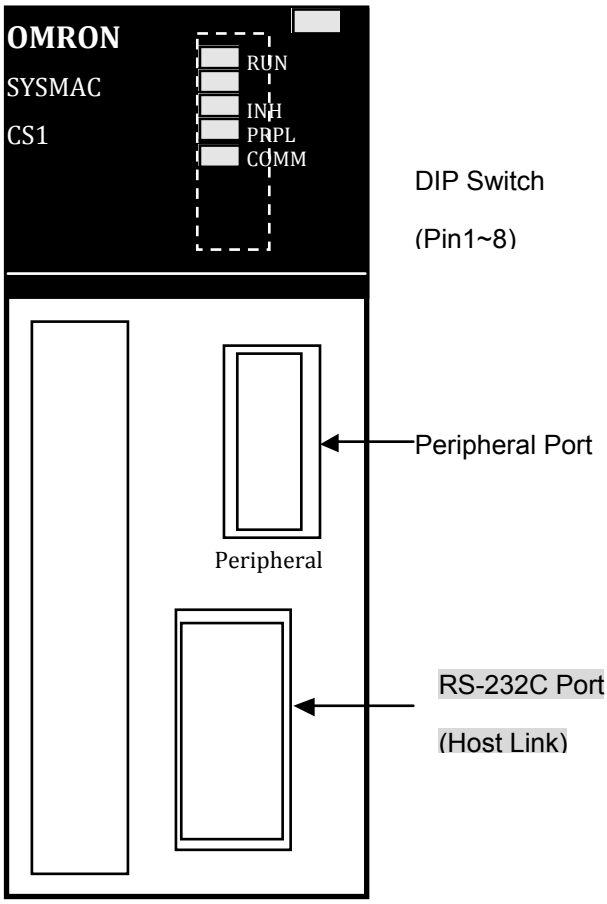


- 接線圖 2 (RS-422)

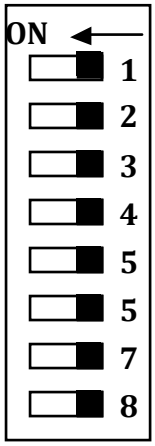


5.4.2.3 PLC 相關設定

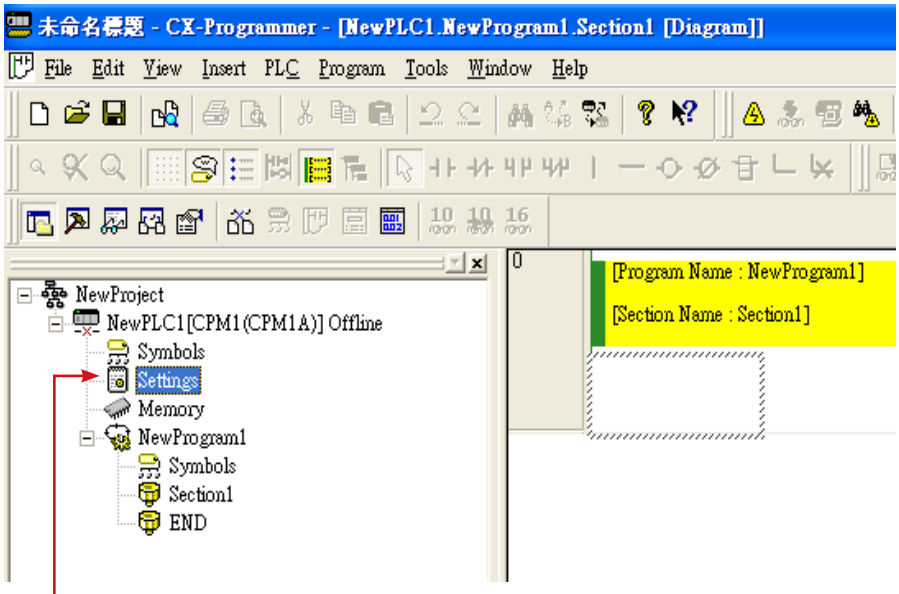
- 設定 1 : CPU 上的 Host Link Port 的 RS-232C 介面連接



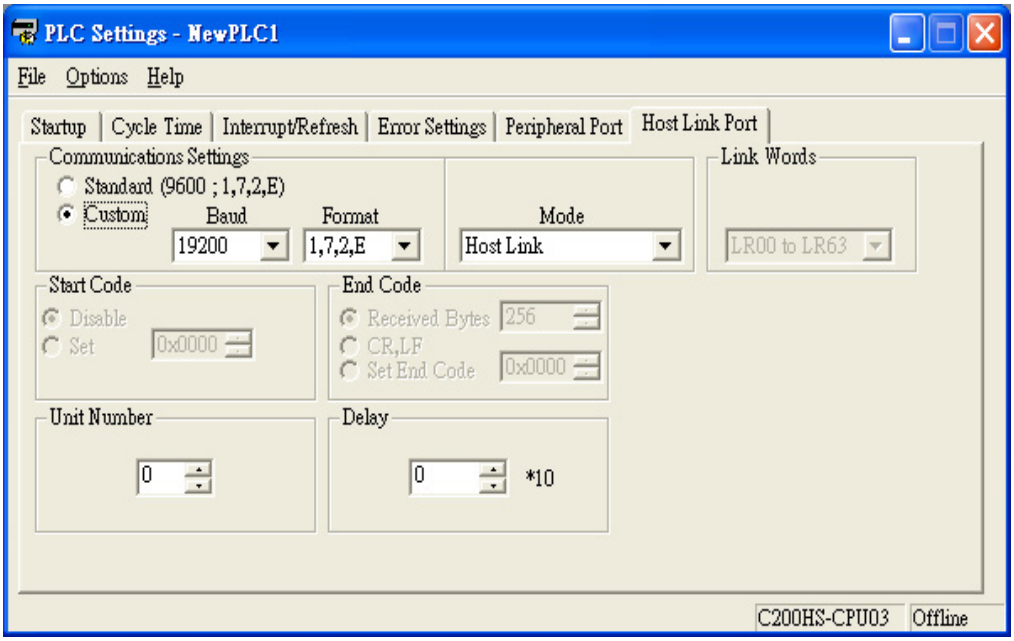
(1) DIP Switch 設定 :

外觀	PIN No	Setting	功能	預設值
	1	ON	Writing disable for user program memory	OFF
		OFF	Writing enable for user program memory	
	2	ON	The user program is auto transferred when Power is turned ON.	OFF
		OFF	The user program is not auto transferred when Power is turned ON.	
	3	----	Not used	OFF
	4	ON	Use peripheral port communications parameters set in the PLC Setup.	OFF
		OFF	Use default peripheral port communications parameters.	
	5	ON	Use default RS-232C port communications parameters.	OFF
	6	ON	User-defined pin. Turns ON the User DIP Switch Pin Flag (A39512).	OFF
		OFF	User-defined pin. Turns OFF the User DIP Switch Pin Flag (A39512).	
	7	ON	Memory Card or restoring data Function from the Memory Card to the CPU Unit.	OFF
		OFF	Verifying contents of Memory Card.	
	8	OFF	Always OFF	OFF

(2) 在軟體的設定

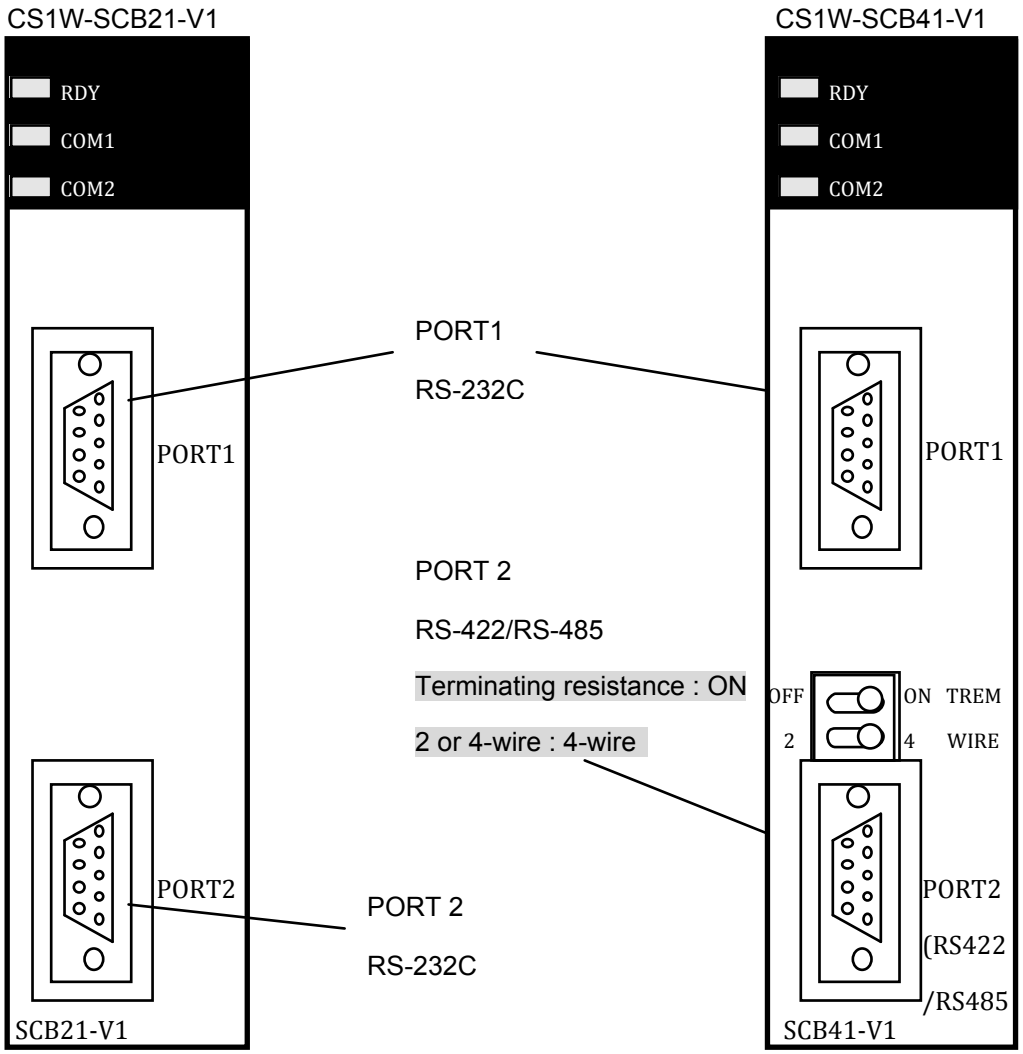


請用滑鼠連點 “Settings” 選項



進入 Host Link Port 設定 , 選擇 Custom
設定 19200,1,7,2,Even

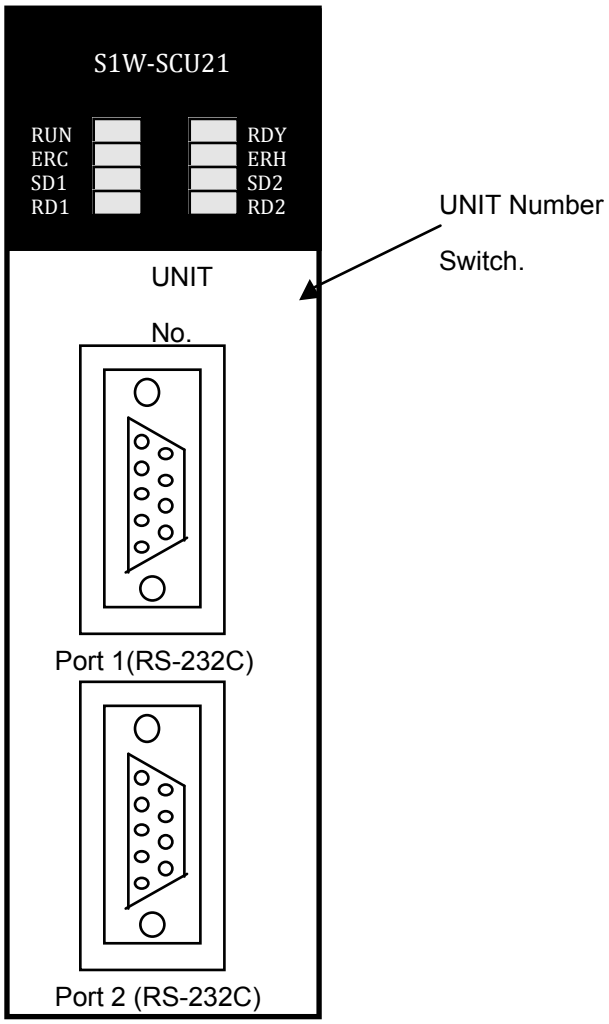
- 設定 2 : CS1W-SCB21, CS1W-SCB41 為 CS1 CPU 模組上的介面 (Inner Board Slot)



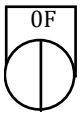
(1)CS1 CPU 模組 (Inner Board Slot) 設定

Words		Bit	Setting	設定值
Port 1	Port 2			
D32000	D32010	15	Port Settings 0:Defaults 1:User Setting	8500H
		12 ~ 14	Reserved	
		08 ~ 11	Serial Communications Mode 0:Defaults 5:Host Link 6:Protocol Macro mode 2:(1:N NT Link)	
		05 ~ 07	Reserved	
		04	Start Bits 0: 0 Bit 1: 1Bit	
		03	Data Length 0: 7Bits 1: 8Bits	
		02	Stop Bits 0: 2Bits 1: 1Bit	
		01	Parity 0:Yes 1:No	
		00	Parity 0: Even 1:Odd	
D32001	D32011	04 ~ 15	Reserved	0007H
		00 ~ 03	Baud rate(bps): Default (9,600) 3: 1,200 4: 2,400; 5: 4,800 6: 9,600 7: 19,200 8: 38,400 9: 57,600 A: 115,200	
D32002	D32012	15	Send delay time 0: Default (0 ms) 1: Setting in bits 00 ~ 14	0000H
		00 ~14	Send delay(0000 ~ 7530 hex)(Unit:10ms)	
D32003	D32013	15	CTS control 0:No 1:Yes	0000H
		08 ~14	Reserved	
		00 ~ 07	Host Link unit number(00 to 1F hex)	

- 設定 3 : CS1W-SCU21 為插在底板上的模組 (On Unit)



(1) 依照選擇的 Unit No. 開關 , 設定不同的 D 暫存器

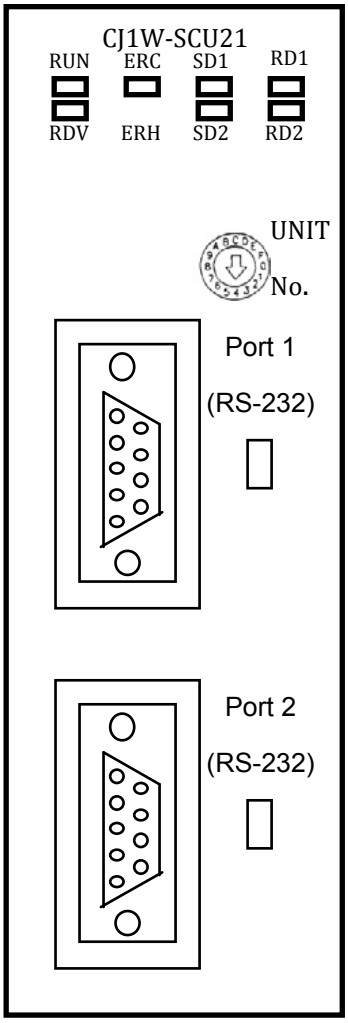
外觀	Unit No.	Address
	Unit No. 0	D30000 to D30099
	Unit No. 1	D30100 to D30199
	Unit No. 2	D30200 to D30299
	Unit No. 3	D30300 to D30399
	Unit No. 4	D30400 to D30499
	Unit No. 5	D30500 to D30599
	Unit No. 6	D30600 to D30699
	Unit No. 7	D30700 to D30799
	Unit No. 8	D30800 to D30899
	Unit No. 9	D30900 to D30999
	Unit No. A	D31000 to D31099
	Unit No. B	D31100 to D31199
	Unit No. C	D31200 to D31299
	Unit No. D	D31300 to D31399
	Unit No. E	D31400 to D31499
	Unit No. F	D31500 to D30099

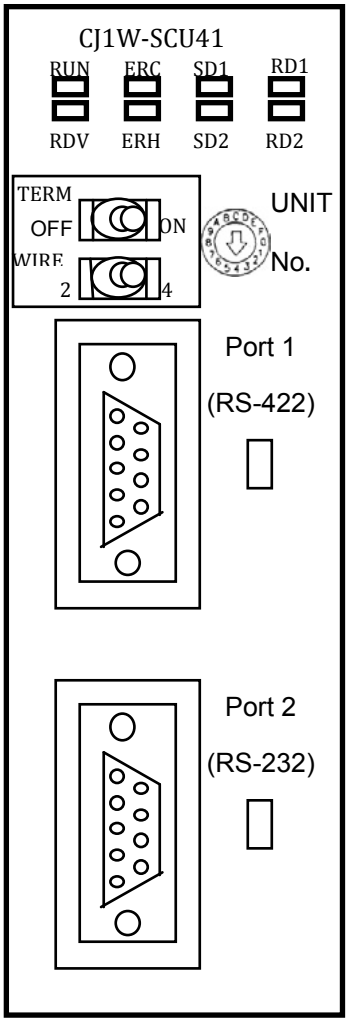
(2) CS1W-SCU21 模組設定 :

m=D30000+100*unit number

Words		Bit	Setting	設定值
Port 1	Port 2			
m	m+10	15	Port Settings 0:Defaults 1:User Setting	8500H
		12 ~ 14	Reserved	
		08 ~ 11	Serial Communications Mode 0:Defaults 5:Host Link 6:Protocol Macro mode 2:(1:N NT Link)	
		05 ~ 07	Reserved	
		04	Start Bits 0: 0 Bit 1: 1Bit	
		03	Data Length 0: 7Bits 1: 8Bits	
		02	Stop Bits 0: 2Bits 1: 1Bit	
		01	Parity 0:Yes 1:No	
		00	Parity 0: Even 1:Odd	
m +1	m+11	04 ~ 15	Reserved	0007H
		00 ~ 03	Baud rate(bps): Default (9,600) 3: 1,200 4: 2,400; 5: 4,800 6: 9,600 7: 19,200; 8: 38,400 9: 57,600 A: 115,200	
m +2	m+12	15	Send delay time 0: Default (0 ms) 1: Setting in bits 00 to 14	0000H
		00 ~14	Send delay(0000 to 7530 hex)(Unit:10ms)	
m +3	m+13	15	CTS control 0:No 1:Yes	0000H
		08 ~ 14	Reserved	
		00 ~ 07	Host Link unit number(00 to 1F hex)	

- 設定 4 : CJ1W-SCU21,SCU41 為通訊的模組 (CJ-series Units)

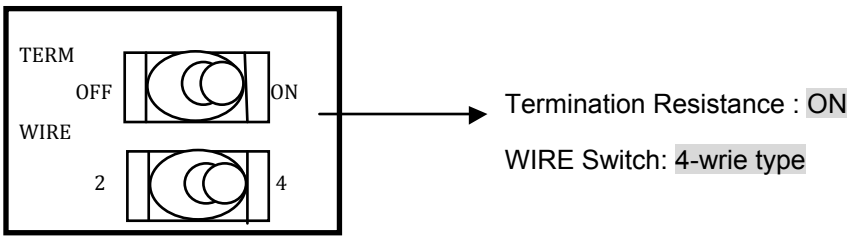




外觀	Unit No.	Words
	Unit No. 0	CIO 1500 ~ CIO1524
	Unit No. 1	CIO 1525 ~ CIO1549
	Unit No. 2	CIO 1550 ~ CIO1574
	Unit No. 3	CIO 1575 ~ CIO1599
	Unit No. 4	CIO 1600 ~ CIO1624
	Unit No. 5	CIO 1625 ~ CIO1649
	Unit No. 6	CIO 1650 ~ CIO1674
	Unit No. 7	CIO 1675 ~ CIO1699
	Unit No. 8	CIO 1700 ~ CIO1724
	Unit No. 9	CIO 1725 ~ CIO1749
	Unit No. A	CIO 1750 ~ CIO1774
	Unit No. B	CIO 1775 ~ CIO1799
	Unit No. C	CIO 1800 ~ CIO1824
	Unit No. D	CIO 1825 ~ CIO1849
	Unit No. E	CIO 1850 ~ CIO1874
	Unit No. F	CIO 1875 ~ CIO1899

(1) 依照選擇的 Unit No. 開關 , 設定不同的 D 暫存器

(2)CJ1W-SCU41(422/485) 開關選擇 :



(3)CJ1W-SCU21/SCU41 模組設定 :

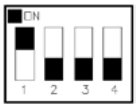
n=CIO1500+25*unit number

Words		Bit	Setting	設定值
Port 1	Port 2			
n	n+10	15	Port Settings 0:Defaults 1:User Setting	8500H
		12 ~ 14	Reserved	
		08 ~ 11	Serial Communications Mode 0:Defaults 5:Host Link 6:Protocol Macro mode 2:(1:N NT Link)	
		05 ~ 07	Reserved	
		04	Start Bits 0: 0 Bit 1: 1Bit	
		03	Data Length 0: 7Bits 1: 8Bits	
		02	Stop Bits 0: 2Bits 1: 1Bit	
		01	Parity 0:Yes 1:No	
		00	Parity 0: Even 1:Odd	
n +1	n+11	04 ~ 15	Reserved	0007H
		00 ~ 03	Baud rate(bps): Default (9,600) 3: 1,200 4: 2,400; 5: 4,800 6: 9,600 7: 19,200 8: 38,400 9: 57,600 A: 115,200	
n +2	n+12	15	Send delay time 0: Default (0 ms) 1: Setting in bits 00 ~ 14	0000H
		00 ~14	Send delay (0000 ~ 7530 hex) (Unit:10ms)	
n +3	n+13	15	CTS control 0:No 1:Yes	0000H
		08 ~14	Reserved	
		00 ~ 07	Host Link unit number(00 ~ 1F hex)	

5.5 Panasonic FP PLC

5.5.1 Panasonic FP PLC

● 5.5.1.1 NET100-MB 設定：

NET100-MB Settings		PLC Interface Settings	
Baud Rate	19200	Baud Rate	19200
Data Length	8 bits (fixed)	Data Length	8 bits
Stop Bit	1 bit (fixed)	Stop Bit	1 bit
Parity Bit	Odd (fixed)	Parity Bit	Odd
SW1		Computer Link	RS-232C
		Station Number	1
SW2		-----	-----
		-----	-----
SW3	根據 PLC	-----	-----
		-----	-----

■ 6.1.2 接線圖及相關設定對照表

系列名稱	CPU	CPU/Link 模組	接線圖	相關設定
Panasonic NEWNET	FP0	RS-232C Tool Port	RS-232C(接線圖 1)	設定 1
		RS-232C on CPU	RS-232C(接線圖 4)	設定 2
	FP1	RS-232C on CPU	RS-232C(接線圖 2)	設定 2
	FP2	RS-232C Tool Port	RS-232C(接線圖 1)	設定 1
		RS-232C on CPU	RS-232C(接線圖 3)	設定 2
	FP3	AFP3462 Link I/F	RS-232C(接線圖 2)	設定 3
		AFP3463 Link I/F	RS-422(接線圖 7)	設定 4
	FP5	AFP5462 Link I/F	RS-232C(接線圖 2)	設定 3
	FP10	RS-232C on CPU	RS-232C(接線圖 2)	設定 2
		AFP5462 Link I/F	RS-232C(接線圖 2)	設定 3
	FP10S	RS-232C on CPU	RS-232C(接線圖 2)	設定 2
		AFP3462 Link I/F	RS-232C(接線圖 2)	設定 3
		AFP3463 Link I/F	RS-422(接線圖 7)	設定 4

系列名稱	CPU	CPU/Link 模組	接線圖	相關設定
Panasonic NEWNET	FPΣ	RS-232C Tool Port	RS-232C(接線圖 1)	設定 1
		AFPG801 COM1	RS-232C(接線圖 5)	設定 5
		AFPG802 COM1	RS-232C(接線圖 6)	設定 5
		AFPG802 COM2	RS-232C(接線圖 6)	設定 6
		AFPG803 COM1	RS-485 (接線圖 8)	設定 5
		AFPG806 COM1	RS-485 (接線圖 7)	設定 5
		AFPG806 COM2	RS-232C(接線圖 4)	設定 6
	FP-e	RS-232C Tool Port	RS-232C(接線圖 1)	設定 1
		COM Port	RS-232C(接線圖 4)	設定 2
		COM Port	RS-485 (接線圖 7)	設定 2

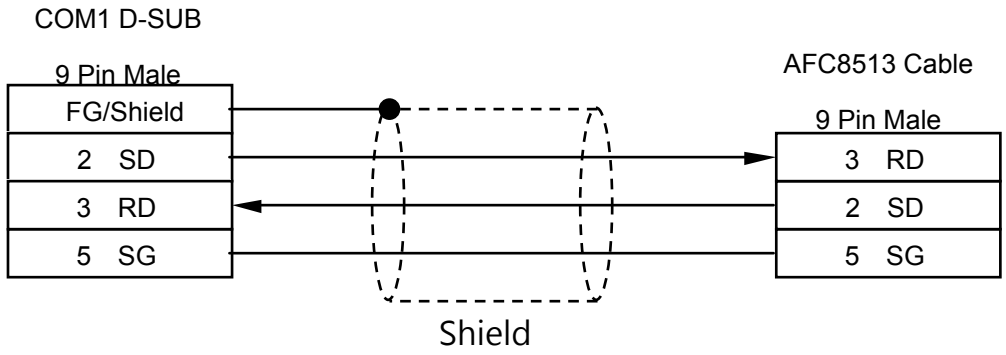
■ 6.1.3 接線圖

● 接線圖 1 (RS-232C)

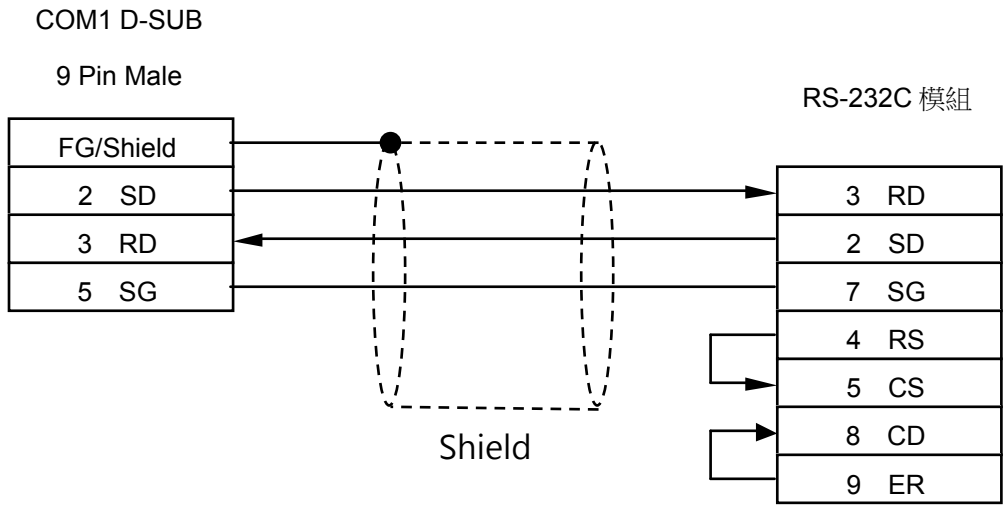
◆ 連接到 FP 的 CPU port

◆ 經由 AFC8513 程式傳輸線 , 連接 CPU 上的 port .

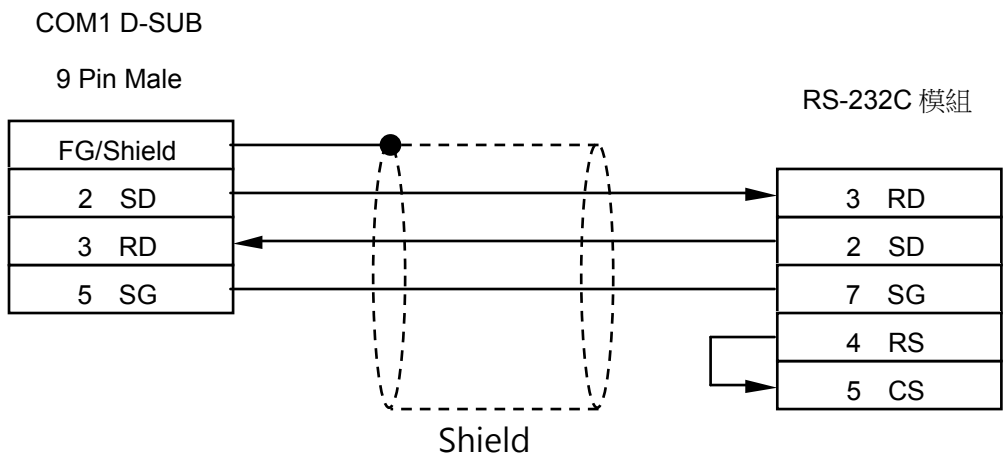
※ 無法直接連接 CPU 上的 port



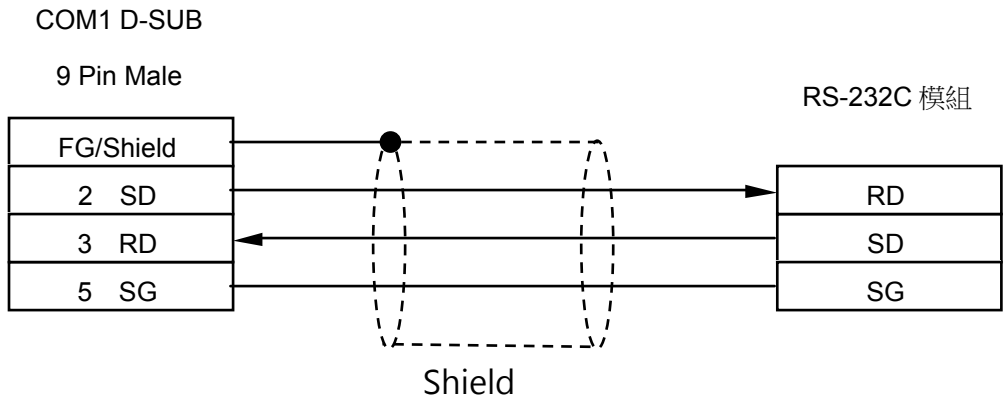
● 接線圖 2 (RS-232C)



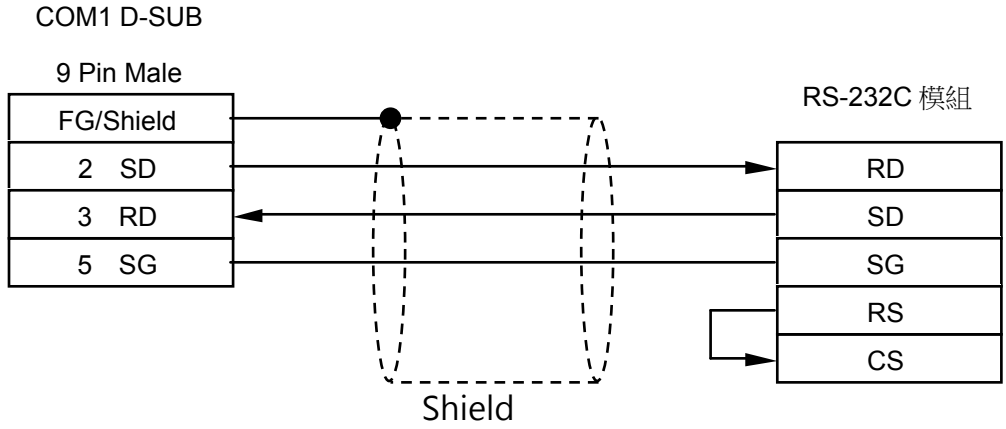
● 接線圖 3 (RS-232C)



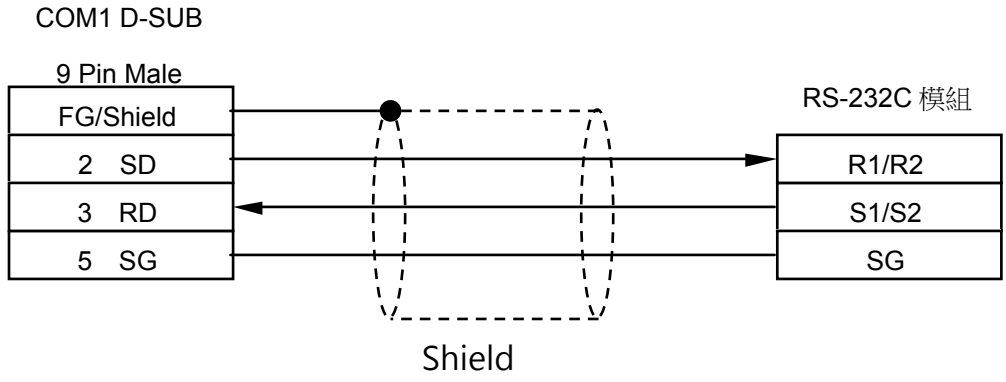
- 接線圖 4 (RS-232C)



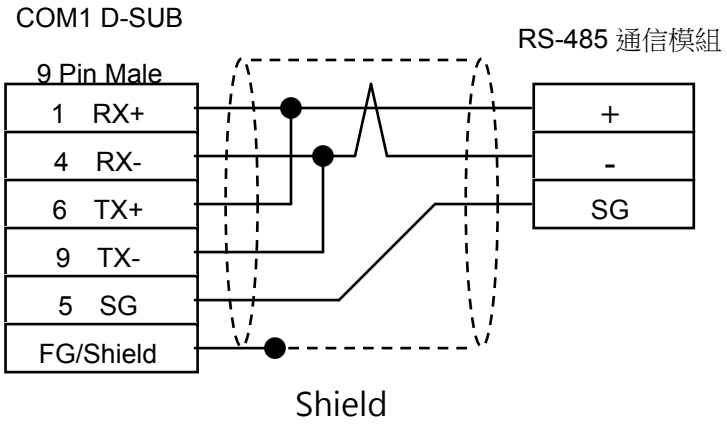
- 接線圖 5 (RS-232C)



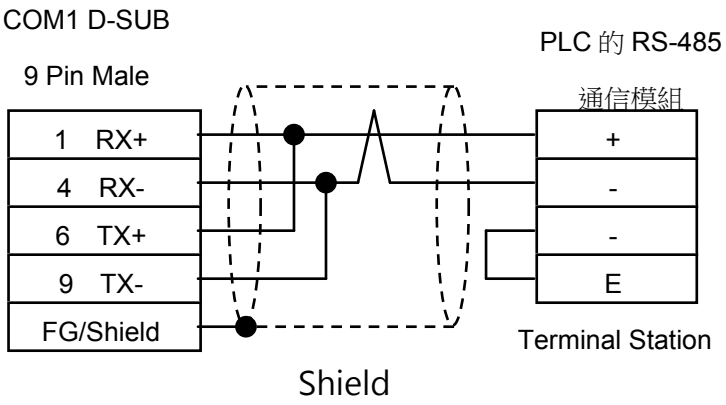
- 接線圖 6 (RS-232C)



- 接線圖 7 (RS-485)

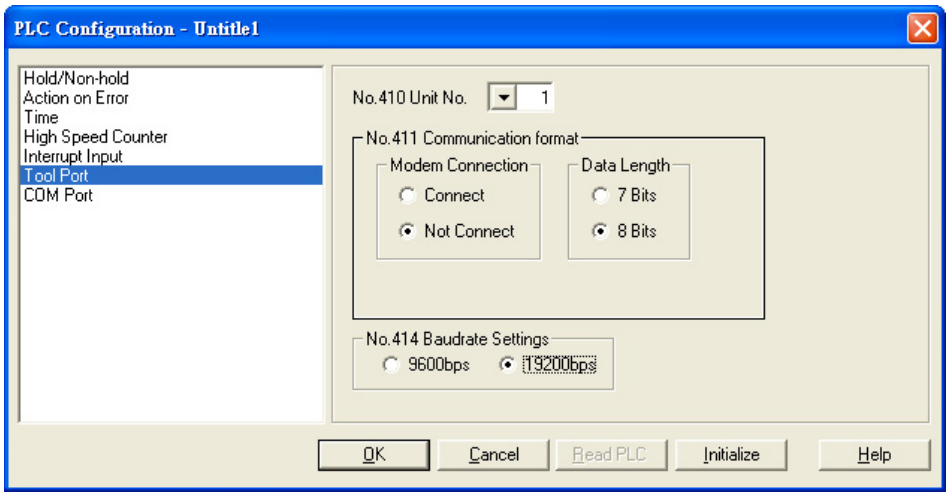


- 接線圖 8 (RS-485)

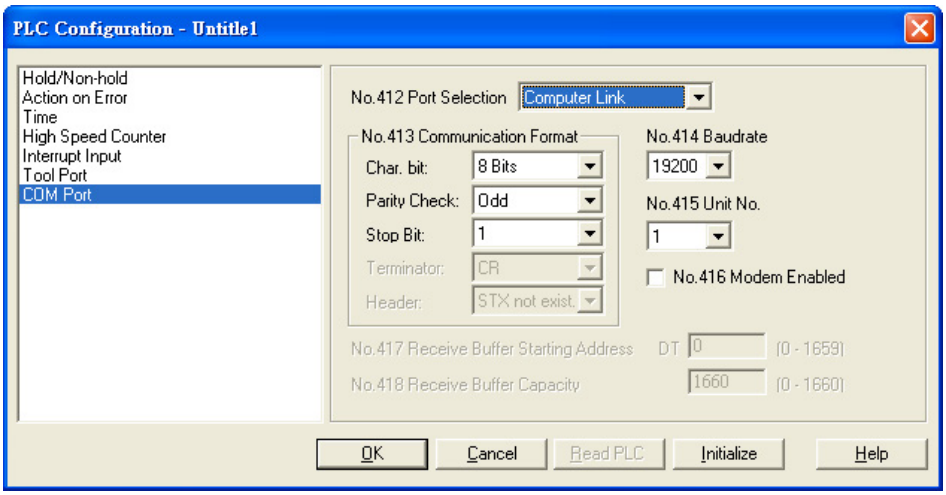


6.1.4 PLC 相關設定

- 設定 1 (Tool Port)



- 設定 2 (RS-232C Port on CPU)



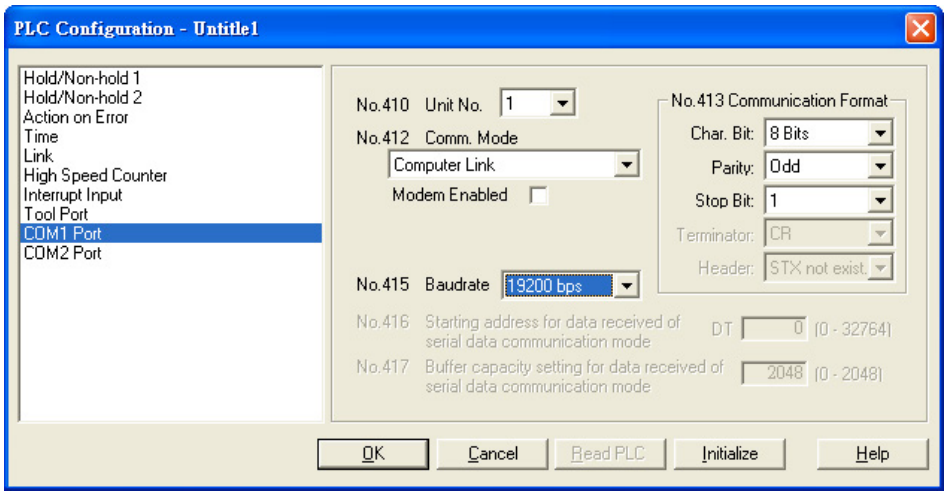
- 設定 3 (AFP3462/AFP5462 DIP Switch)

DIP SW	ON/OFF	Description
01	ON	19200 bps
02	OFF	
03	OFF	
04	ON	Data Bit : 8
05	ON	With Parity
06	OFF	Odd
07	OFF	Stop Bit 1
08	OFF	CS,CD Invalid

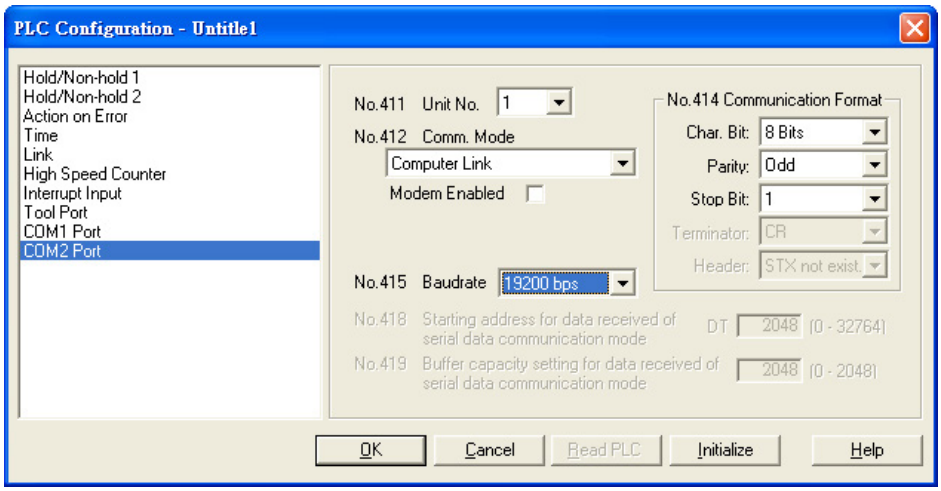
- 設定 4 (AFP3463 DIP Switch)

DIP SW	ON/OFF	Description
01	OFF	19200 bps
02	ON	Data Bit : 8
03	ON	With Parity
04	OFF	Odd
05	OFF	Stop Bit 1
06	OFF	---
07	OFF	---
08	OFF	---

- 設定 5 (FPΣ COM1)



- 設定 6 (FPΣ COM2)

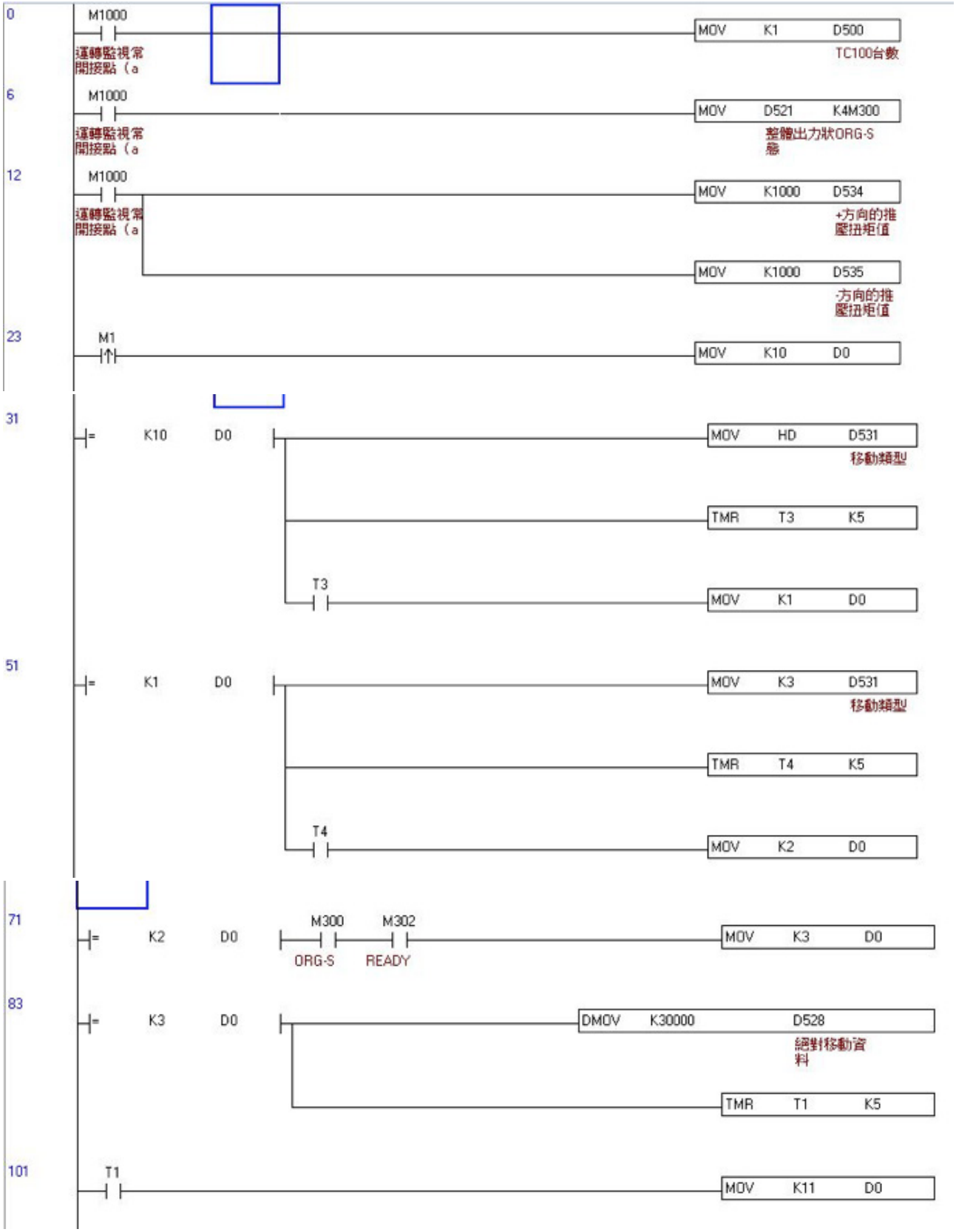


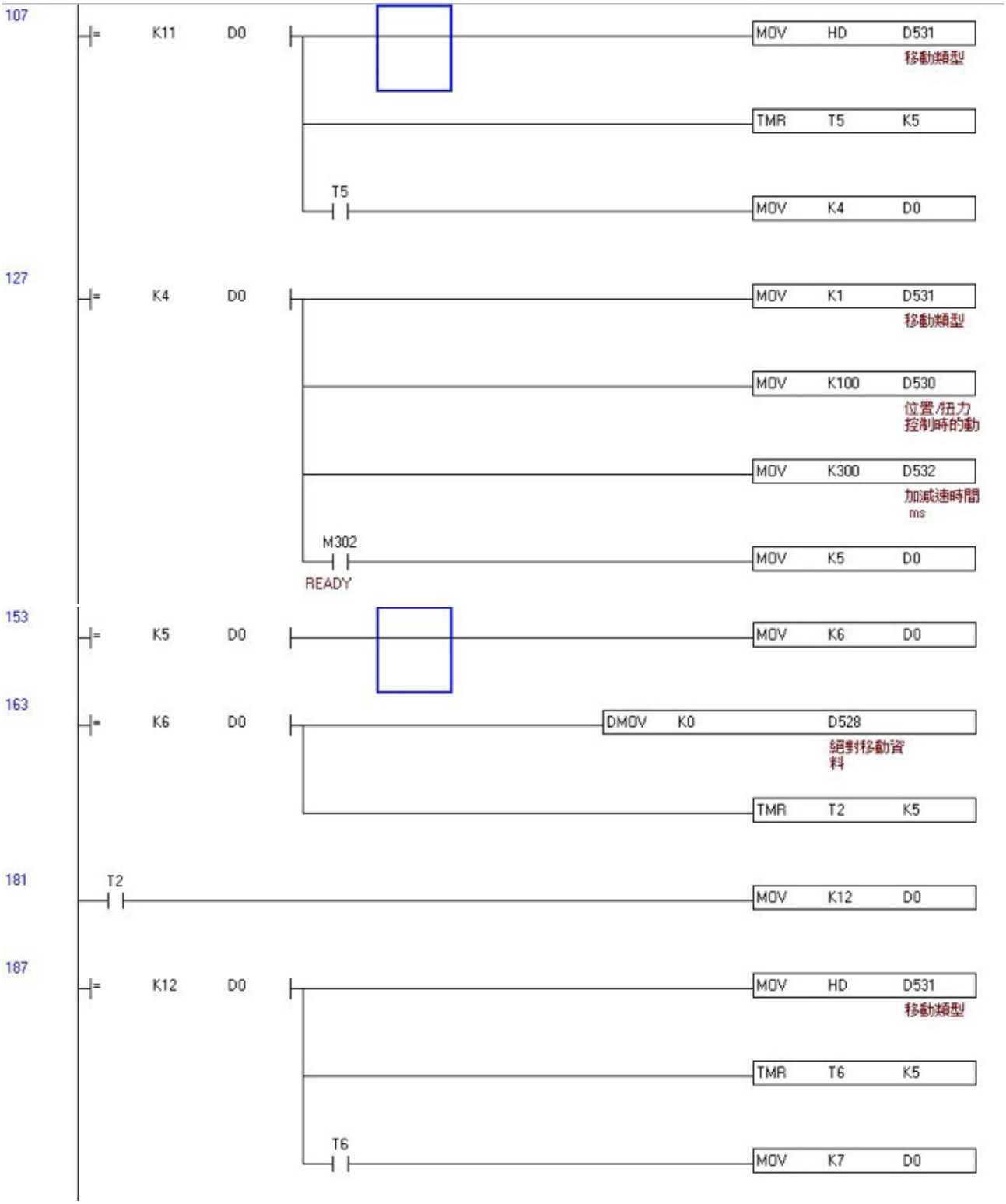
6

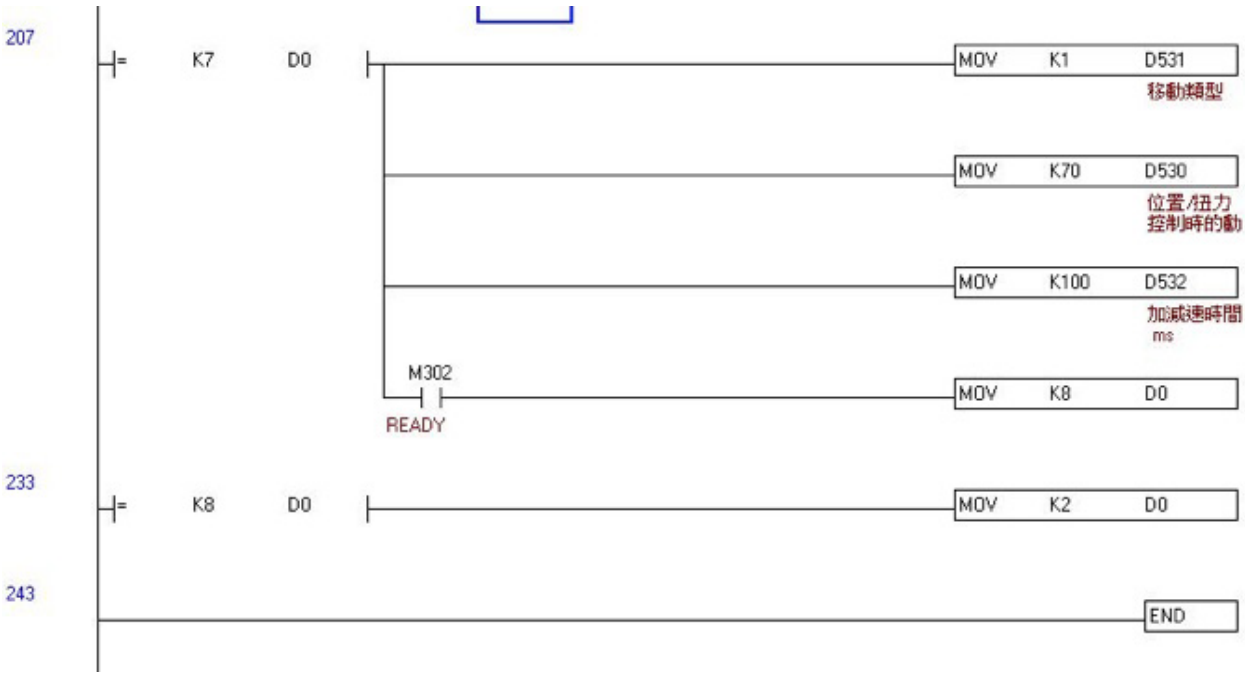
範例程式

6.NET100 台達範例程式 (從 D500 開始)

6.1NET100 台達範例程式 (從 D500 開始)




107
= K11 D0
MOV HD D531
移動類型
TMR T5 K5
T5
MOV K4 D0
127
= K4 D0
MOV K1 D531
移動類型
MOV K100 D530
位置/扭力
控制時的動
MOV K300 D532
加減速時間
ms
M302
READY
MOV K5 D0
153
= K5 D0
MOV K6 D0
163
= K6 D0
DMOV K0 D528
絕對移動資
料
TMR T2 K5
181
T2
MOV K12 D0
187
= K12 D0
MOV HD D531
移動類型
TMR T6 K5
T6
MOV K7 D0



動作描述：
M1 觸發做原點復歸，原點復歸完成後，以速度 100%、加減速 300ms 移動至 300mm 位置；再以速度 70%、加減速 100ms 移動至 0mm 位置，連續重複 0mm 到 300mm 移動。

User's Manual

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