

PLC Connection Guide

TN504D

Communication settings between
SAIA PCD3.M5540/ PCD3.M3120 and PanelMaster
Driver Name: C31003



Designed to be Outstanding

Preface

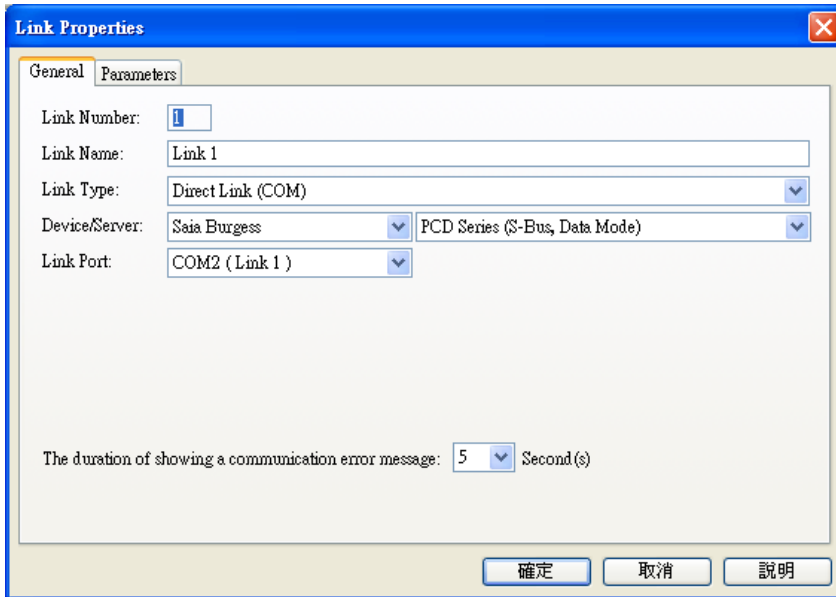
This tech note introduces how to connect **SAIA PCD3** series PLC with PanelMaster HMI.

SAIA PCD PLC : We used the SAIA PCD3.M5540 & PCD3.M3120 to test.

PanelMaster Version: Ver 1.1.53

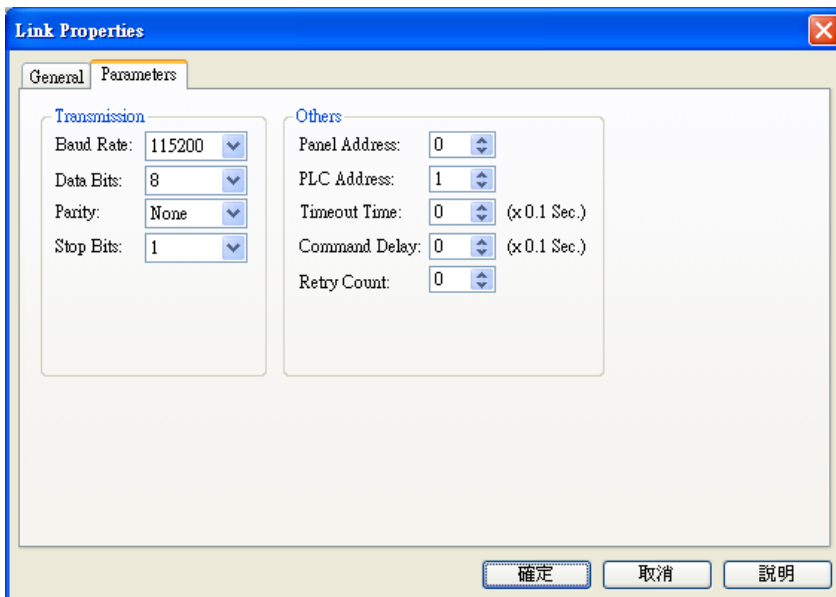
1. HMI Setting:

1.1 Communication Setting:

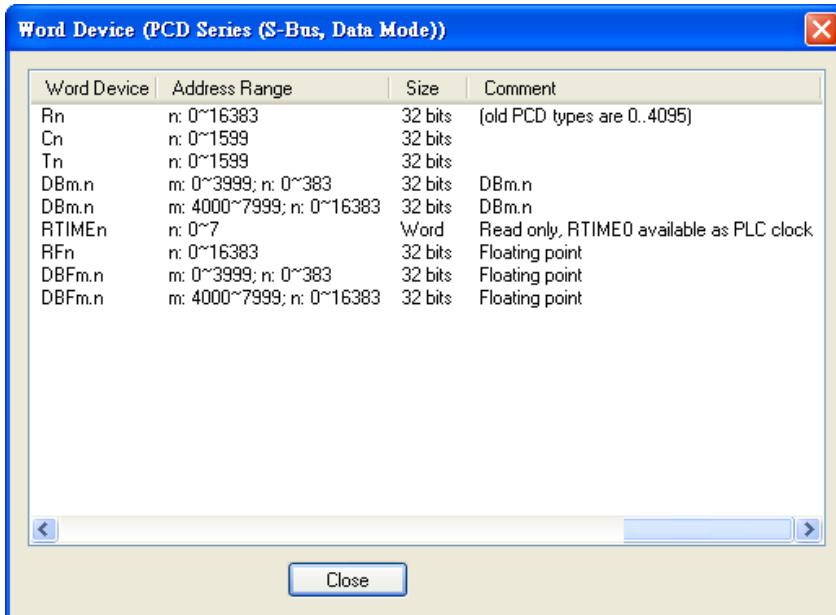


1.2 Communication Parameter Setting:

(Please make sure this setting the same as PLC parameter setting)



1.3 PLC Memory Address (Word Devices):



Note 1:

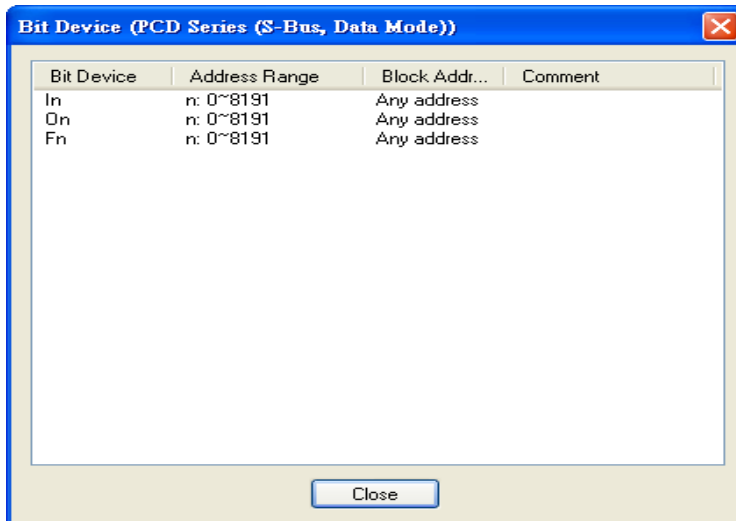
Because the floating point format of SAIS PLC is not a standard format, please select RFn & DBFm.n for the floating point device using.

Note 2:

RTIME is **read only** and the format is BCD/Unsigned Binary, please refer to below address information:

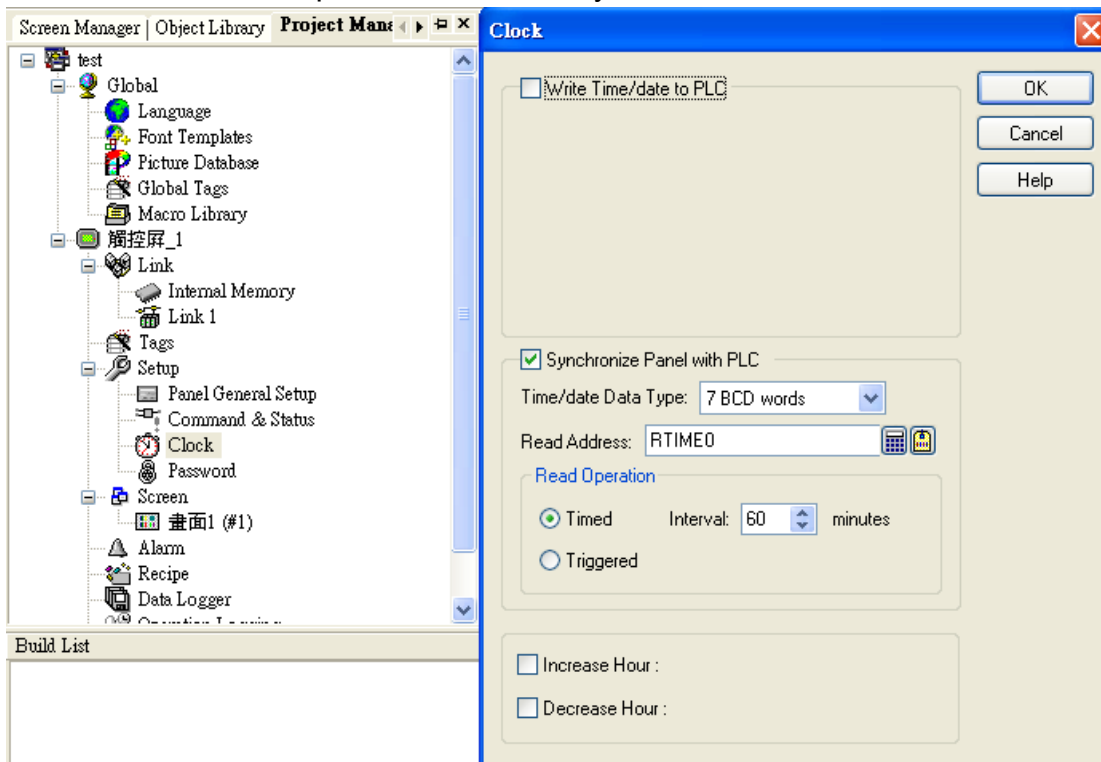
Address	Unit	Range
RTIME0	Second	0 - 59
RTIME1	Minute	0 - 59
RTIME2	Hour	0 - 23
RTIME3	Day	1 - 31 (according to month decided)
RTIME4	Month	1 - 12
RTIME5	Year	00-99
RTIME6	Day of a Week	0 - Sunday 1 - 6 Monday...Saturday
RTIME7	Week of a Year	1 - 52

1.4 PLC Memory Address (Bit Devices):



1.5 Colck Setting:

Please refer to below picture to set the “Synchronize Panel with PLC” function.

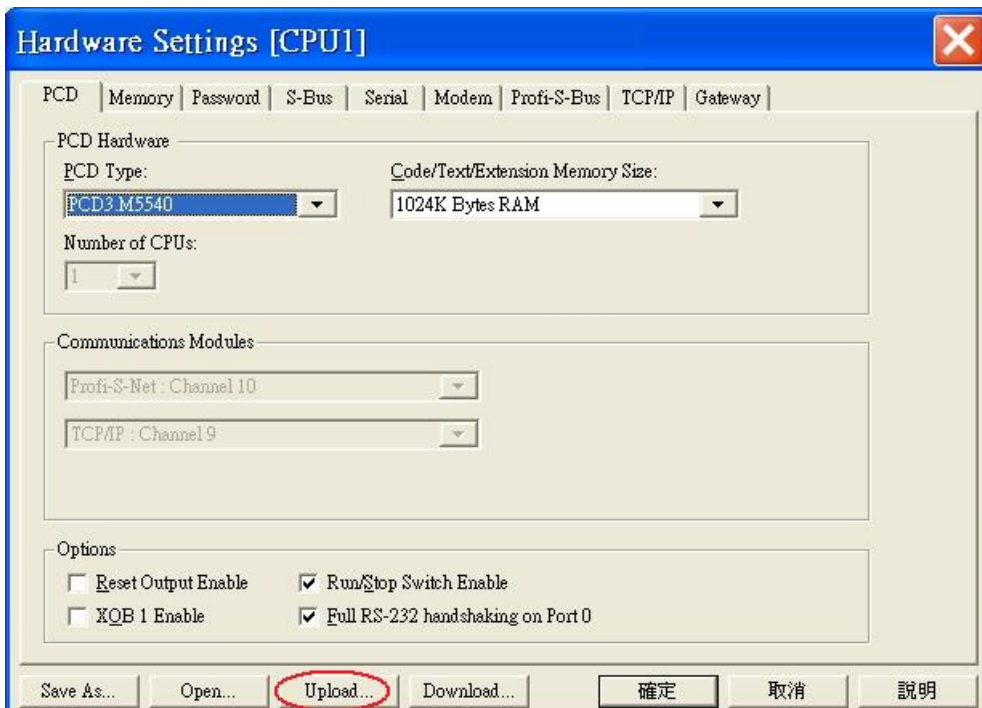


2. PLC Setting:

2.1 You can see there is a “Hardware” option from SAIA program tool.

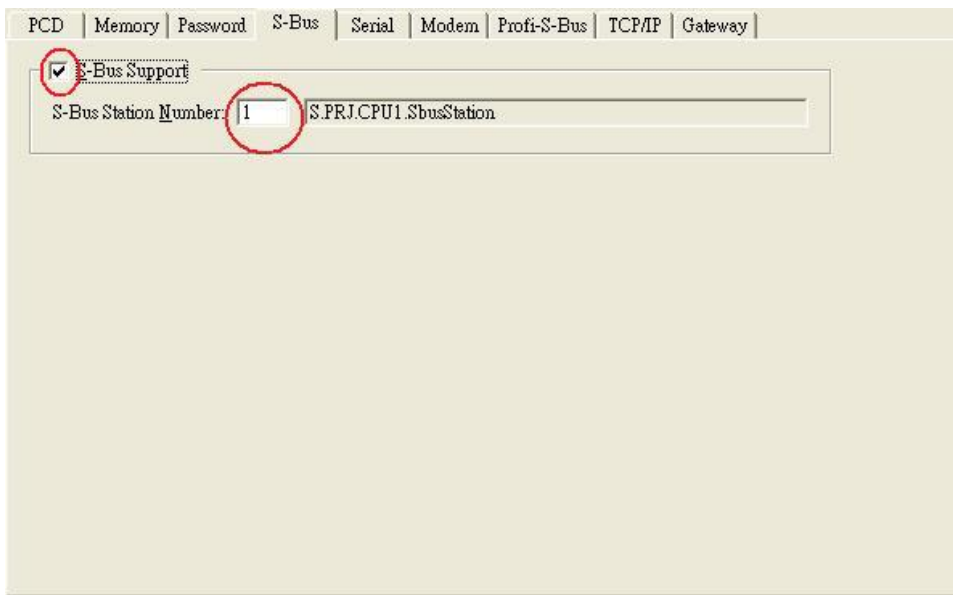


Double click “Hardware”, and then you can see the dialog box below:



Before setting the parameter, please execute “Upload...” function to load the present setting from PLC side.

2.2 “S-Bus” setting:



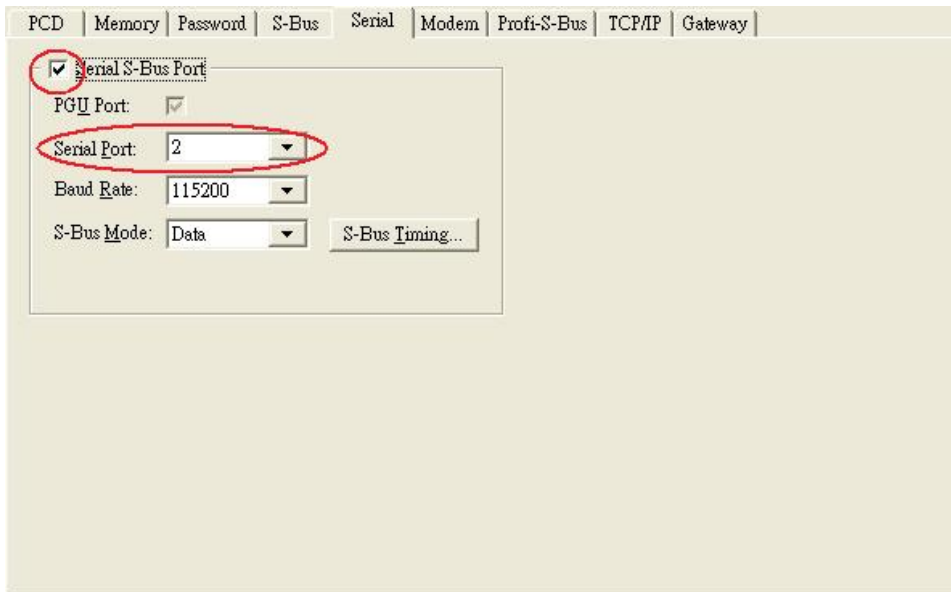
2.2.1 Select the “S-Bus Support” to enable the S-Bus function.

2.2.2 Key-in the address number under “S-Bus Station Number”(Initial is “0”).

2.2.3 If you wish to link with multi-PLCs, please set different PLC address for each PLC.

Please refer to below network system configuration.

2.3 Serial Port Setting:



2.3.1 Select the “Serial S-Bus Port”to enable the Serial S-Bus Port function.

2.3.2 Serial Port : Key-in the Port Number

0=COM/PGU(Not Support for PCD3.M3120 model) ,

1= F121 module , 2=RS485 D; /D °

2.3.3 Set the Baud Rate & S-Bus Mode: **Data** °

2.3.4 After all settings are ok, please press “Download”key to download to PLC.

2.3.5 At this moment, we success to make the PLC communication setting.

2.4 Gateway Setting:

If PV HMI link multi-PLCs via one Master unit, it's necessary to execute the gateway setting:

(See Below Configuration)

The screenshot shows a software configuration window with the following settings:

- Serial S-Bus Master Gateway** (circled in red)
- Serial Port: **2** (dropdown menu, circled in red)
- Baud Rate: 115200 (dropdown menu)
- Port on CPU: 0 (dropdown menu)
- S-Bus Mode: Data (dropdown menu)
- S-Bus Stations: 0 to 253 (input fields)
-
- Profi-S-Bus Master Gateway** (Settings defined on Profi-S-Bus page)
- Channel/Slot: Channel 10 (dropdown menu)
- S-Bus Stations: 0 to 253 (input fields)
-
- TCP/IP S-Bus Master Gateway** (Settings defined on TCP/IP page)
- Channel/Slot: Channel 9 (dropdown menu)
- S-Bus Stations: 0 to 253 (input fields)
-

2.4.1 Select the “Serial S-Bus Master Gateway” to enable the gateway function.

2.4.2 Select the port for Gateway using and set the Baud Rate / S-Bus Mode: Data ◦

2.4.3 All settings are ok, please press “Download”key to download to PLC.

3. Cable Diagram : (HMI & Saia PCD3)

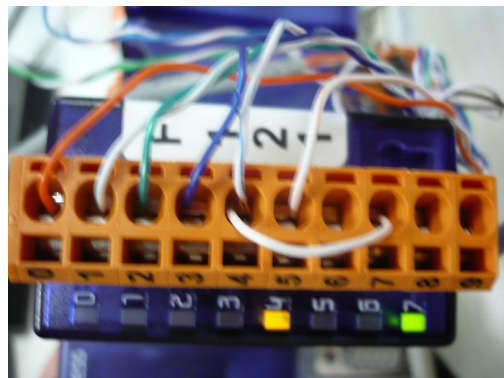
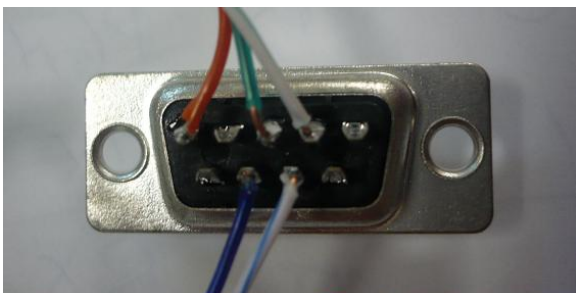
3.1 F121 RS232 Module

PV COM 2 9-PIN D-Sub Female

2	RS232 RXD	-----
3	RS232 TXD	-----
5	GND	-----
7	RS232 RTS	-----
8	RS232 CTS	-----

Saia F121 RS232 Module

1	Tx
2	Rx
0	PGND
4	CTS
3	RTS
7	DSR

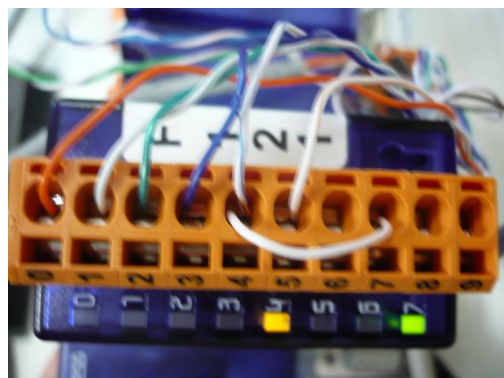
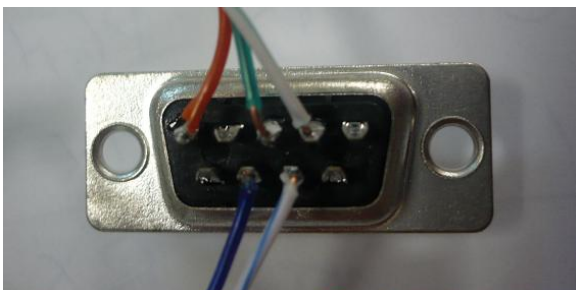


PV COM 1 9-PIN D-Sub Male

2	RS232 RXD	-----
3	RS232 TXD	-----
5	GND	-----
7	RS232 RTS	-----
	RS232 CTS	-----

Saia F121 RS232 Module

1	Tx
2	Rx
0	PGND
4	CTS
3	RTS
7	DSR



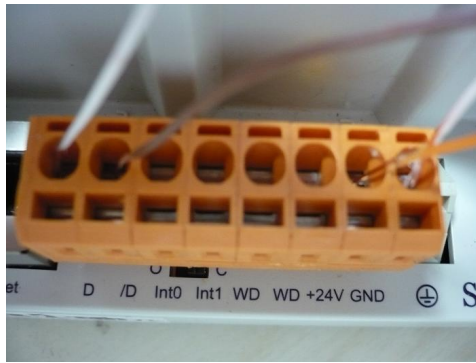
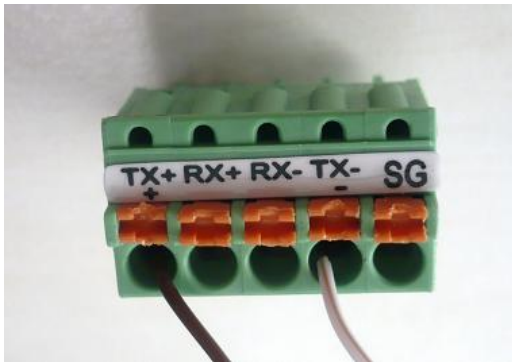
3.2 RS 485

PV COM2 5-PIN Male

1	(TXD+)	-----
4	(TXD-)	-----
5	SG	

Saia RS 485-terminator switch

/D	(RS 485 RxD/TxD-P)
D	(RS 485 RxD/TxD-N)



3.3 COM/PGU Port0

PV COM2 9-PIN D-Sub Female

Saia COM/PGU Port0

2	RS232 RXD	-----	3	TXD
3	RS232 TXD	-----	2	RXD
5	GND	-----	5	GND
7	RS232 RTS	-----	8	CTS
8	RS232 CTS	-----	7	RTS
			6	DSR