Cermate

# Technical Document

Revision 0.0

November, 2008

# *PLC Connection Guide*

## TN504D

**Communication settings between**

**SAIA PCD3.M5540/ PCD3.M3120 and PanelMaster**

**Driver Name: C31003**


◎Revision Record

| Revision | Date | Content | Owner |
|---|---|---|---|
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# Preface

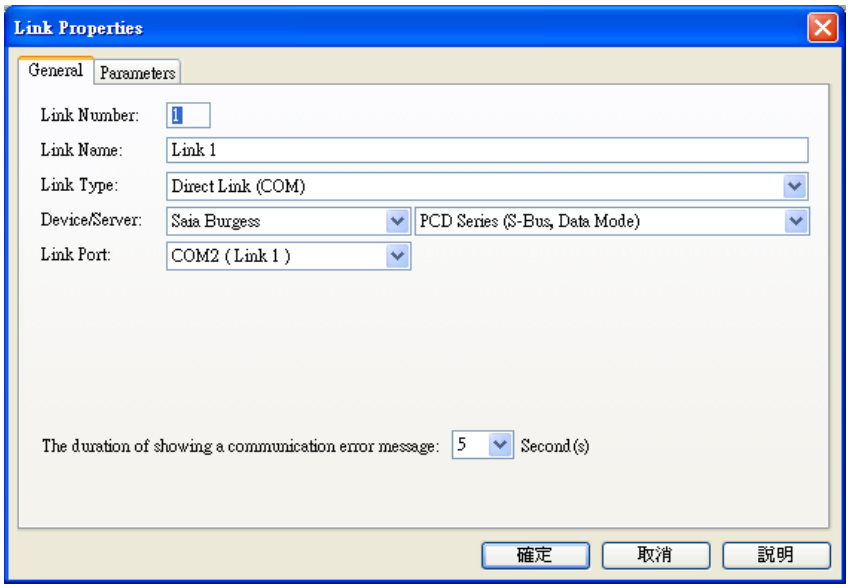
This tech note introduces how to connect **SAIA PCD3** series PLC with PanelMaster HMI.

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

**PanelMaster Version: Ver 1.1.53**

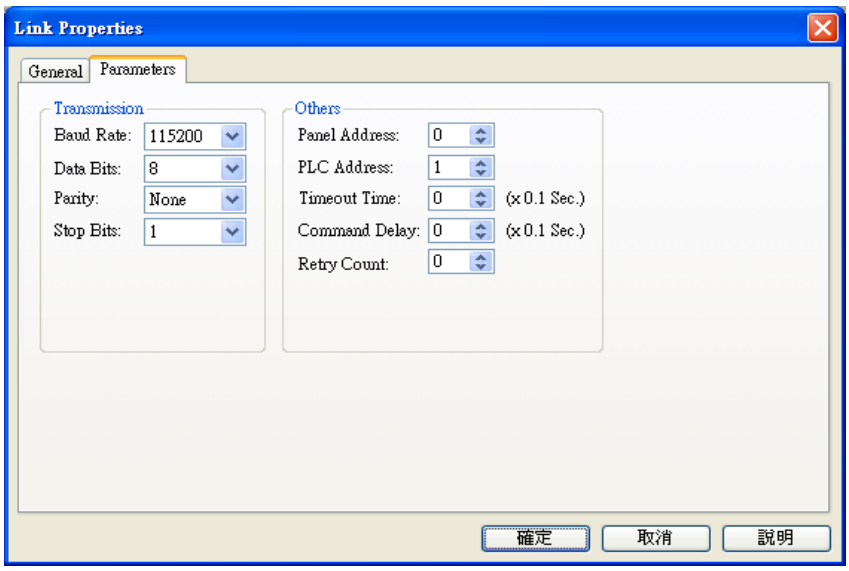
## 1. HMI Setting:

### 1.1 Communication Setting:

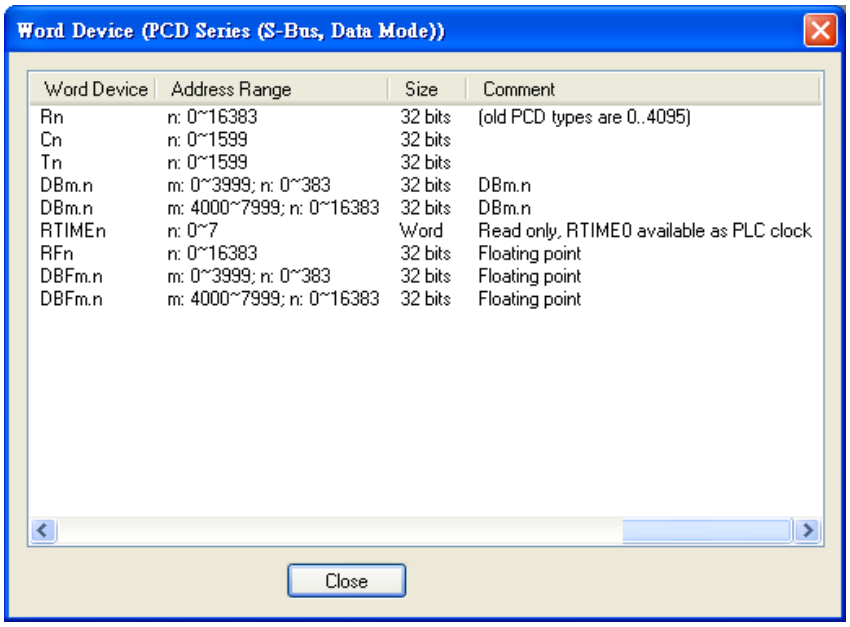



### 1.2 Communication Pamareter Setting:

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



1.3 PLC Memory Address (Word Devices):

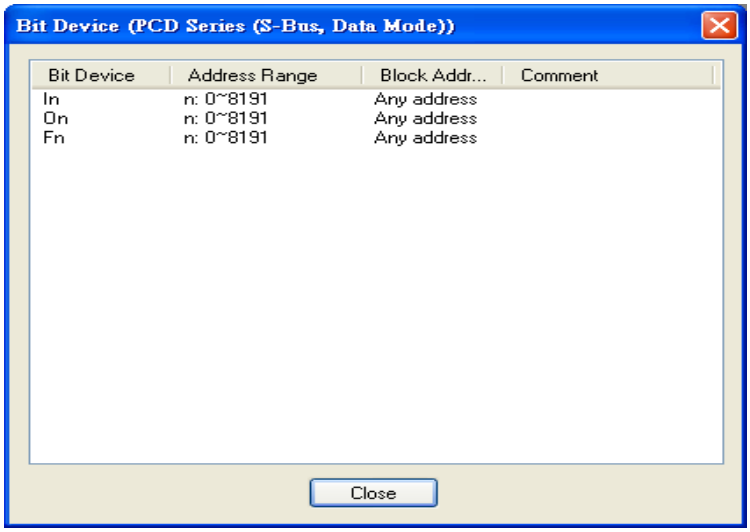



Note 1: Because the floating point format of SAIS PLC is not a standard format, please select RFn & DBFm.n for the floating point device using.

Note 2: RTIME is read only and the format is BCD/Unsigned Binary, please refer to below address information:

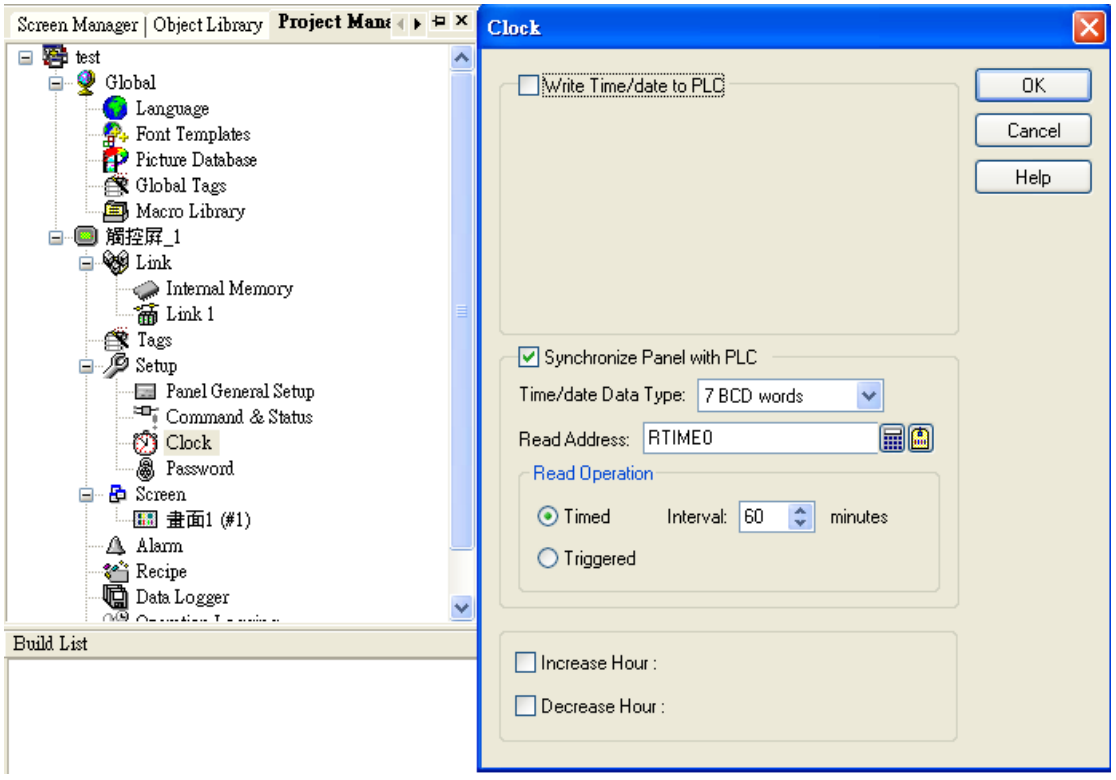
| Address | Unit | Range |
|---|---|---|
| RTIME0 | Second | 0 - 59 |
| RTIME1 | Minute | 0 - 59 |
| RTIME2 | Hour | 0 - 23 |
| RTIME3 | Day | 1 – 31 (according to month decided) |
| RTIME4 | Month | 1 - 12 |
| RTIME5 | Year | 00-99 |
| RTIME6 | Day of a Week | 0 - Sunday<br>1 – 6 Monday...Saturday |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

## 1.4 PLC Memory Address (Bit Devices):



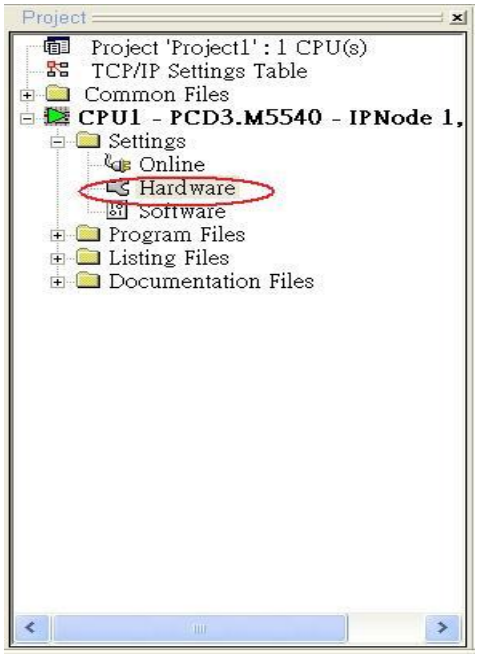

## 1.5 Colck Setting:

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

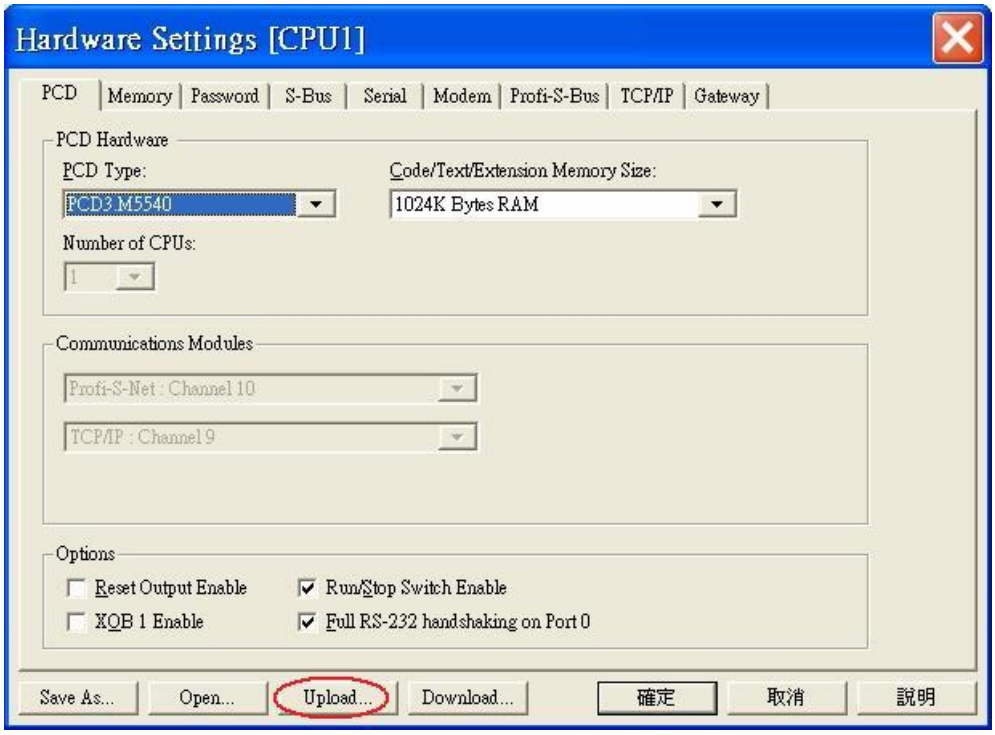


## 2. PLC Setting:

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

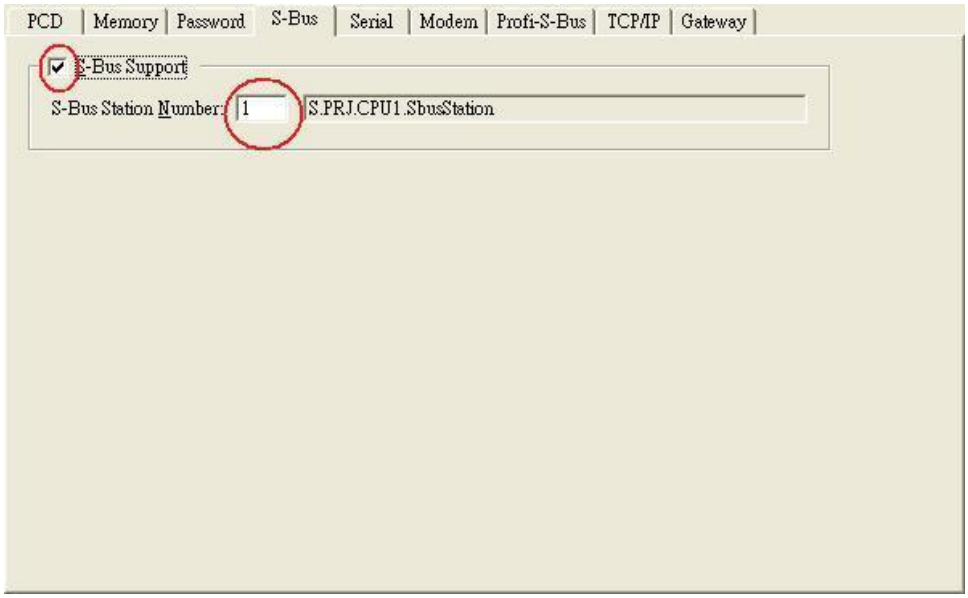



Double click “Hardware”, and then you can see the dialog box below:




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

2.2 “S-Bus” setting:

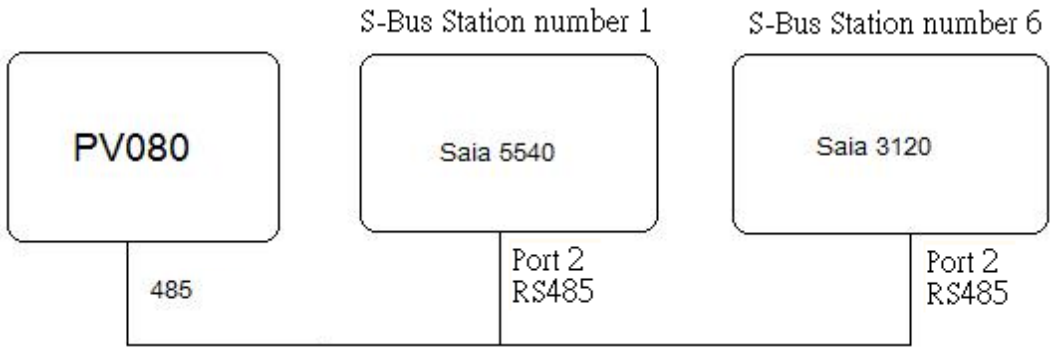



2.2.1 Select the“S-Bus Support” to enable the S-Bus function.

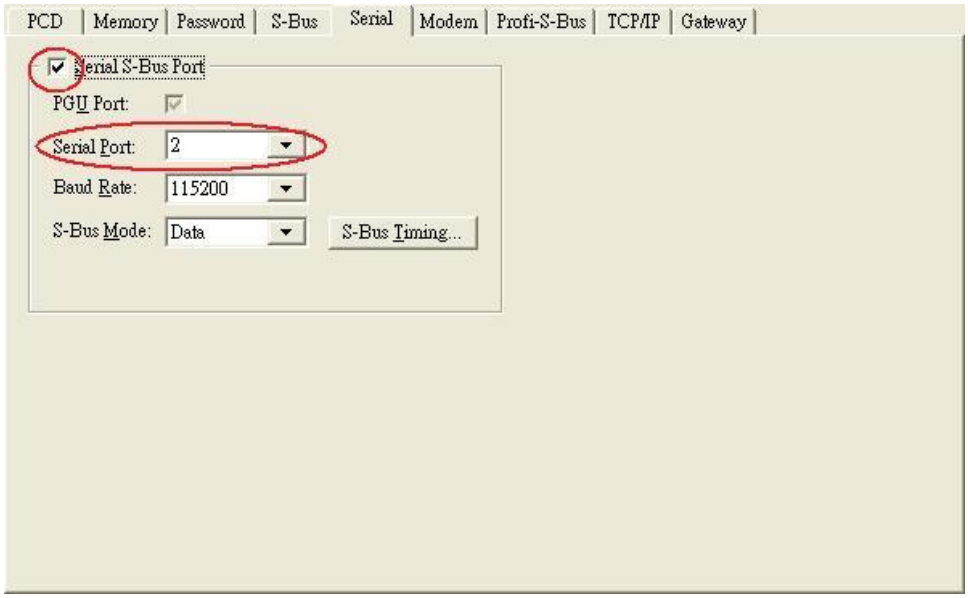
2.2.2 Key-in the address number under “S-Bus Station Number”(Initial is “0”).

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**。

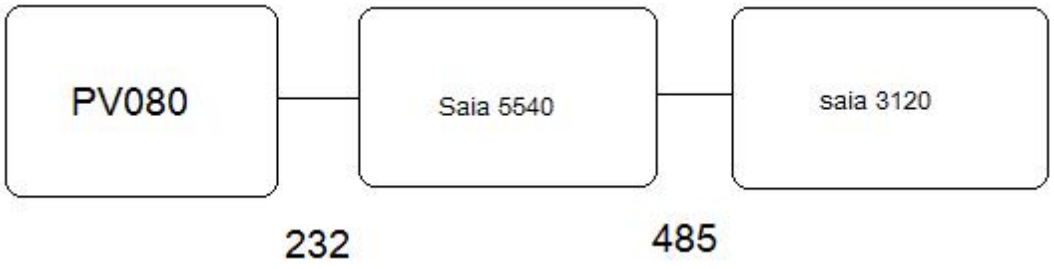
2.3.4 After all settings are ok, please press “Download”key to download to PLC.

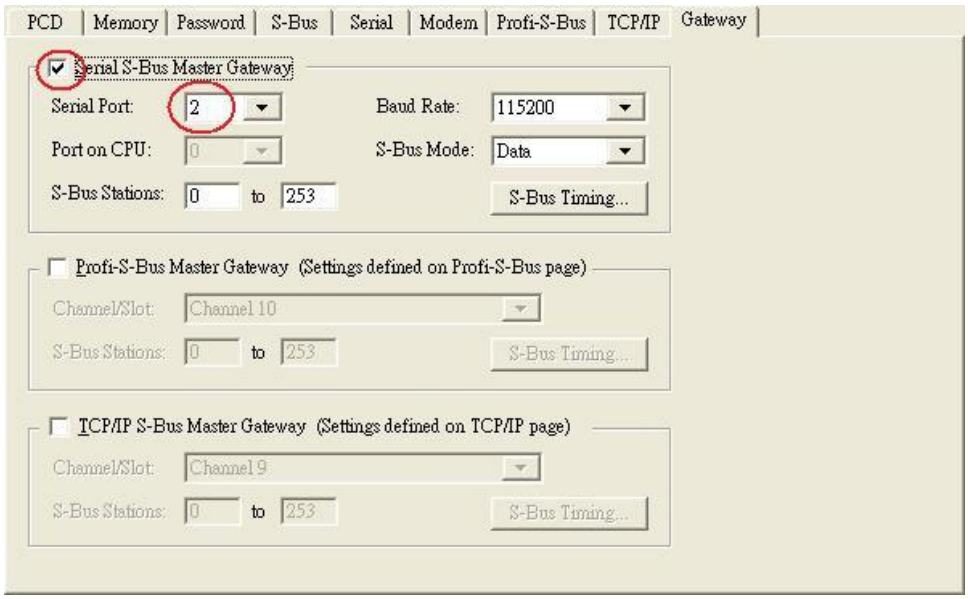
2.3.5 At this moment, we success to make the PLC communication setting.

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)




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

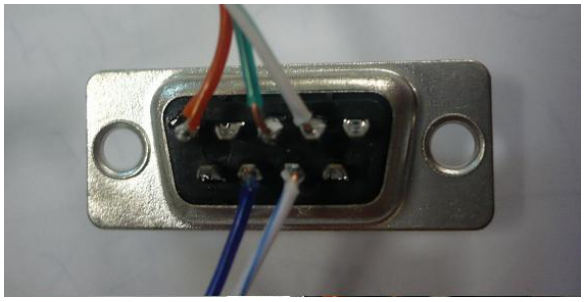
2.4.2 Select the port for Gateway using and set the Baud Rate / S-Bus Mode: Data。

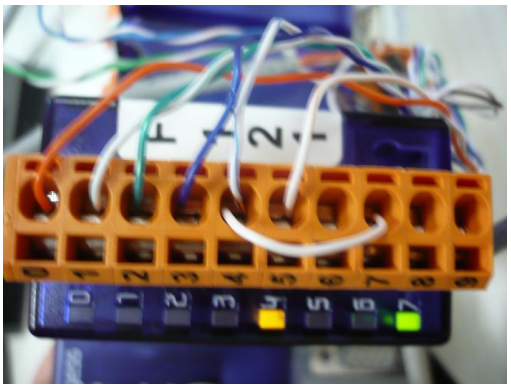
2.4.3 All settings are ok, please press "Download"key to download to PLC.

3. Cable Diagram : (HMI & Saia PCD3)

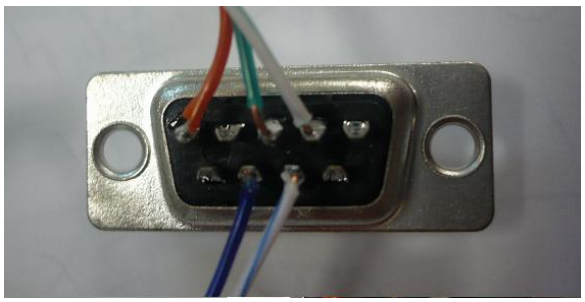
3.1 F121 RS232 Module

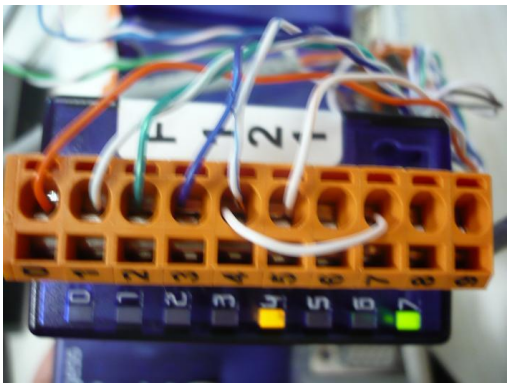
| PV COM 2 9-PIN D-Sub Female | | | Saia F121 RS232 Module | |
|---|---|---|---|---|
| 2 | RS232 RXD | ---------- | 1 | Tx |
| 3 | RS232 TXD | ---------- | 2 | Rx |
| 5 | GND | ---------- | 0 | PGND |
| 7 | RS232 RTS | ---------- | 4 | CTS |
| 8 | RS232 CTS | ---------- | 3 | RTS |
| | | | 7 | DSR |





| PV COM 1 9-PIN D-Sub Male | | | Saia F121 RS232 Module | |
|---|---|---|---|---|
| 2 | RS232 RXD | ---------- | 1 | Tx |
| 3 | RS232 TXD | ---------- | 2 | Rx |
| 5 | GND | ---------- | 0 | PGND |
| 7 | RS232 RTS | ---------- | 4 | CTS |
| | RS232 CTS | ---------- | 3 | RTS |
| | | | 7 | DSR |





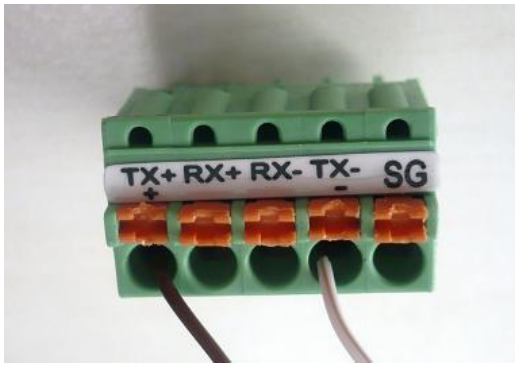
3.2 RS 485

PV COM2 5-PIN Male Saia RS 485-terminator switch

1 (TXD+) ---------- /D (RS 485 RxD/TxD-P)

4 (TXD-) ---------- D (RS 485 RxD/TxD-N)

5 SG





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 |

**~Thank You~**


# *Technical Support Information*

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