

ICP DAS

Installation Guide

Of PMMS with PMC and Power Meter

Ver. 1.0.0 [2015,Nov]

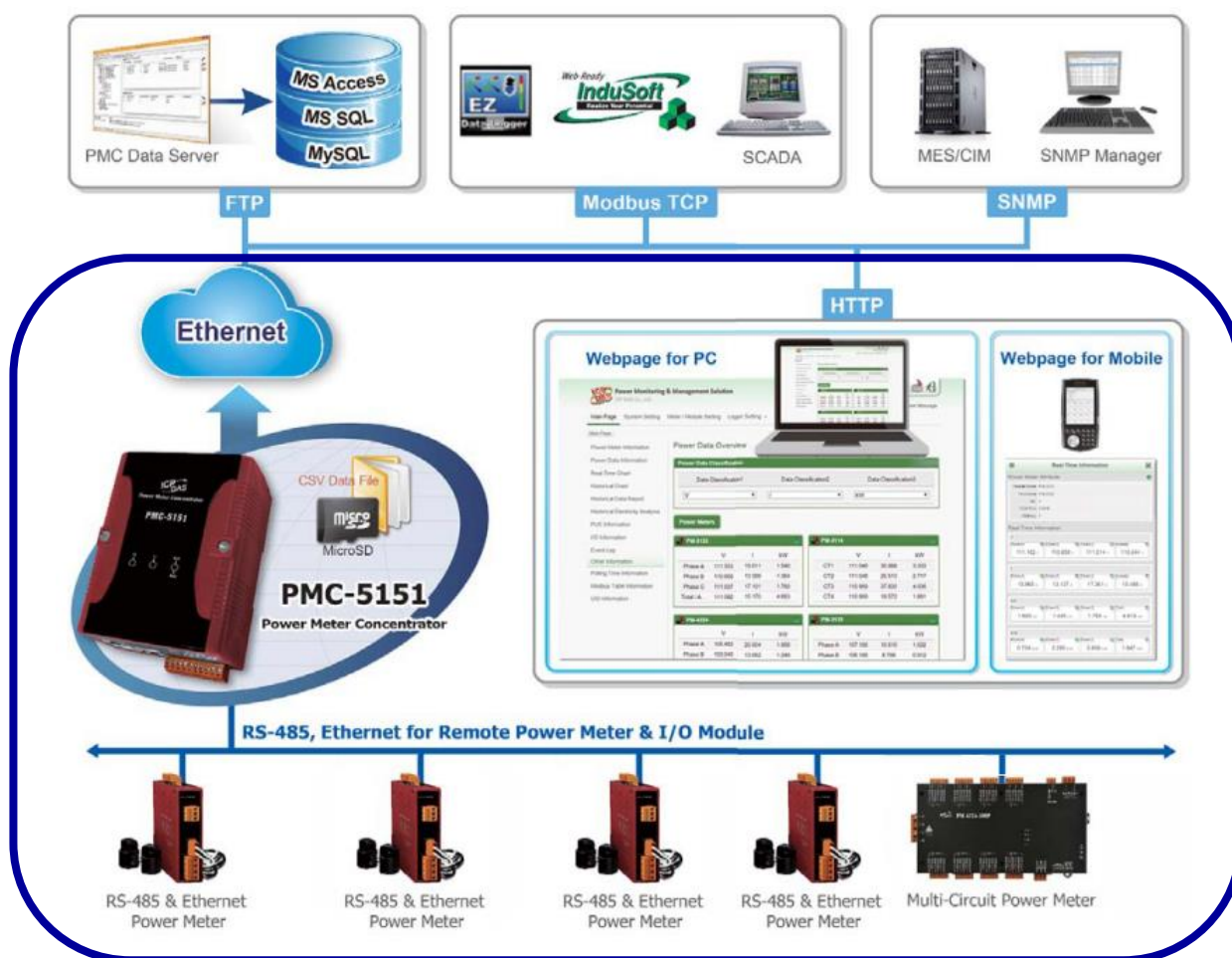
Web Page: <http://pmms.icpdas.com>

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Introduction

This document gives a brief instruction to implement hardware installation and software configuration of power meter concentrator (PMC-5151) and smart power meters (PM-3xxx and PM-4324 series) in an ICP DAS Power Monitoring & Management Solution application. After completing these steps, the users can remotely view the real-time or historical power information through a web browser on a PC or mobile phone.



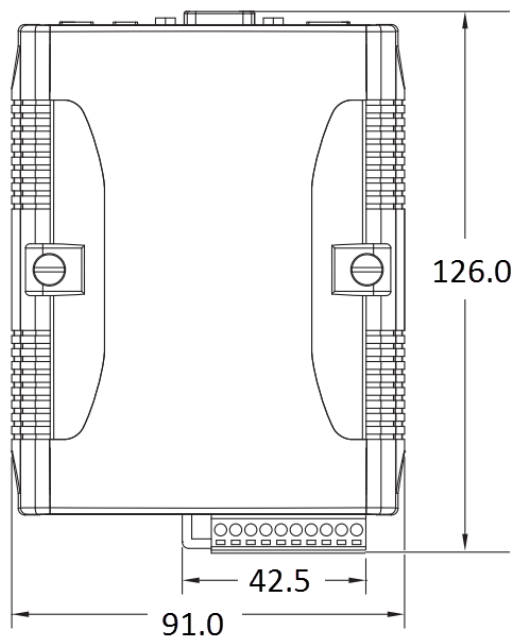
Related documents

The following documents can be obtained from <http://pmms.icpdas.com/en/download.html>

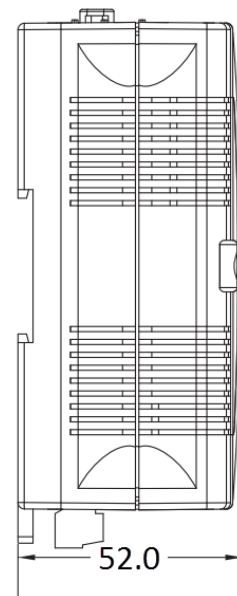
PMC-5151	Quick Start
	Brief User Guide
	User Manual
	Data Sheet
Smart Power Meter	Quick Start
	User Manual
	Data Sheet

Dimension

PMC-5151

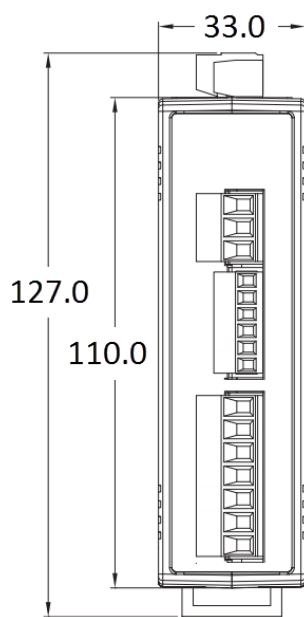


Front View

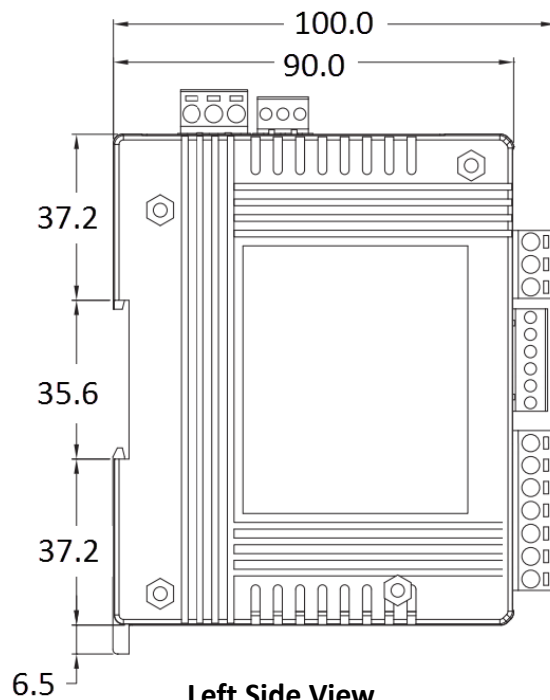


Left Side View

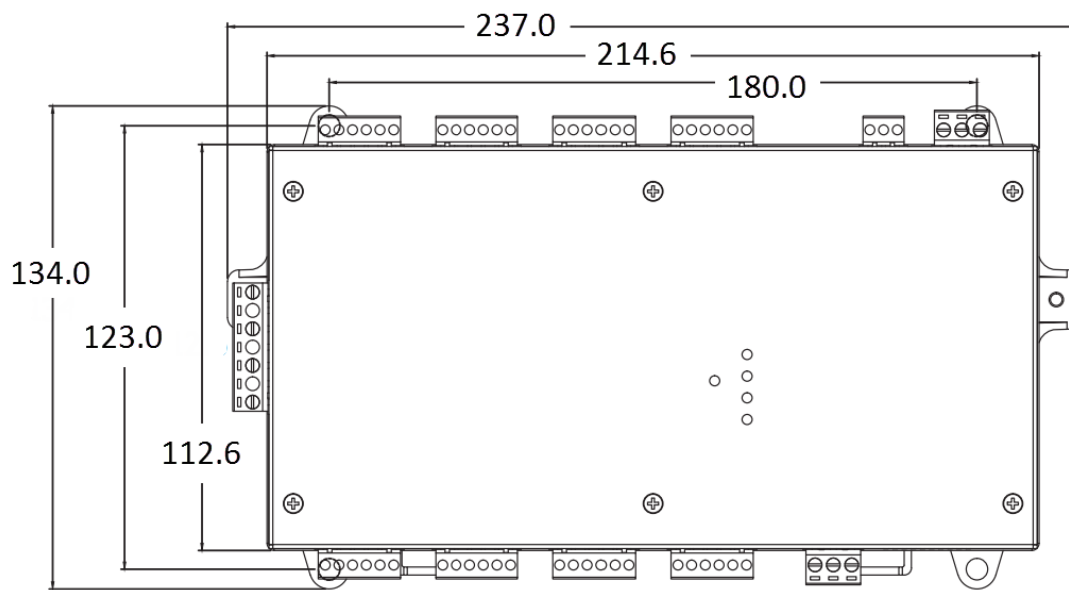
PM-3033/PM-3133/PM-3112/PM-3114



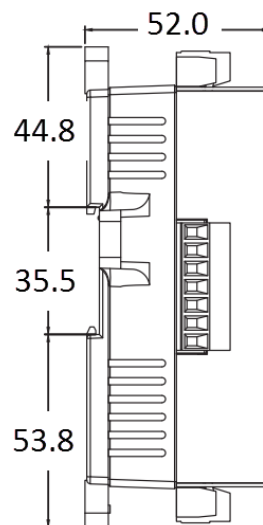
Front View



Left Side View



Front View

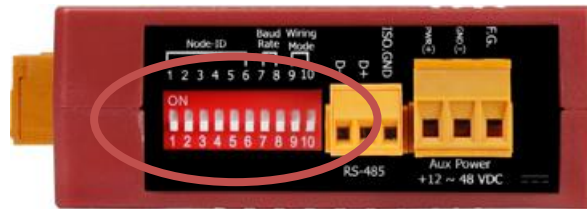


Left Side View

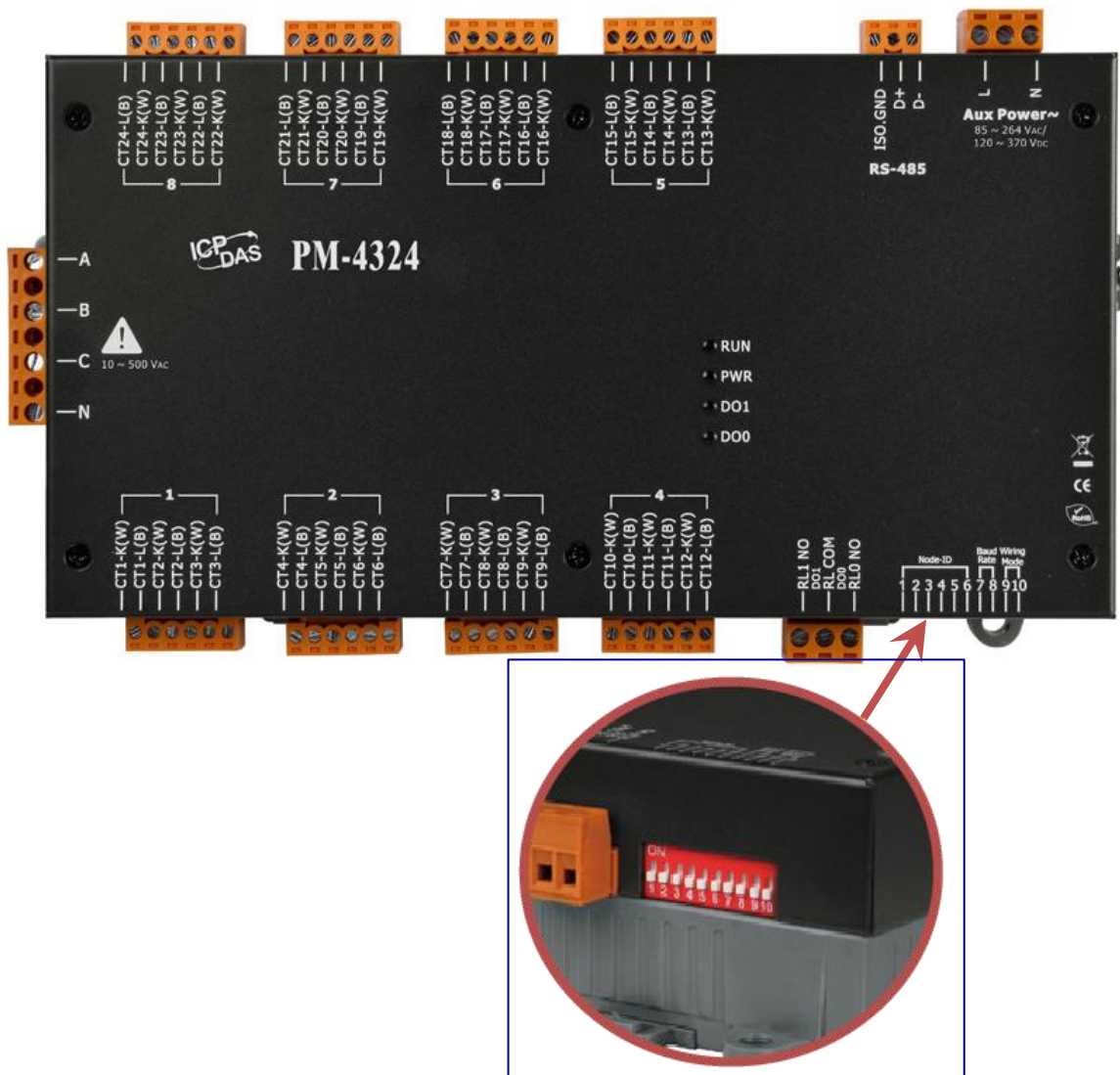
Hardware Switch Setting

Where is the switch located?

PM-3033/PM-3133/PM-3112/PM-3114



PM-4324



How to setup the switch

Set up Node-ID by SW1 — SW6 Switch (using PM-3133 as an example)

Each power meter on the same RS-485 must use a unique Node-ID; the Node-ID cannot be used repeatedly.

Modbus Address	SW1	SW2	SW3	SW4	SW5	SW6
1	OFF	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF	OFF
4	ON	ON	OFF	OFF	OFF	OFF
5	OFF	OFF	ON	OFF	OFF	OFF
6	ON	OFF	ON	OFF	OFF	OFF
7	OFF	ON	ON	OFF	OFF	OFF
8	ON	ON	ON	OFF	OFF	OFF
9	OFF	OFF	OFF	ON	OFF	OFF
10	ON	OFF	OFF	ON	OFF	OFF
11	OFF	ON	OFF	ON	OFF	OFF
12	ON	ON	OFF	ON	OFF	OFF
13	OFF	OFF	ON	ON	OFF	OFF
14	ON	OFF	ON	ON	OFF	OFF
15	OFF	ON	ON	ON	OFF	OFF
16	ON	ON	ON	ON	OFF	OFF
17	OFF	OFF	OFF	OFF	ON	OFF
18	ON	OFF	OFF	OFF	ON	OFF
19	OFF	ON	OFF	OFF	ON	OFF
20	ON	ON	OFF	OFF	ON	OFF
21	OFF	OFF	ON	OFF	ON	OFF
22	ON	OFF	ON	OFF	ON	OFF
23	OFF	ON	ON	OFF	ON	OFF
24	ON	ON	ON	OFF	ON	OFF

Baud Rate Setting by SW7& SW8

The Baud Rate of each power meter on the same RS485 connection should be the same.

Baud Rate	SW7	SW8
9600 bps	OFF	OFF
19200 bps (default)	ON	OFF
38400 bps	OFF	ON
115200 bps	ON	ON

Wiring Mode Setting by SW9 & SW10

The Wiring Mode setting is in accordance with the circuit to be measured by power meter.

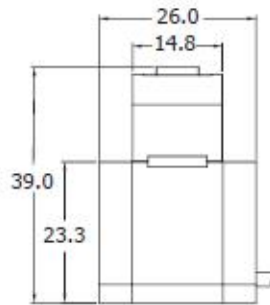
Wiring Mode	SW9	SW10
Software Setting	OFF	OFF
3P3W-2CT	ON	OFF
3P3W-3CT	OFF	ON
3P4W-3CT	ON	ON

CT (Current Transformer) Diagram of Mechanism

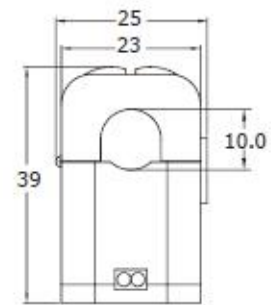
The package of PM-3133 / PM-3112 / PM-3114 / PM-4324 includes the CTs. The CTs included in the package are in accordance with the module numbers of the product. Using PM-3133 as an example, the module number of PM-3133 shows PM-3133-xxxx; the “-xxxx” represent the specification of the CT. “-100” indicates the outer diameter of the cable to be clipped is 10mm; “-360P” indicates the outer diameter of the cable to be clipped is 36mm. Please refer to the following for detailed specifications.

Dimension

100: CT Φ 10mm (60 A Max.)

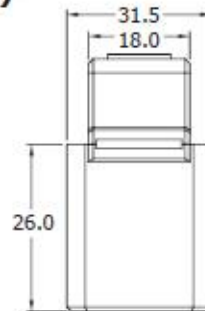


Left View

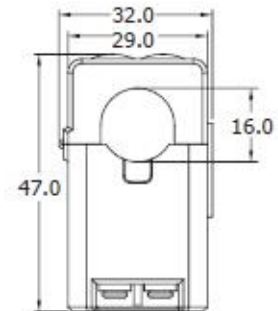


Front View

160: CT Φ 16mm (100 A Max.)

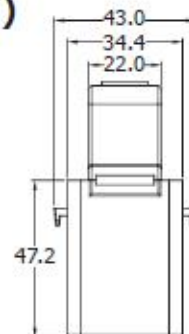


Left View

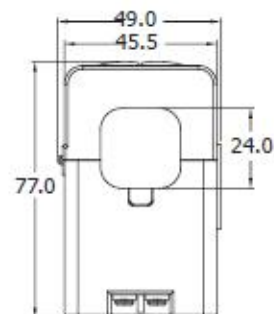


Front View

240: CT Φ 24mm (200 A Max.)

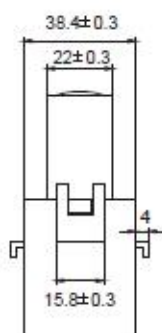


Left View

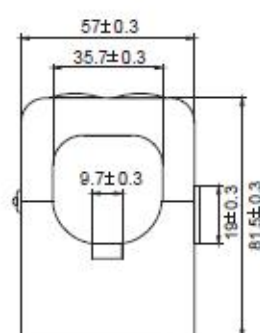


Front View

360P: CTΦ36mm (300 A Max.)

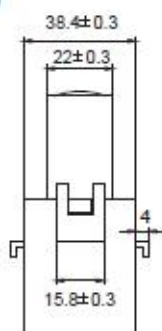


Left View

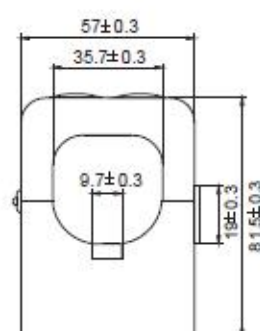


Front View

400P: CTΦ36mm (400 A Max.)

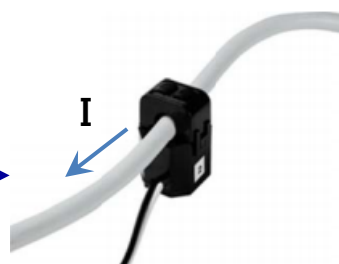


Left View

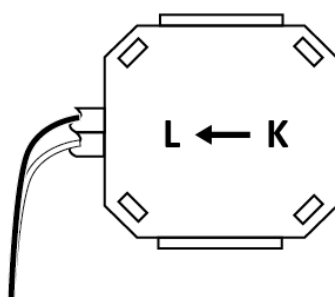


Front View

CT Installation

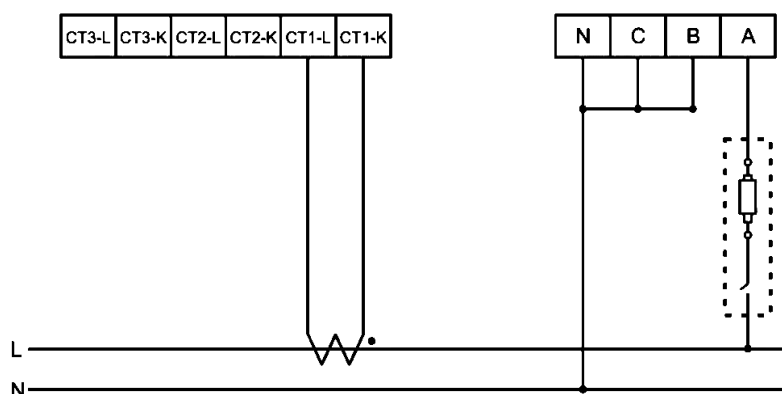


Clip-on CT Installation

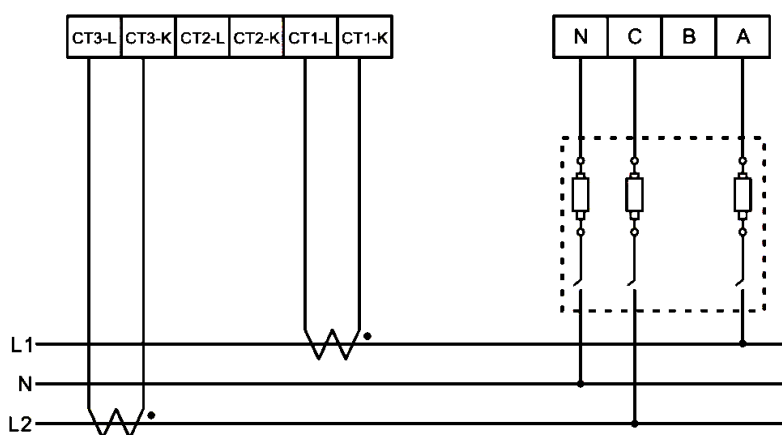


Wiring Diagram

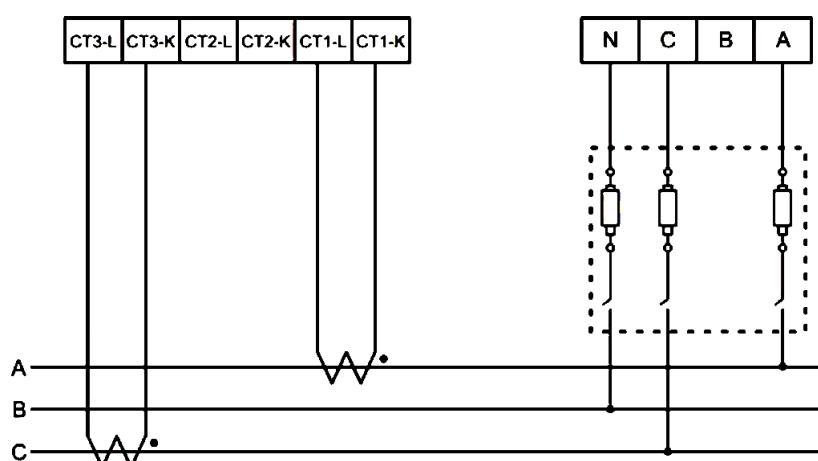
1P2W-1CT



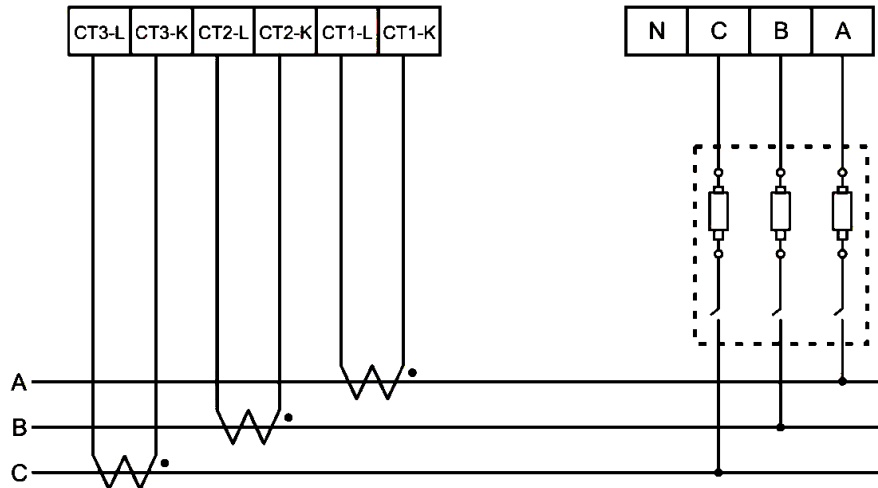
1P3W-2CT



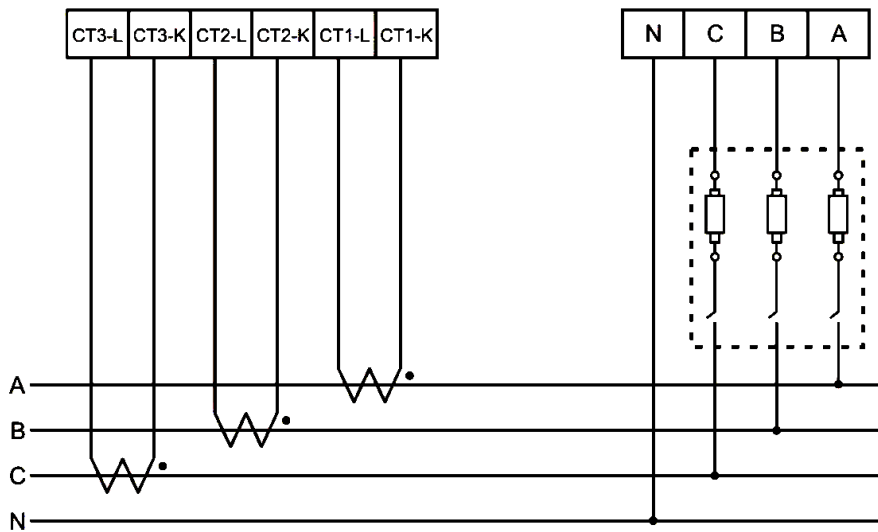
3P3W-2CT



3P3W-3CT



3P4W-3CT

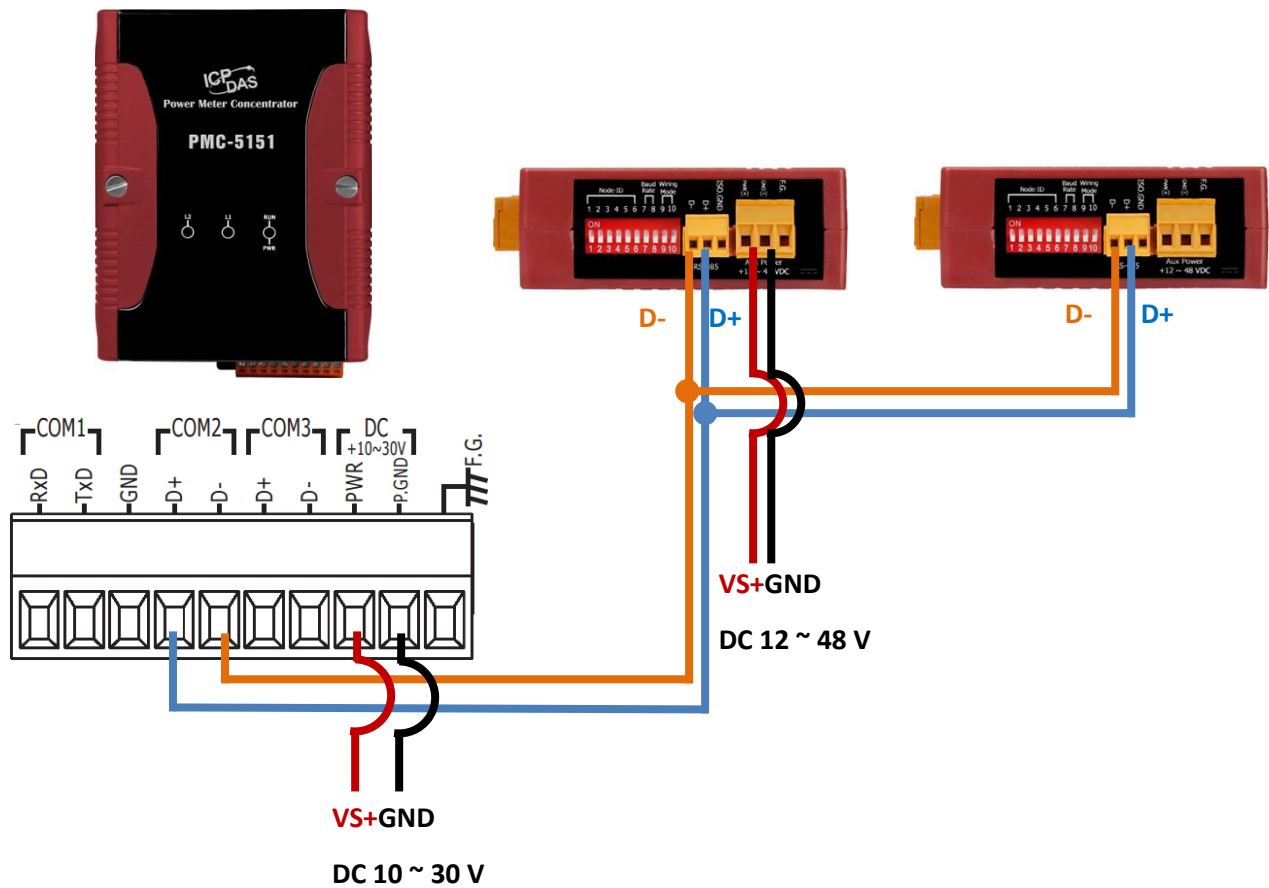


Note:

The above wirings apply to PM-3033 / PM-3133 / PM-4324 only

Wiring PMC-5151 to Power Meter

PM-3033/PM-3133/PM-3112/PM-3114 Wiring Diagram



PMC-5151 Network Setting

Factory defaults



Default network settings of LAN1 on PMC-5151 are as follows:

IP: 192.168.255.1

Subnet mask: 255.255.0.0

Gateway: 192.168.0.1

Network Setting

- 1) Modify the network settings of the PC or Notebook to be the same network domain as PMC-5151. For example:

IP: 192.168.255.10

Subnet mask: 255.255.0.0

Gateway: 192.168.0.1

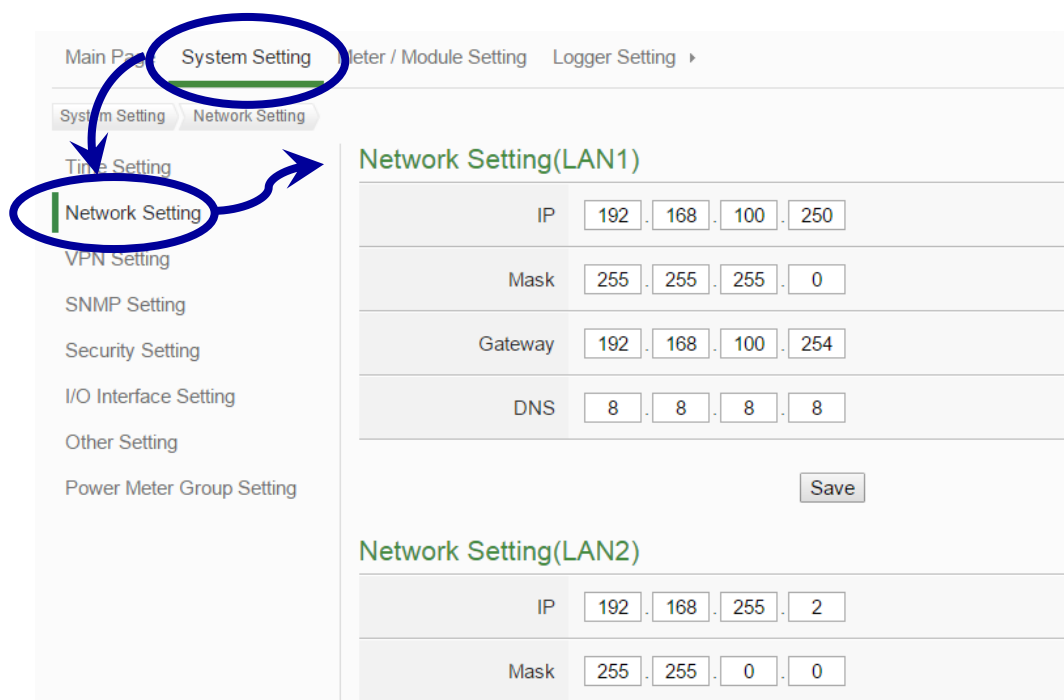
- 2) Connect PMC-5151 LAN1 to PC by network cable (there is no need to use crossover cables)

- 3) Start the browser and in the address bar input: <http://192.168.255.1> °

- 4) Input default administrator password “**Admin**” to log in.

Note: PMC-5151 provides one Administrator account (default password: Admin), five user accounts (default password: User). The User account can only view the data without permission to edit settings.

- 5) After login, go to [System Settings] → [Network Setting], modify the LAN1 network settings to fit the current network environment.



Network Setting(LAN1)				
IP	192	168	100	250
Mask	255	255	255	0
Gateway	192	168	100	254
DNS	8	8	8	8

Save

Network Setting(LAN2)				
IP	192	168	255	2
Mask	255	255	0	0

- 6) After pressing the [Save] button, for the network domain of the PMC-5151 and PC are different, the web may not be connected. Please connect PMC-5151 and PC to the actual network environment, and modify the network settings of the PC to the original network settings and then connect it to the PMC-5151 again.

Network Setting(LAN1)

IP	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="100"/>	<input type="text" value="250"/>
Mask	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>
Gateway	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="100"/>	<input type="text" value="254"/>
DNS	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>

Network Setting(LAN2)

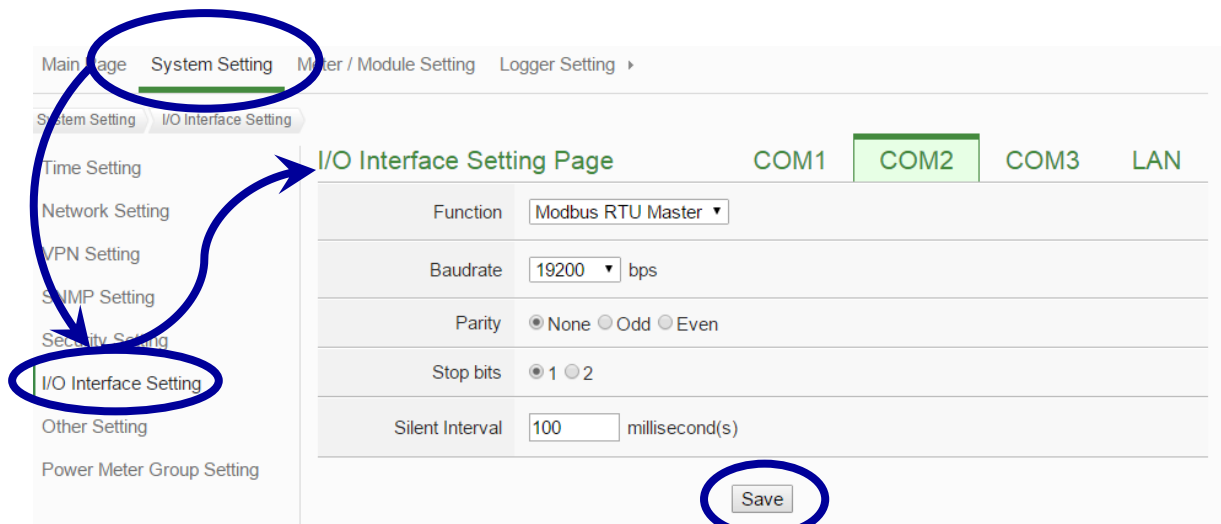
IP	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="255"/>	<input type="text" value="2"/>
Mask	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Gateway	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="0"/>	<input type="text" value="1"/>
DNS	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="8"/>



Basic Operation

Setup and Scan Power Meters

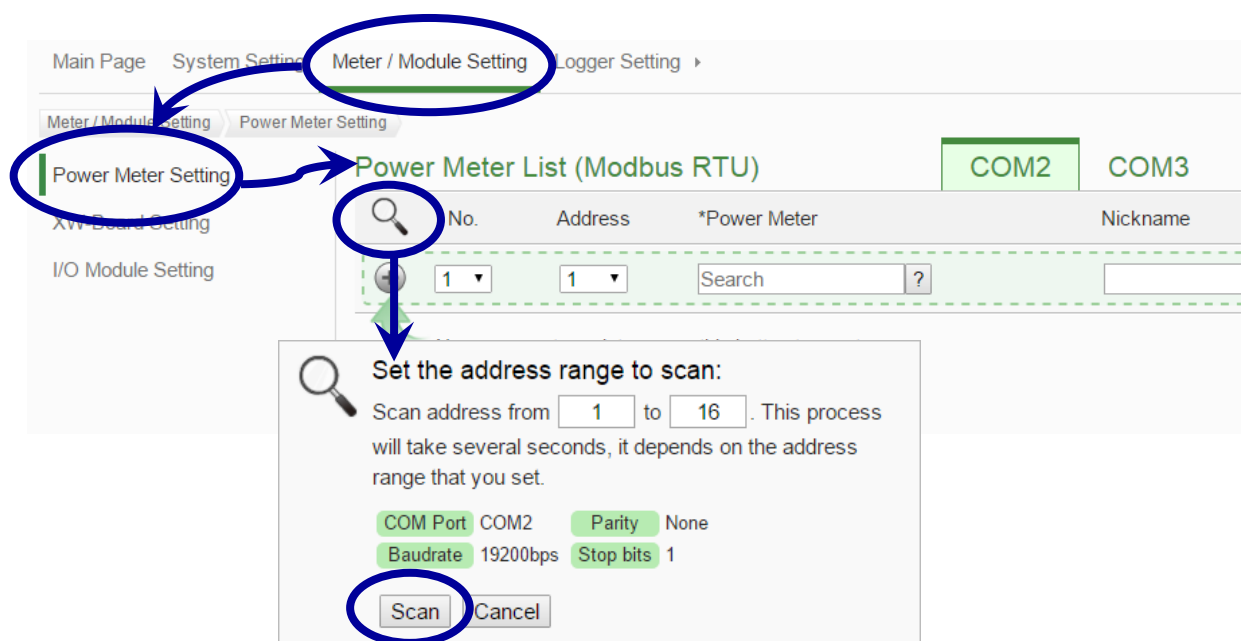
- 1) Please complete RS-485 wiring connection between PMC-5151 and the power meter, and then log in PMC-5151 page as Administrator, select [System Setting] → [I/O Interface Setting] and verify if the parameters (Baudrate / Parity / Stop bits) settings of the COM Port (connected to the power meter) are accurate, after finishing editing, click [Save] to save the settings.



- 2) Select [Meter/Module Setting] → [Power Meter Setting] to scan or add power meters by the following steps:

- 3) Scan Modbus RTU Power Meter:

3.1. Scan the power meters on the COM Port interface that is connected to the power meters (in this example, the power meter is connected to COM2).



- 3.2. After the scanning is completed, the system will show the list of the power meters that are currently connected to the COM Port. Click [Save] to complete Power Meter List setting.

No.	Address	*Power Meter	Nickname
2	2		
1	1	ICP DAS PM-3133	PM-3133

Setting Move Up Move Down Copy Remove

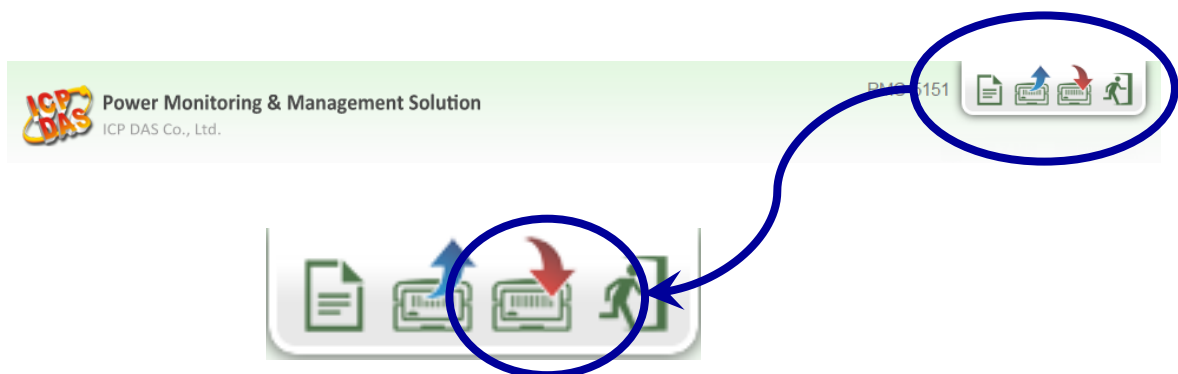
Save

Note



When fail to scan the power meters, please check if the connection of RS-485 series wiring is adequate; then go to Step 1: [System Setting] → [I/O Interface Setting] to verify if the settings of the COM Port (connected to the power meters) are correct. After editing the settings, click [Save] to save the settings and repeat Step 3.1. to scan the meter again.

- 4) Save the settings to the PMC-5151.



- 5) After saving the settings to the PMC-5151, the connection to the power meter is completed. After the system is initialized, the main page will show the power information of the connected power meters.

Power Data Overview

Power Data Classification

Data Classification1	Data Classification2	Data Classification3
V	I	kWh

Power Meters

PM-3133

	V	I	kWh
Phase A	0.000	0.000	0.078
Phase B	0.000	0.000	0.085
Phase C	0.000	0.000	0.085
Total / A...	0.000	0.000	0.247

PM-3033

	V	I	kWh
Phase A	0.000	0.000	0.030
Phase B	0.000	0.000	0.030
Phase C	0.000	0.000	0.030
Total / A...	0.000	0.000	0.090

Verify the Power Data After Installation

Power Data Overview

Power Data Classification

Data Classification1	Data Classification2	Data Classification3
V	I	kWh

Power Meters

PM-3133

	V	I	kWh
Phase A	0.000	0.000	0.078
Phase B	0.000	0.000	0.085
Phase C	0.000	0.000	0.085
Total / A...	0.000	0.000	0.247

PM-3033

	V	I	kWh
Phase A	0.000	0.000	0.030
Phase B	0.000	0.000	0.030
Phase C	0.000	0.000	0.030
Total / A...	0.000	0.000	0.090

1) Check if the connection status indicator shows in green light, if the indicator shows in red light; please check the following :

- Check if the wiring connection of RS-485 is connected adequately.
- Check if the baud rate setting of SW7-SW8 DIP switch (using PM-3133 as an example) is correct
- Check if webpage settings are correct.

Main Page
System Setting
Meter / Module Setting
Logger Setting

System Setting
I/O Interface Setting

Time Setting
Network Setting
V/I/N Setting
SNMP Setting
Security Setting
I/O Interface Setting
Other Setting
Power Meter Group Setting

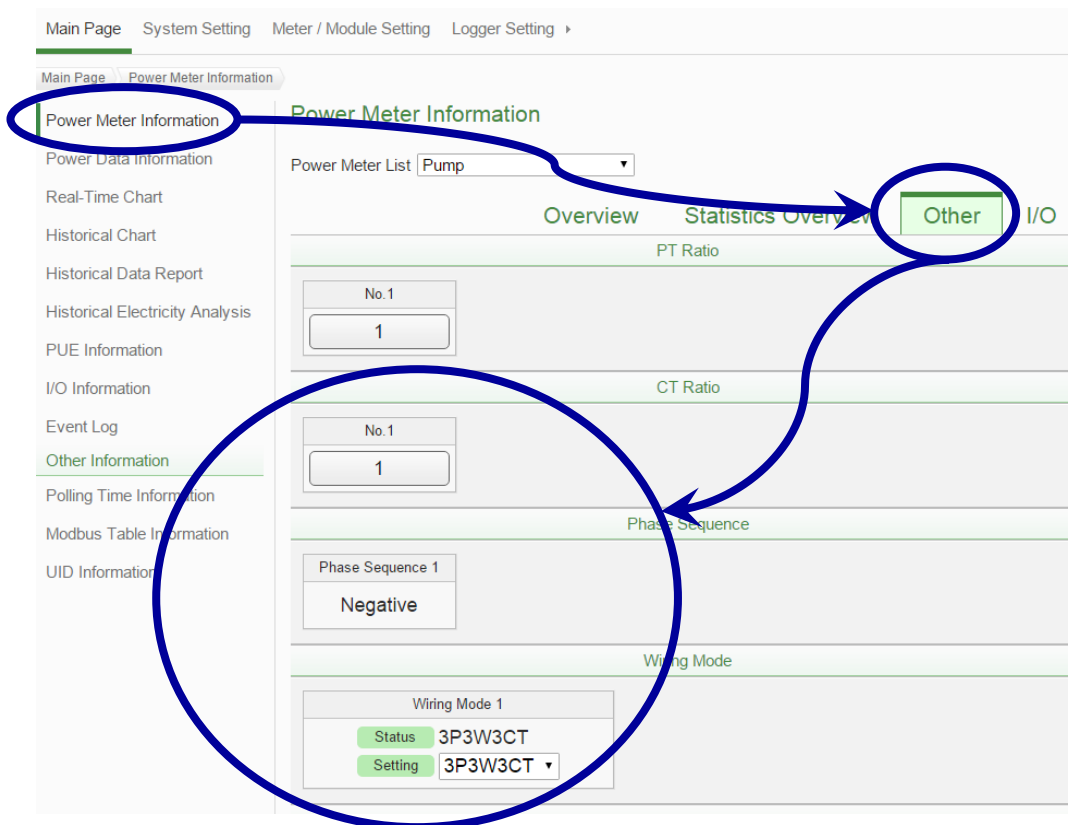
I/O Interface Setting Page
COM1
COM2
COM3

Function	Modbus RTU Master
Baudrate	19200 bps
Parity	<input checked="" type="radio"/> None <input type="radio"/> Odd <input type="radio"/> Even
Stop bits	<input checked="" type="radio"/> 1 <input type="radio"/> 2
Silent Interval	100 millisecond(s)

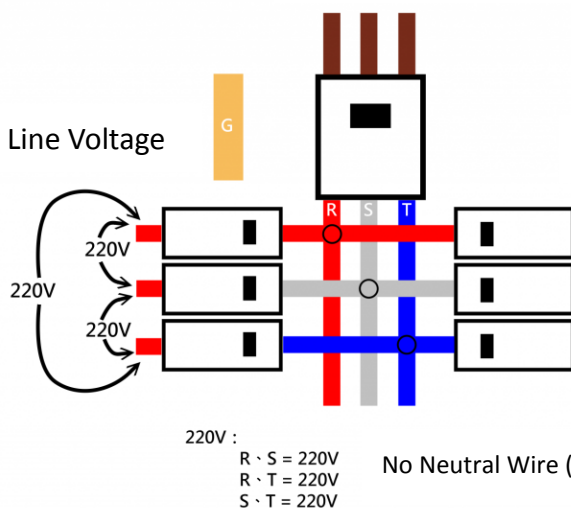
Save

2) Check if the values of voltage and current are accurate; if not, check the following:

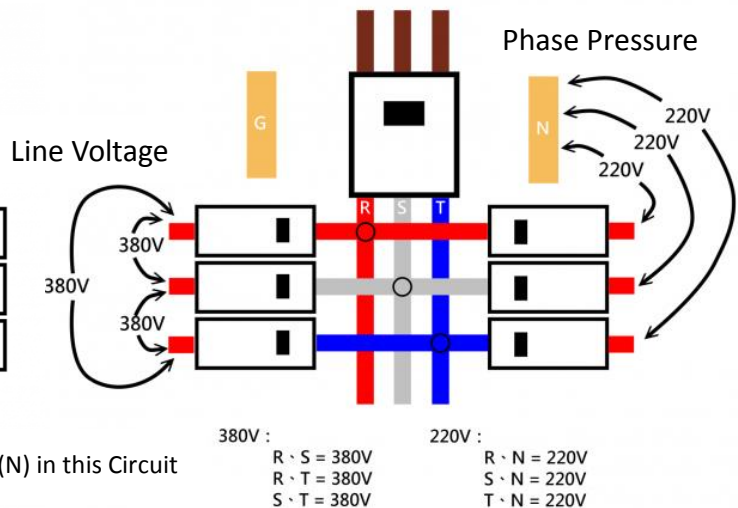
- Check if the wiring connection of reference voltage is accurate. You can verify it by multimeter or via PMC-5151 webpage, if it shows “Positive Phase Sequence”, it is accurate.
- If use PM-3033 to connect a general CT, for example: 300A/5A, then the CT ratio should be adjusted to : $\frac{300}{5} = 60$.
- Check if the power meter wiring mode settings on SW9-SW10 DIP switch (using PM-3133 as an example) is correct.



Three Phases Three Lines 220V

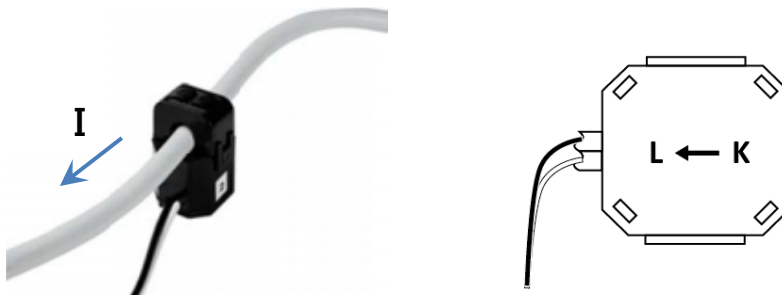


Three Phases Four Lines 380V/220V



3) Active Power (kW) should be greater than zero

If the device is not running, it is possible due to the load is too small, resulting in the kW shows negative value. This situation can be verified by analyzing Active Power (kW) and Reactive Power (kvar); when the value of Reactive Power (kvar) is greater than the value of Active Power (kW) ; it indicates that the device probably is not running. And then visually check if the wiring connection of reference voltage is accurate (shows “Positive Phase Sequence”); finally; check if the CT is clipped on the wire in the accurate direction or not.



Set the Nickname of the Power Meter and export the UID information

- 1) Login PMC-5151 page as administrator, and select [meter / Module Setting] → [Power Meter Setting] → [Setting], after completing the nickname setting for all power meters that are connected to PMC-5151, click [Save].

Power Monitoring & Management Solution
ICP DAS Co., Ltd.

PMC-5151

Main Page System Setting **Meter / Module Setting** Logger Setting

Meter / Module Setting Power Meter Setting

Power Meter Setting
XW-Board Setting
I/O Module Setting

Power Meter List (Modbus RTU)

No.	Address	*Power Meter	Nickname
7	7	Search	
1	1	ICP DAS PM-4324	PM-4324
2	2	ICP DAS PM-3133	PM-3133
3	3	ICP DAS PM-3133	PM-3133
4	4	ICP DAS PM-4324	PM-4324
5	5	ICP DAS PM-3112	PM-3112
6	6	ICP DAS PM-3114	PM-3114

Setting Move Up Move Down Copy Remove

Save

Power Monitoring & Management Solution
ICP DAS Co., Ltd.

PMC-5151

Main Page System Setting **Meter / Module Setting** Logger Setting

Meter / Module Setting Power Meter Setting Power Meter PM-3133 Setting

Power Meter PM-3133 Setting

*Nickname Module-A09(Pump CH-I)

Description

Address 2

Scan Rate 5 second(s)

Polling Timeout 1000 millisecond(s)

Retry Interval 5 second(s)

Power Meter Setting

Main Power Meter ☒ Set as main power meter

Nickname Phase A Phase B



Power Meter PM-4324 Setting

*Nickname	Module-A09
Description	
Address	1
Scan Rate	5 second(s)
Polling Timeout	1000 millisecond(s)
Retry Interval	5 second(s)

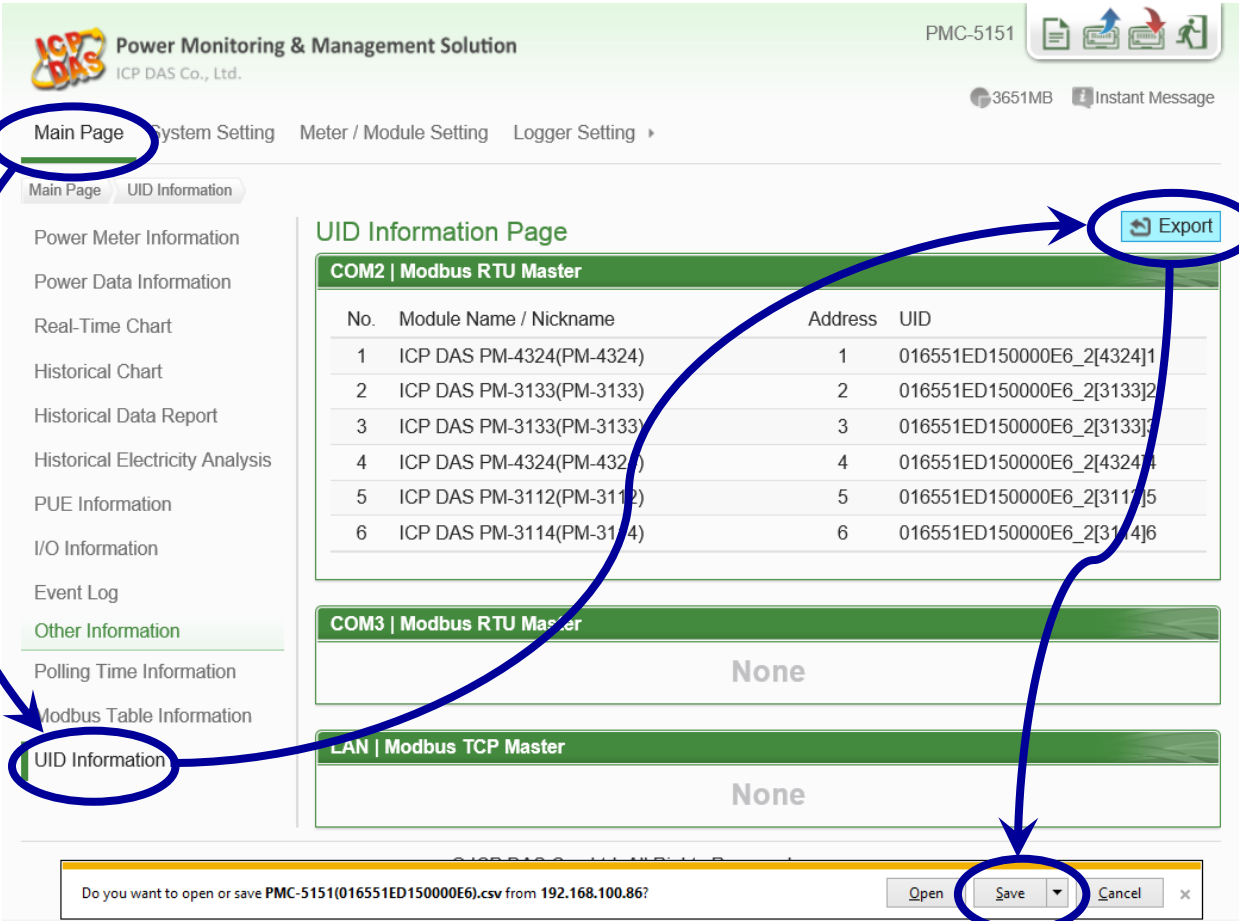
Power Meter Setting

Main Power Meter	<input checked="" type="checkbox"/> Set as main power meter			
Phase Display Mode	Submeter1 3-Phase 1-Phase			
	Submeter2 3-Phase 1-Phase			
	Submeter3 3-Phase 1-Phase			
	Submeter4 3-Phase 1-Phase			
	Submeter5 3-Phase 1-Phase			
	Submeter6 3-Phase 1-Phase			
	Submeter7 3-Phase 1-Phase			
	Submeter8 3-Phase 1-Phase			
Nickname	Submeter1		Submeter2	
	Phase A		Phase A	
	Phase B		Phase B	
	Phase C		Phase C	
	Submeter3		Submeter4	
	Phase A		Phase A	
	Phase B		Phase B	
	Phase C		Phase C	
	Submeter5		Submeter6	
	Phase A		Phase A	
	Phase B		Phase B	
	Phase C		Phase C	
	Submeter7		Submeter8	
	CT19		CT22	
	CT20		CT23	
	CT21		CT24	

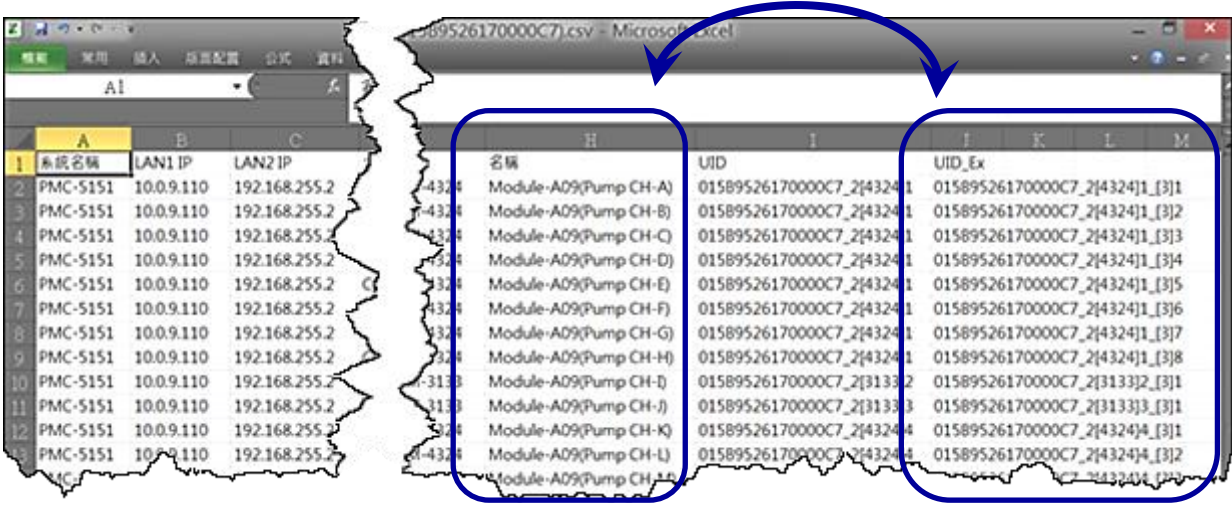
3 Phase, set up
nickname of submeter

Single Phase, set up
the nickname of CT

After finishing the installation of the power meter and the nickname settings, the UID information (.csv file) can be exported to a PC. This document records the information of the power meters that are currently managed by the PMC-5151; the information includes: the COM2, COM3, or the IP address that the power meter is installed, the address of RS-485, nickname, UID and UID_EX, etc.. Each Phase (or CT) of three phase power meter (or single phase power meter) is recorded as a record. With this file, the user can easily figure the complete architecture of the power meter installation.



Power Meter (Device) Mapping



PMC-5151 Time Calibration

There are two ways to perform time calibration of the PMC-5151: manual calibration and time synchronization through a network.

- Manual Calibration

Main Page **System Setting** Meter / Module Setting Logger Setting ▶

System Setting

Time Setting
Network Setting
VPN Setting
SNMP Setting
Security Setting
I/O Interface Setting
Other Setting
Power Meter Group Setting

System Setting Page

Time Setting

Date & Time

Date 2016/01/18

Time 15:31:23

Time Synchronization

Function Status Disable

I/O Interface Setting

COM1

Function Disable

COM2

Function Modbus RTU M

Baudrate 19200 bps

Parity None

Stop bits 1

Silent Interval 100 millisecond

Network Setting

LAN1

Main Page **System Setting** Meter / Module Setting Logger Setting ▶

System Setting **Time Setting**

Time Setting
Network Setting
VPN Setting
SNMP Setting
Security Setting
I/O Interface Setting
Other Setting
Power Meter Group Setting

Time Setting Page

Date

2016 / 1						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Time 11:54:07

Time Duplication **Load** (Load current time of this computer.)

Time Synchronization

Function Status ☐ Enable

Save

• Time Synchronization through Network

Time Setting Page

Date	< 2016 / 1 >						
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31						
Time	12 ▾ : 59 ▾ : 32 ▾						
Time Duplication	<input type="button" value="Load"/> (Load current time of this computer.)						

Time Synchronization

Function Status	<input checked="" type="checkbox"/> Enable
*SNTP Time Server	<div><input type="text" value="pool.ntp.org"/> <input type="text" value="watch.stdtime.gov.tw"/> <input type="text" value="time.windows.com"/> <input type="button" value="Use Default SNTP Time Servers"/></div>
Port	123
Sync Interval	12 ▾ hours
Time Zone	(GMT+08:00) Taipei ▾
Daylight Saving Time	<input type="checkbox"/> Enable
<div><input type="button" value="Save"/></div>	

Note



After the settings are saved, the PMC-5151 displays "Saved successfully", and will perform time synchronization through network immediately. If the connection to SNTP time server is connected successfully, the time shows on the top region of this page will be accurate. However, if it fails to connect to SNTP time server, the time shows on this page will not be changed and no error message will be shown. In order to make sure the connection between PMC-5151 and SNTP time server is successful or not, when you perform time synchronization, you can manually adjust the time to be 10 minutes further so that you can verify if it connects successfully after saving the settings.

Enable the Data Logger

- 1) Login PMC-5151 page as administrator. Select [Data Logger Setting] → [Logger Setting] → [Enable]. After complete the setting, click [Save].

The screenshot shows the 'Power Data Logger Setting' page. The 'Logger Setting' tab is selected in the top navigation bar. In the left sidebar, 'Data Logger Setting' is highlighted. The main content area has the following settings:

- Function Status:** ☒ Enable
- Log Mode:** Average
- Column Header:** ☐ Add
- User-Defined Data Logger Setting:** Function Status ☐ Enable
- Log Attribute Setting:**
 - Log Interval: 1 minute
 - File Name Format: YYYY-MM-DD.csv
 - End of Line Character: CRLF(Windows)
 - Log File Retention Time: 3 month(s)
- Save:** A button at the bottom right.

Blue arrows and circles highlight the 'Logger Setting' tab, 'Data Logger Setting' in the sidebar, the 'Enable' checkbox under 'Function Status', and the 'Save' button.

- 2) If the user wants to send the power data log files back to the FTP server at the control center automatically; please enable the function and complete the settings on the [FTP Upload Setting] page. After complete the setting, click [Save].

The screenshot shows the 'FTP Upload Setting Page'. The 'FTP Upload Setting' tab is selected in the top navigation bar. In the left sidebar, 'FTP Upload Setting' is highlighted. The main content area has the following settings:

- Function Status:** ☒ Enable
- Remote FTP Server:**
 - *Address: ftp://192.168.0.1
 - Port: 21
 - *ID: ICPDAS
 - Password:
 - Path:
- Remote FTP Server Setting Test:** Send
- Data Log Upload Function:**
 - ☒ Upload Power Data Log
 - ☐ Upload User-Defined Data Log
 - Frequency: Every 1 hour
- Event Log Upload Function:** ☐ Upload Event Log
- Save:** A button at the bottom right.

Blue arrows and circles highlight the 'FTP Upload Setting' tab, 'FTP Upload Setting' in the sidebar, the 'Enable' checkbox under 'Function Status', and the 'Save' button.

- 3) Save the settings to PMC-5151, the data logging function will be enabled. The system will start to save the power data in the MicroSD card by file format.



Power Meter Information

The Power Meter Information page shows detailed information of the specified power meter; the information including an overview of the power meter information and statistics information.

More detailed information is as below:

Power Meter Information Overview

When entering this page the system will read and display the real-time information of the power meter that is currently selected; select from the options of the power meter list to show the information of the desired power meter. This page will refresh every 20 seconds, the user can also click on the “Refresh” button to update the displayed values immediately. The Power Meter Information Overview page shows as follows:

Power Meter Information Overview

Power Meter List: Module-A09 Pump CH-A

Overview Statistics Overview Other I/O

Power Meter Attribute			
No.	COM Port	Address	Module Name
1	COM2	1	PM-4324

Real-Time Information(1)

	Phase A	Phase B	Phase C	Total / Average
V	0.000	0.000	0.000	0.000
I	0.000	0.000	0.000	0.000
kW	0.000	0.000	0.000	0.000
kvar	0.000	0.000	0.000	0.000
kVA	0.000	0.000	0.000	0.000
PF	0.000	0.000	0.000	0.000

Real-Time Information(2) [Reset](#)

	Phase A	Phase B	Phase C	Total / Average
kWh	0.078	0.085	0.085	0.247

Statistics Information Overview

On the Statistics Overview page, the Demand Information Section will list information of Actual Demand, Forecast Demand, Contract Capacity, Hourly Maximum Demand, Daily Maximum Demand and Monthly Maximum Demand, etc.. The Statistics Information Section will list the Daily Accumulated Electricity, Monthly Accumulated Electricity, Yearly Accumulated Electricity and Daily Carbon Emission.

Main Page System Setting Meter / Module Setting Logger Setting ▶

Main Page Power Meter Information

Power Meter Information

Power Data Information

Real-Time Chart

Historical Chart

Historical Data Report

Historical Electricity Analysis

PUE Information

I/O Information

Event Log

Other Information

Polling Time Information

Modbus Table Information

UID Information

Power Meter List Module-A09 Pump CH-A

Overview Statistics Overview Other I/O

Demand Information

	Phase A	Phase B	Phase C	Total / Average
15 Minutes Actual Demand(kW)	0.000	0.000	0.000	0.000
15 Minutes Forecast Demand(kW)	0.000	0.000	0.000	0.000
Contract Capacity(kW)	N/A	N/A	N/A	N/A
Hourly Maximum Demand(kW)	0.000	0.000	0.000	0.000
Daily Maximum Demand(kW)	0.000	0.000	0.000	0.000
Monthly Maximum Demand(kW)	0.000	0.000	0.000	0.000

Statistics Information

	Phase A	Phase B	Phase C	Total / Average
Daily Accu. Electricity(kWh)	0.000	0.000	0.000	0.000
Monthly Accu. Electricity(kWh)	0.000	0.000	0.000	0.000
Yearly Accu. Electricity(kWh)	0.000	0.000	0.000	0.000
Daily Carbon Emissions(KG)	0.000	0.000	0.000	0.000

Reset

Reset Accumulated Value and Statistics Data of the Power Meter

After completing the settings of PMC-5151 and power meters, verify all settings are accurate and then reset the accumulated values and statistical data of the power meters to zero.

Accumulated Value: kWh, kvarh and kVAh

The screenshot shows the PMMS web interface. The 'Main Page' and 'Power Meter Information' menu items are circled. The 'Overview' tab is selected. The 'Reset' button is circled. The 'Real-Time Information(2)' table shows accumulated values for kWh, kvarh, and kVAh.

No.	COM Port	Address	Module Name
1	COM1	1	PM-4324

	Phase A	Phase B	Phase C	Total / Average
V	0.000	0.000	0.000	0.000
I	0.000	0.000	0.000	0.000
kW	0.000	0.000	0.000	0.000
kvar	0.000	0.000	0.000	0.000
kVA	0.000	0.000	0.000	0.000
PF	0.000	0.000	0.000	0.000

	Phase A	Phase B	Phase C	Total / Average
kWh	0.078	0.085	0.085	0.247
kvarh	0.113	0.113	0.114	0.341
kVAh	0.151	0.155	0.155	0.461

Statistics Data: Daily/Monthly/Yearly Accumulated Electricity

Main PageSystem SettingMeter / Module SettingLogger Setting

Main PagePower Meter Information

Power Meter Information

Power Data Information

Real-Time Chart

Historical Chart

Historical Data Report

Historical Electricity Analysis

PUE Information

I/O Information

Event Log

Other Information

Polling Time Information

Modbus Table Information

UID Information

Power Meter ListModule-A09Pump CH-A

Overview

Statistics Overview

Other

I/O

Demand Information

	Phase A	Phase B	Phase C	Total / Average
15 Minutes Actual Demand(kW)	0.000	0.000	0.000	0.000
15 Minutes Forecast Demand(kV)	0.000	0.000	0.000	0.000
Contract Capacity(kW)	N/A	N/A	N/A	N/A
Hourly Maximum Demand(kW)	0.000	0.000	0.000	0.000
Daily Maximum Demand(kW)	0.000	0.000	0.000	0.000
Monthly Maximum Demand(kW)	0.000	0.000	0.000	0.000

Statistics Information

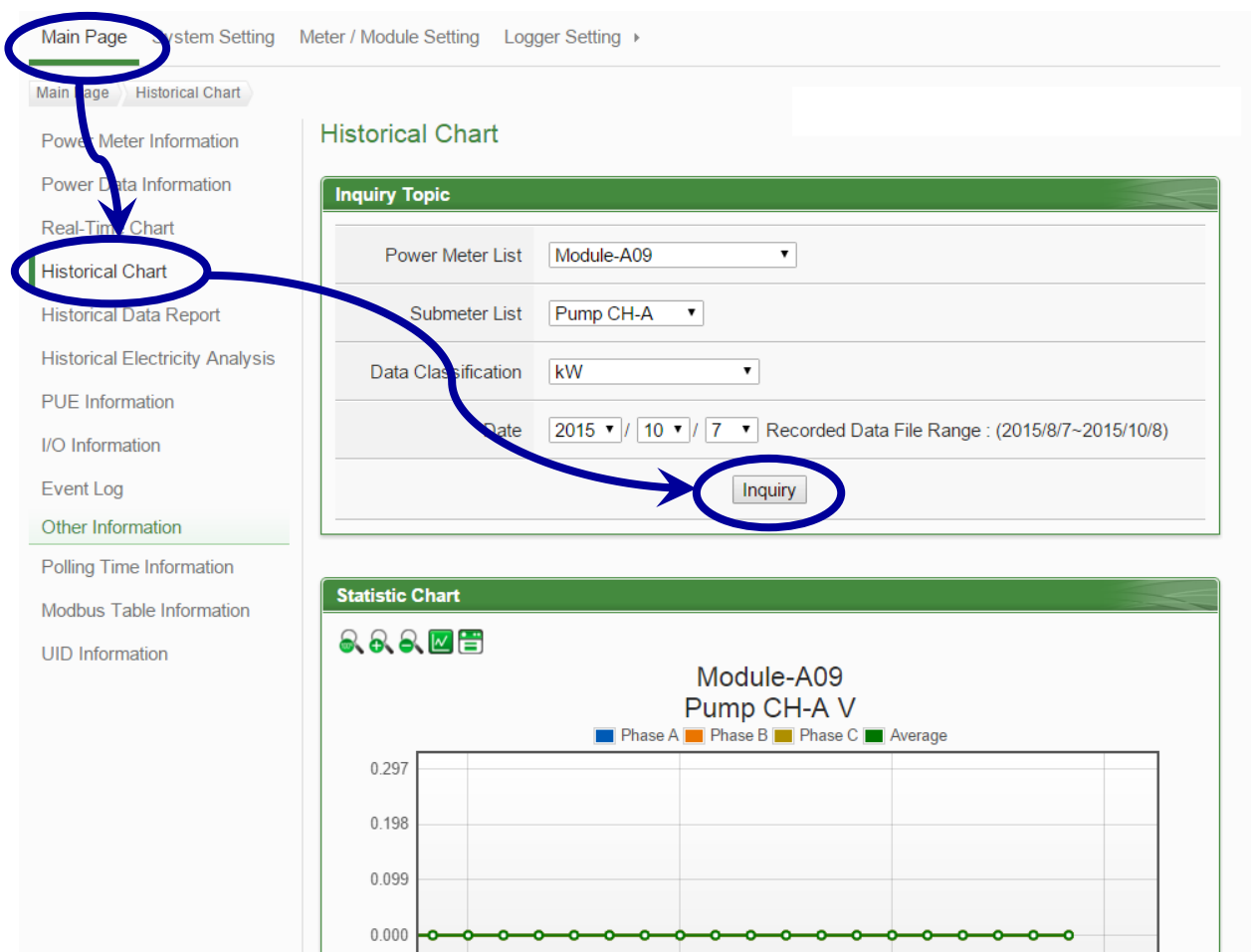
	Phase A	Phase B	Phase C	Total / Average
Daily Accu. Electricity(kWh)	0.000	0.000	0.000	0.000
Monthly Accu. Electricity(kWh)	0.000	0.000	0.000	0.000

Reset

Note: Avoid Using IE 8.0 version of the Web Browser

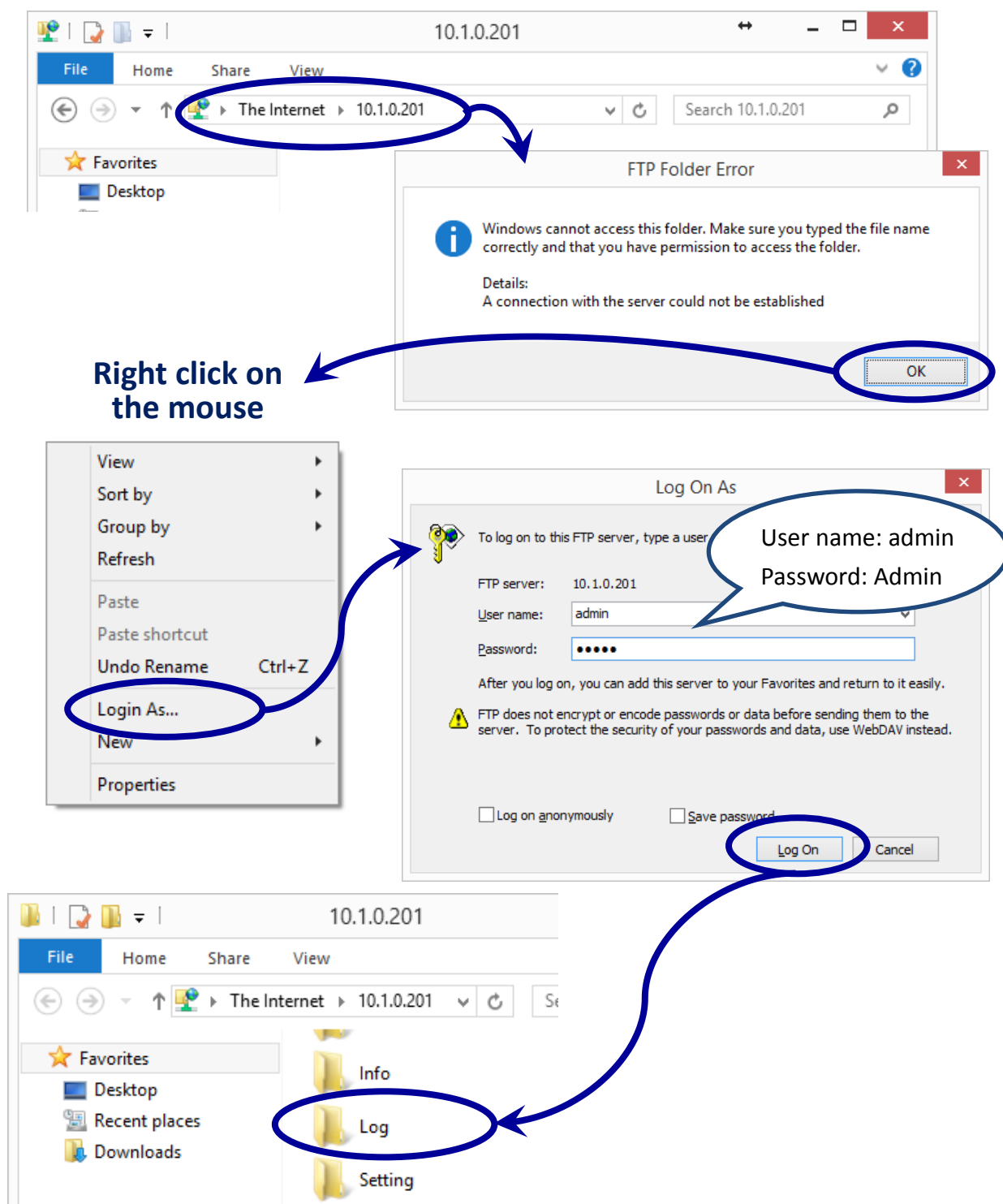
All operations of PMC-5151 are performed on Web Browser, it uses a lot of Java Script syntax, therefore, whether the operations of PMC-5151 can be performed smoothly or not will depend on the effectiveness of Java Script execution on the Web Browser. For some PCs with Windows XP operation only have IE 8.0 Web Browser installed and unfortunately the IE 8.0 Web Browser is with low effectiveness, in this case, the operations on the webpage of PMC-5151 may get stuck, especially when performing historical chart inquiry.

By using IE 11, Google Chrome or Firefox, the operation of PMC-5151 functions can be performed smoothly. In general condition, it takes approximately **10 seconds** to query a historical chart with one-day data log information.

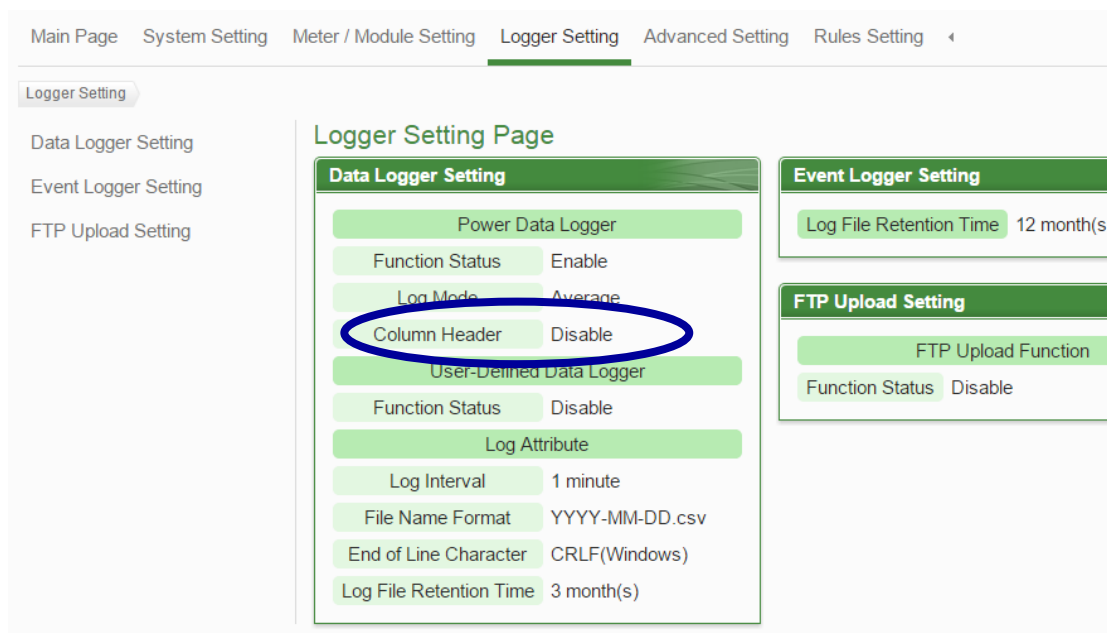


Trick: Login via FTP to access data logger file saved on the microSD card

In general condition, if the web browser operates smoothly, the user can open the historical chart to view the data of a specified date directly. The user can also login PMC-5151 via FTP to access the data logger file in the microSD card. The architecture of the data logger file in the microSD card is saved as: one power meter uses one folder; and for each day, there is one data logger file (yyyy-mm-dd.csv) and one daily report file (Yyyy-mm-ddRpt.csv) being saved. The procedure is as follows:



There are two formats of the data logger file, with a header (Column Header) or without a header.



Without Column Header



	A	B	C	D	E	F	G	H	I	J
1	2015/8/11	15:15:00	015B9526170000C7_2[3133]1	213.274	4.448	0.341	0.273	0.44	0.799	0.699
2	2015/8/11	15:20:00	015B9526170000C7_2[3133]1	213.179	5.295	0.378	0.345	0.519	0.699	0.699
3	2015/8/11	15:25:00	015B9526170000C7_2[3133]1	213.058	5.991	0.448	0.448	0.638	0.682	0.682
4	2015/8/11	15:30:00	015B9526170000C7_2[3133]1	212.995	5.989	0.247	0.378	0.452	0.54	0.54

With Column Header



	A	B	C	D	E	F	G	H	I	J
1	Date	Time	Meter UID	V_a	I_a	kW_a	kvar_a	kVA_a	PF_a	kWh
2	2015/8/11	15:15:00	015B9526170000C7_2[3133]1	213.274	4.448	0.341	0.273	0.44	0.799	0.699
3	2015/8/11	15:20:00	015B9526170000C7_2[3133]1	213.179	5.295	0.378	0.345	0.519	0.699	0.699
4	2015/8/11	15:25:00	015B9526170000C7_2[3133]1	213.058	5.991	0.448	0.448	0.638	0.682	0.682

After modifying the setting of [Header], the new setting will not take effect and will not apply to new data logger file until next day when a new data logger file is created. To make the setting take effect immediately, the user can delete the already existed logger file of that day; then the new header setting will be applied right away to the new generated data logger file.

Note: the deleted data file will be lost forever!

Appendix: Document Revision History

Version	Date	Description
1.0.0	2015,Nov	Initial release.