

PMD-2201 Brief User Guide

[Version 3.4.3]



泓格科技
ICP DAS CO., LTD.

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Table of Contents

1	Introduction	1
2	Before Installation	2
2.1	Verify the Status of ICP DAS Power Meter	2
2.2	Network Settings.....	4
2.2.1	Network setting by Local Side Display Interface	4
2.2.2	Network Setting by Remote Side Web page Interface	6
3	Basic Setting.....	8
3.1	Scan ICP DAS Power Meter by Local Side Display Interface	8
3.2	Scan ICP DAS Power Meter by Remote Side Web page Interface.....	13
4	Advanced Setting	17
4.1	Enable Data Logger from Local Side Screen Interface.....	17
4.2	Enable Data Logger From Web Page Interface.....	19
4.3	Others Setting	20
4.3.1	Scan and add ICP DAS Power Meter	22
4.3.2	Scan and add ICP DAS M-7000 I/O Module	22
4.3.3	Schedule Setting (From Webpage side)	27
4.3.4	Email Setting (From Webpage side)	28
4.3.5	IF-THEN-ELSE Rule Setting (From Webpage side).....	30

1 Introduction

This document is intended to guide users to quickly implement settings of PMD-2201.

This document can be divided into three parts from basic to advanced settings:

a. Before Installation

- Complete the setting of the power meters that are connected to the PMD-2201.
- Network Setting.

b. Basic Settings

- Scan and add the connected power meters.
- Quickly build up a power monitoring system.

c. Advanced Settings

- Enable the Data Logger function.
- Settings for advanced functions of PMD-2201.

This document will give quick guides for basic power meter connection settings and advanced function settings.

Please Note:

1. PMD-2201 provides COM1 (RS-485) and COM2 (RS-485) interfaces for connections to ICP DAS Modbus RTU power meters, and PMD-2201 also provides LAN interface for connections to ICP DAS Modbus TCP power meters.
2. A single PMD-2201 allows connections to at most 24 ICP DAS Modbus TCP/RTU power meters (with maximum 16 Modbus TCP Power Meters), and 8 Modbus I/O modules.
 - ◆ Each RS-485 interface (with Modbus RTU Master) can connect to Max. 16 power meters.
 - ◆ Support at most 4 ICP DAS PM-4324 series Power Meters.

2 Before Installation

2.1 Verify the Status of ICP DAS Power Meter

Before starting the setting of PMD-2201, user can use the Power Meter Utility that PMD-2201 provides to perform the parameter setting of the power meters that are connected to the PMD-2201. During the operation of the PMD-2201, if user finds the power meter is in abnormal status, user can also use the Power Meter Utility to verify the status of the power meter, and change the parameter of the power meter to let the power meter can work in normal status.

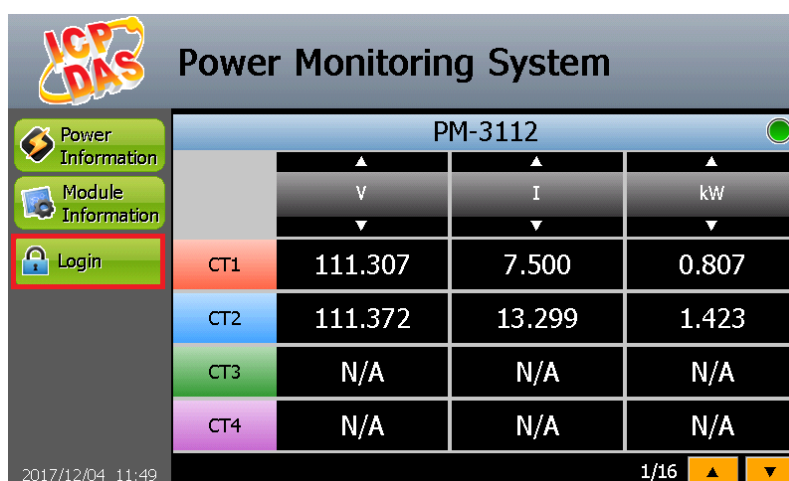
Please Note:

The Power Meter Utility enables to retrieve and display the power measurement values that measured by power meter, and also perform the parameter settings of the power meters. Before using Power Meter Utility, please make sure following items.

- Modbus RTU Power Meter : Please finish the hardware installation of the ICP DAS power meters, and make sure the RS-485 wiring connection between power meters and PMD-2201 is accurate.
- Modbus TCP Power Meter : Please finish the hardware installation of the ICP DAS power meters, and make sure the Ethernet connection between power meter and PMD-2201 is accurate. The PMD-2201 and power meter must be in the same Domain.

The setting steps to enable the Power Meter Utility of PMD-2201 are as below:

- (1) Click “Login” button. The Login page of PMD-2201 will be shown as below.



Power Monitoring System			
PM-3112			
	V	I	kW
CT1	111.307	7.500	0.807
CT2	111.372	13.299	1.423
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A

Please login PMD-2201 as the Administrator (Default password: Admin), then you will have the authority to perform the settings of system, power meter, I/O modules and tools.



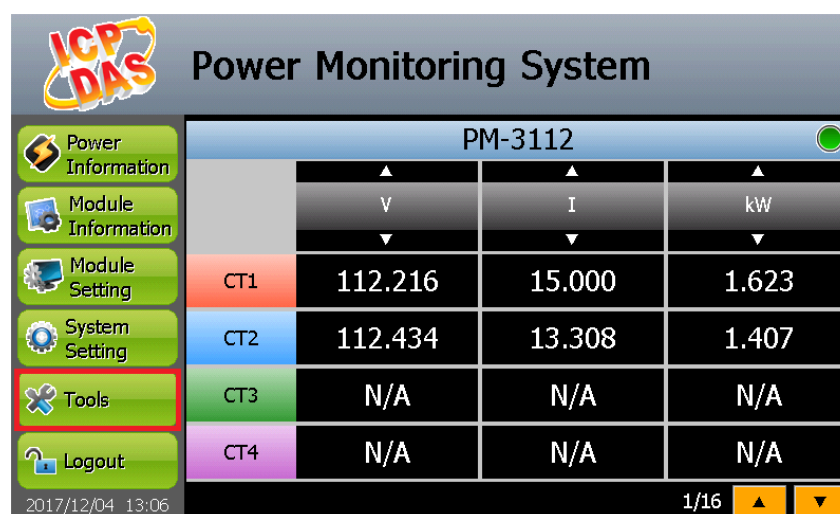
Administration Login

Please enter the administrator password to continue...

Password:

Login Cancel

- (2) Click on “Tools” to launch the Tools dialog Box.



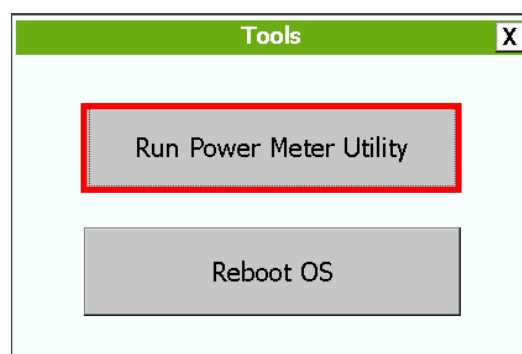
ICP DAS Power Monitoring System

PM-3112

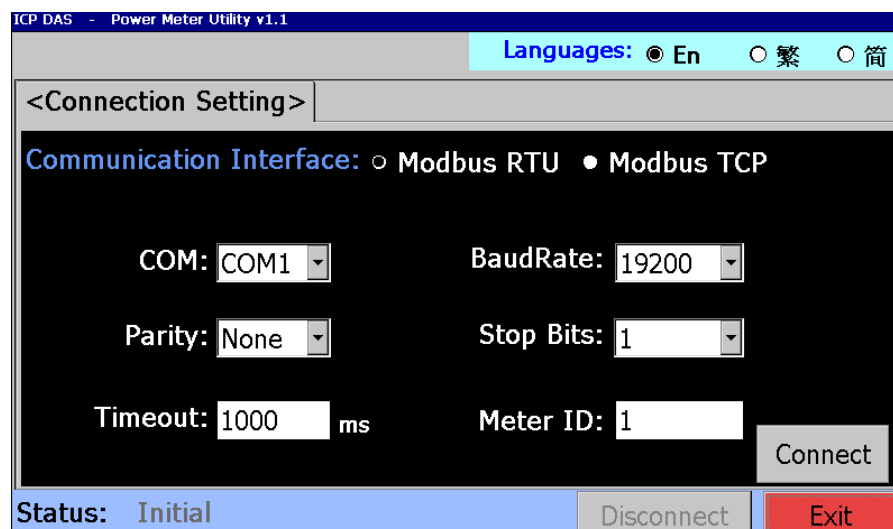
	V	I	kW
CT1	112.216	15.000	1.623
CT2	112.434	13.308	1.407
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A

2017/12/04 13:06 1/16

- (3) Click on “Run Power Meter Utility” to enable Power Meter Utility.



- (4) The Power Meter Utility will be launched as below.



- (5) Please refer to “Power Meter Utility User’s Manual” for the operation interface and setting steps of the parameters setting of ICP DAS power meter. User can download the document from the following link.

<http://ftp.icpdas.com/pub/cd/powermeter/pm-4324/utility/>

2.2 Network Settings

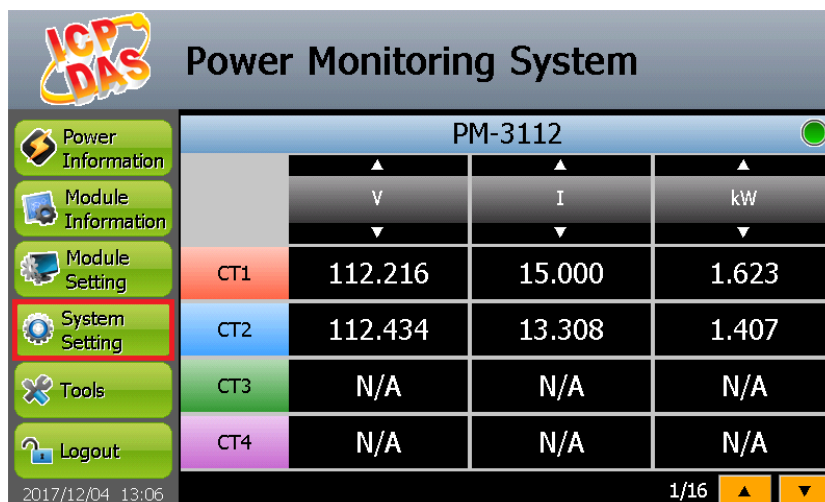
The default network setting of PMD-2201’s LAN1 is as follow:

- **IP** : 192.168.255.1
- **Subnet mask** : 255.255.0.0
- **Gateway** : 192.168.0.1

The user can modify the Network setting of PMD-2201 by two interfaces (**local side display interface and remote side Web page interface**). The Network setting steps of PMD-2201 are as below:

2.2.1 Network setting by Local Side Display Interface

- (1) Login PMD-2201 as the Administrator. Click the “System Setting” button.



ICP DAS Power Monitoring System

PM-3112

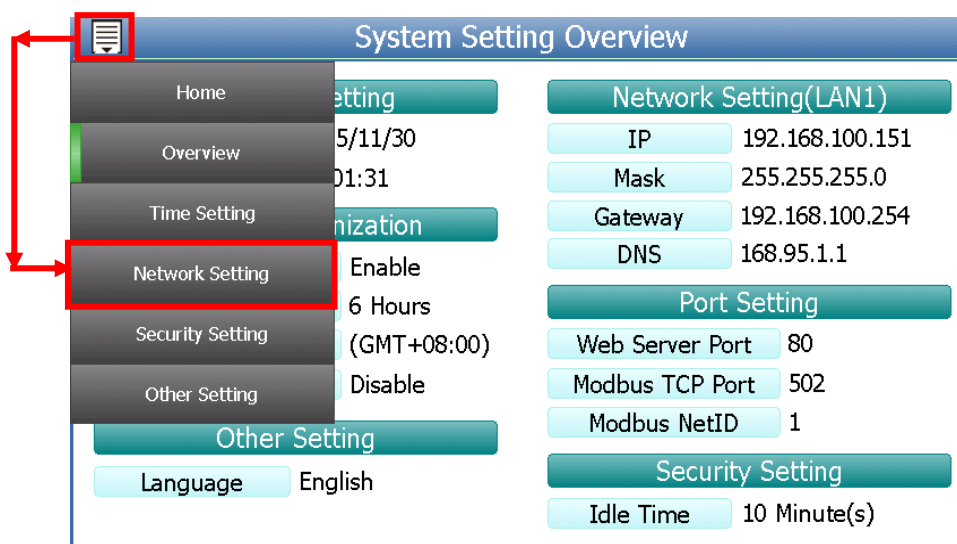
	V	I	kW
CT1	112.216	15.000	1.623
CT2	112.434	13.308	1.407
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A

2017/12/04 13:06 1/16

Sidebar Menu:

- Power Information
- Module Information
- Module Setting
- System Setting**
- Tools
- Logout

(2) Click the “Network Setting” on the “System Setting” menu.



System Setting Overview

Home | Overview | Time Setting | **Network Setting** | Security Setting | Other Setting

Language: English

Network Setting(LAN1)

IP: 192.168.100.151
Mask: 255.255.255.0
Gateway: 192.168.100.254
DNS: 168.95.1.1

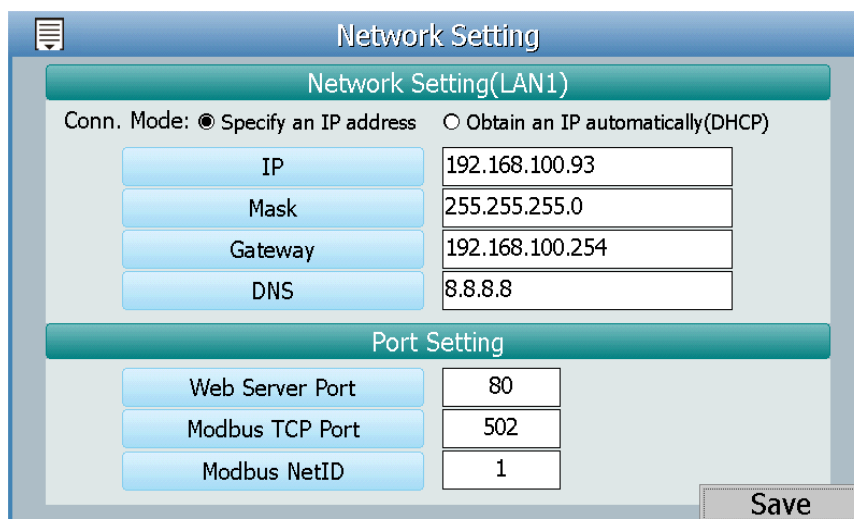
Port Setting

Web Server Port: 80
Modbus TCP Port: 502
Modbus NetID: 1

Security Setting

Idle Time: 10 Minute(s)

(3) Modify the PMD-2201 network setting to fit current network environment.



Network Setting

Network Setting(LAN1)

Conn. Mode: ☒ Specify an IP address ☐ Obtain an IP automatically(DHCP)

IP: 192.168.100.93
Mask: 255.255.255.0
Gateway: 192.168.100.254
DNS: 8.8.8.8

Port Setting

Web Server Port: 80
Modbus TCP Port: 502
Modbus NetID: 1

Save

- (4) Clicking on the “Save” button to save the setting.

Now you can use the Browser to connect to the PMD-2201’s IP address to open the Webpage of PMD-2201. If Browser cannot open the webpage of PMD-2201, please verify the Network status between PC and PMD-2201.

2.2.2 Network Setting by Remote Side Web page Interface

- (1) Modify the network settings of the PC or Notebook to be the same network domain as PMD-2201. For example:
 - IP : 192.168.255.10
 - Subnet mask : 255.255.0.0
 - Gateway : 192.168.0.1
- (2) Connect PMD-2201 LAN1 to PC by network cable (there is no need for crossover cables).
- (3) Start the browser and input <http://192.168.255.1> in the address bar.
- (4) Input default administrator password “Admin” to login into the Web page.
- (5) After login into the page, go to “System Setting”→”Network Setting” and modify the LAN1 network setting to fit current network environment.

The screenshot displays the web interface for the PMD-2201 device. The top navigation bar includes 'Main Page', 'System Setting' (highlighted with a red box), 'Meter / Module Setting', 'Logger Setting', 'Advanced Setting', and 'Rules Setting'. The left sidebar contains 'System Setting' and 'Network Setting' (highlighted with a red box). The main content area is titled 'Network Setting(LAN1)' and contains the following settings:

IP	192	168	100	151
Mask	255	255	255	0
Gateway	192	168	100	254
DNS	168	95	1	1

Below the network settings is a 'Port Setting' section:

Web Server Port	80
Modbus TCP Port	502
Modbus NetID	1

Both the 'Network Setting' and 'Port Setting' sections have a 'Save' button at the bottom.

- (6) After clicking on “Save” button, for the network domain of the

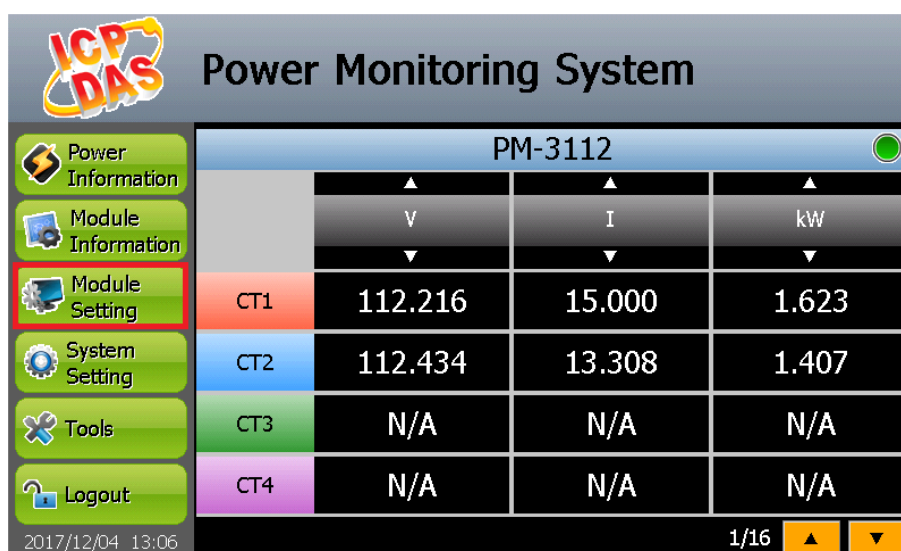
PMD-2201 and PC are different, it is normal being not able to connect to the webpage, please connect PMD-2201 and PC to the actual network environment and then modify the network settings of PC to correct settings to connect to the PMD-2201.

3 Basic Setting

PMD-2201 provides two interfaces (**local side display interface and remote side Web page interface**) for users to scan the ICP DAS power meters that are connected to the PMD-2201. Users can also complete the setting of ICP DAS power meters by the two interfaces. The detailed setting steps are as below:

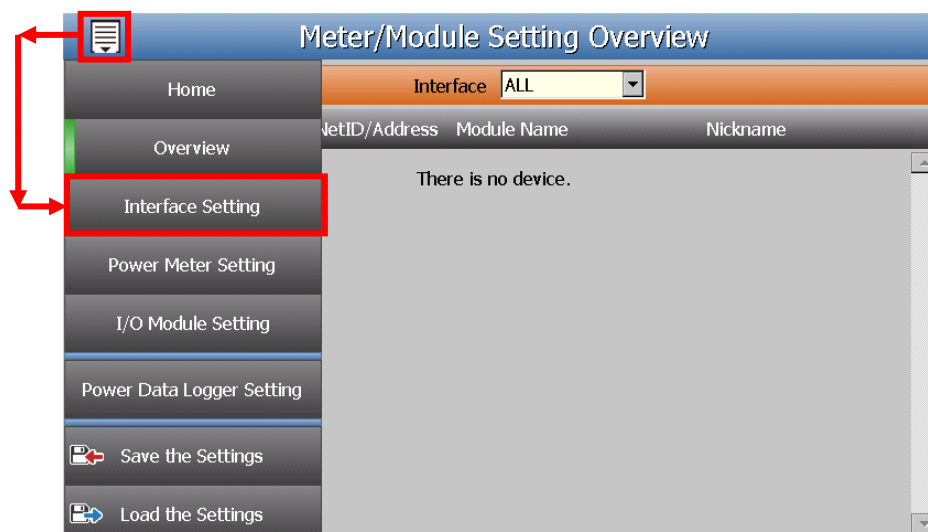
3.1 Scan ICP DAS Power Meter by Local Side Display Interface

- (1) Please refer “Chapter 2 Before Installation” to complete the parameter settings of the ICP DAS power meters, verify the hardware installation of the power meters, and make sure the RS-485/Ethernet wiring connection between power meters and PMD-2201 is accurate.
- (2) Login PMD-2201 as the Administrator. Click the “Module Setting”.

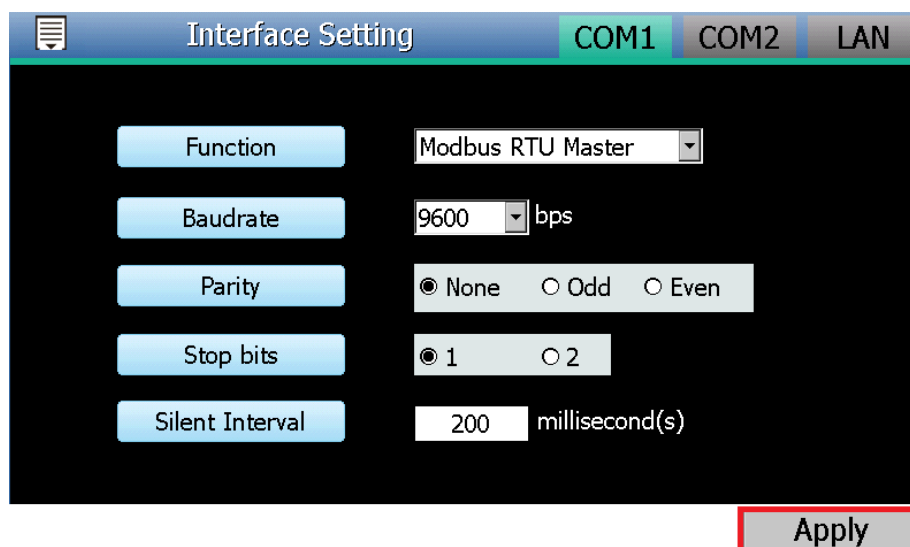


PM-3112			
	V	I	kW
CT1	112.216	15.000	1.623
CT2	112.434	13.308	1.407
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A

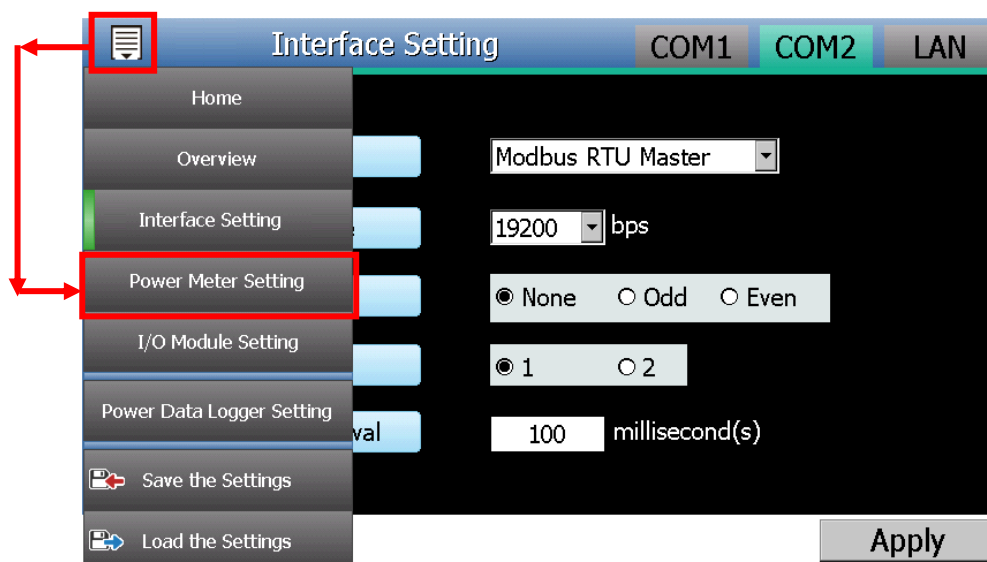
- (3) Click the “Interface Setting” on the “Module Setting” menu.




- (4) Modify and make sure the settings of the parameters (Baudrate / Parity / Stop bits) of the COM Port that are connected to the power meter are accurate. After all settings are completed, click “Apply” to save the changes.

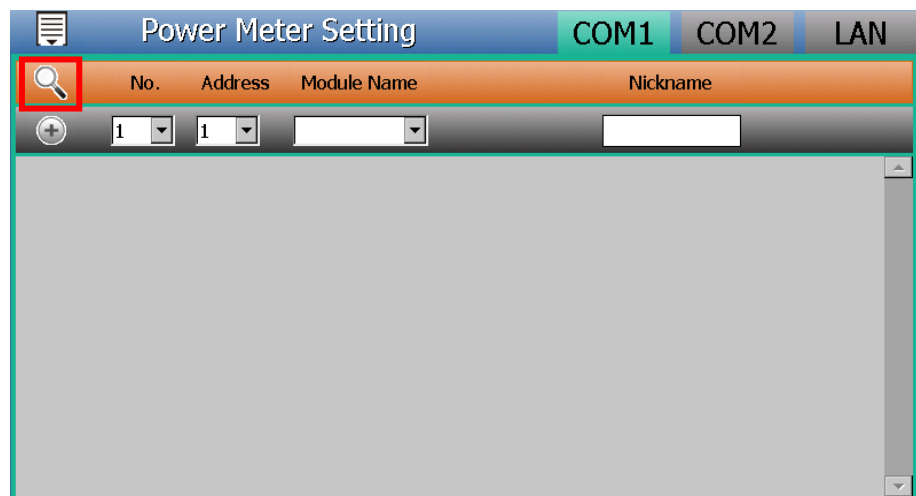


- (5) Click the “Power Meter Setting” on the “Module Setting” menu, and then follow the steps below to scan or add power meters.

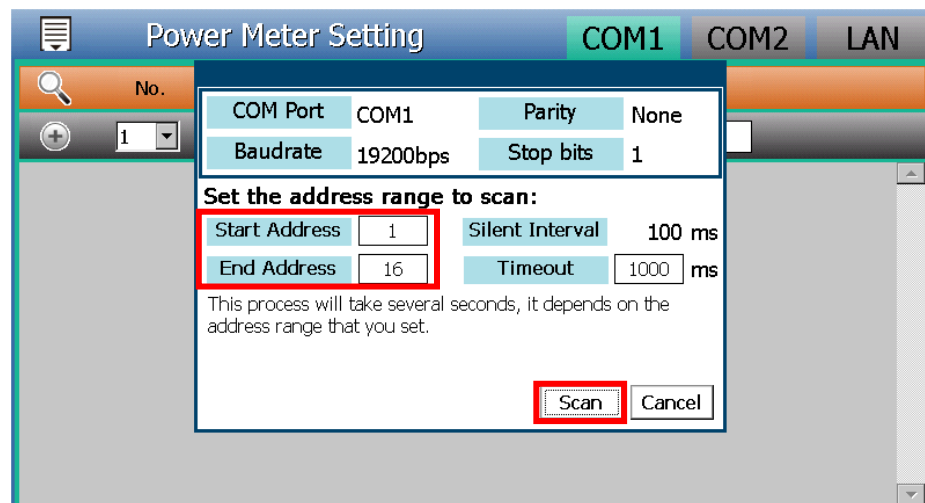


- (6) Scan ICP DAS Modbus RTU Power Meters :
- Select the COM Port interface that is used to connect the power meters from the right-top corner (**assuming the power meters are connected to the COM1**). Click  icon to scan the Modbus RTU

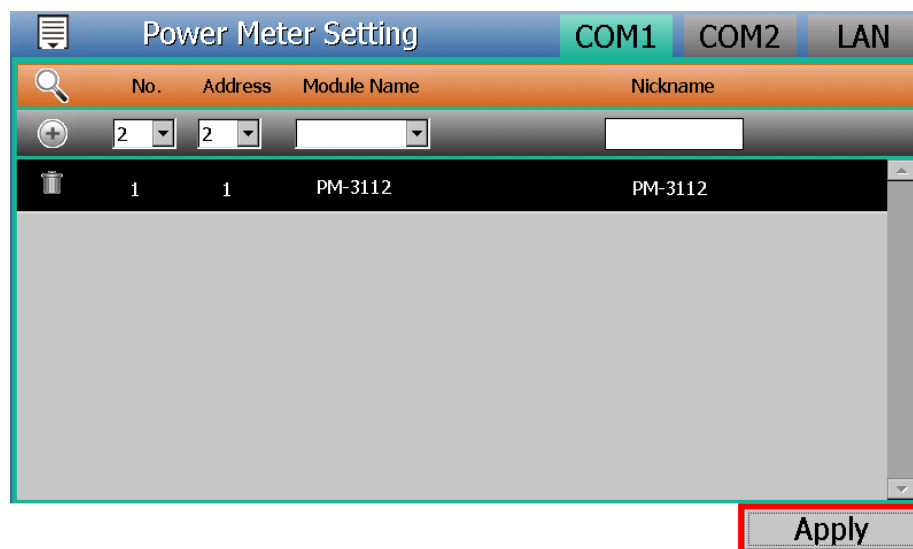
power meters that are connected to the PMD-2201.



- b. When the Scan page appears, input the starting address and the ending address of the Modbus address that are going to perform scan. Click on “Scan”, the system will start to scan the power meters that match the settings previously set.



- c. After the Scan operation is completed, a Modbus RTU power meter list will appear. After all settings are completed, click “Apply” button to save the changes.



Please Note :


If the Scan process is failed, please verify following item again.

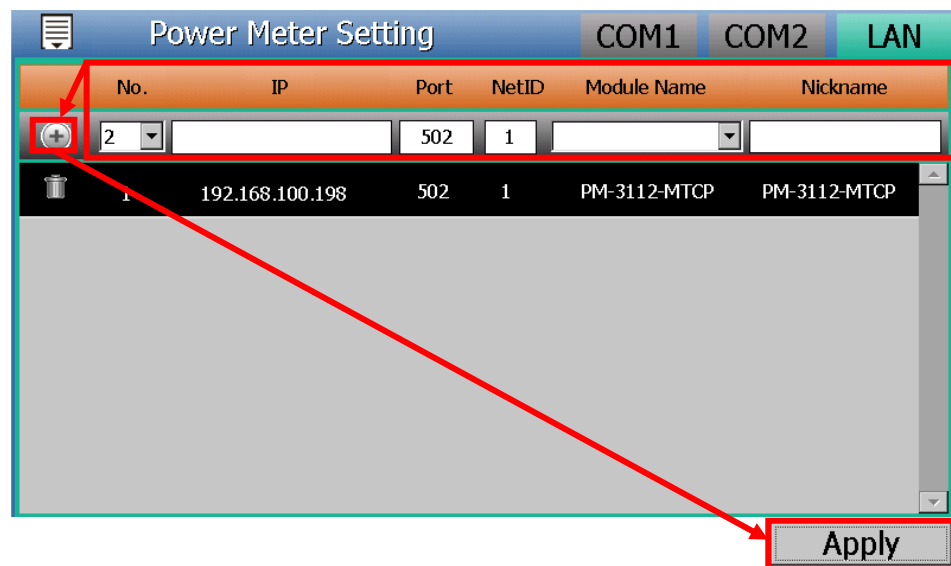
- The RS-485 wiring connection between power meters and PMD-2201.
- The parameter settings of the power meters.
- The parameter settings of the Com Port of PMD-2201.

If there is any parameter modification, please remember to click “Apply” button, to save the change and start the Scan process again.

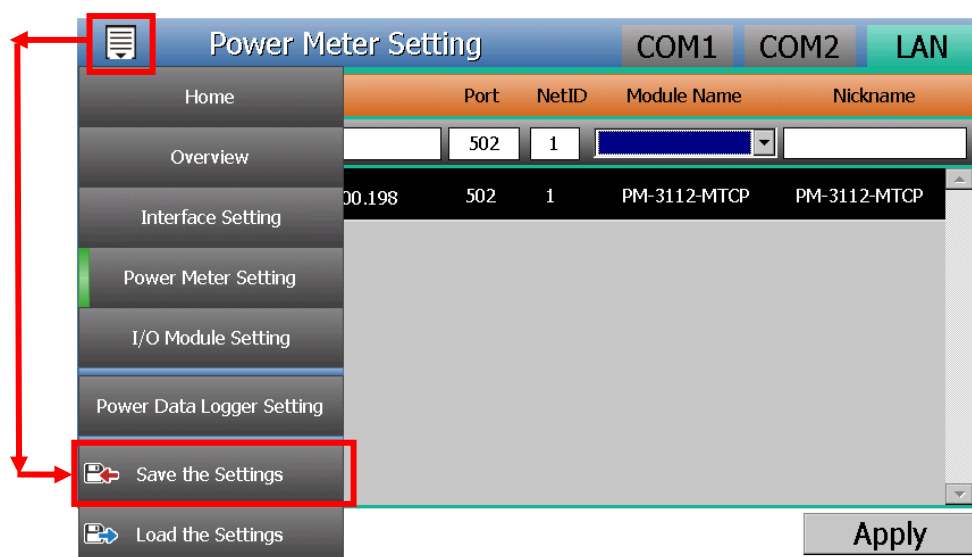
(7) Add ICP DAS Modbus TCP Power Meter manually.

PMD-2201 allows connection to ICP DAS Modbus TCP power meters via Ethernet. The user could select the “LAN” interface on the right-top corner first, set up the settings (No, IP, Port and NetID, Power Meter type, Nickname) of the Modbus TCP power meters appropriately as

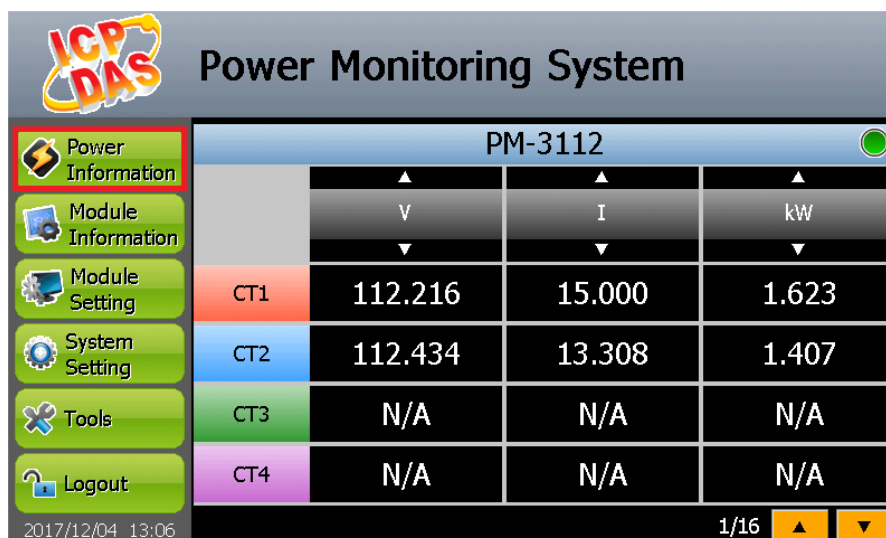
required, then click  button to add the Modbus TCP power meter to the list manually. After complete the setting, please click “Apply” button to save the changes



- (8) After complete the setting of Modbus RTU/TCP power meter, please click the “Save the Settings” on the “Module Setting” menu, and then the new setting will take effect.



- (9) Now user can click the “Power Information” to view the Power information of the power meters that are connected to the PMD-2201.



The screenshot shows the ICP DAS Power Monitoring System web interface. On the left is a sidebar menu with options: Power Information (highlighted with a red box), Module Information, Module Setting, System Setting, Tools, and Logout. The main area displays data for PM-3112. It includes a table with columns for CT (CT1, CT2, CT3, CT4) and rows for V, I, and kW. The status bar at the bottom shows the date/time 2017/12/04 13:06 and a page indicator 1/16 with navigation arrows.

PM-3112			
	V	I	kW
CT1	112.216	15.000	1.623
CT2	112.434	13.308	1.407
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A



The screenshot shows the Real time Information interface. At the top, there's a 'Power Meter List' dropdown menu set to 'PM-3112'. Below it is a table with columns: No., Interface, NetID/Address, Module Name, PT Ratio1, and CT Ratio1. The first row shows data for No. 1, Interface COM1, NetID/Address 1, Module Name PM-3112, PT Ratio1 1.00, and CT Ratio1 1.00. Below this is another table with columns for CT (CT1, CT2, CT3, CT4) and rows for V, I, kW, and kvar. The status bar at the bottom shows the date/time 2017/12/04 13:06 and a page indicator 1/16 with navigation arrows.

No.	Interface	NetID/Address	Module Name	PT Ratio1	CT Ratio1
1	COM1	1	PM-3112	1.00	1.00

	V	I	kW	kvar
CT1	106.165	0.487	0.032	0.041
CT2	106.183	0.491	0.032	0.041
CT3	N/A	N/A	N/A	N/A
CT4	N/A	N/A	N/A	N/A

3.2 Scan ICP DAS Power Meter by Remote Side Web page Interface

- (1) Please complete the RS-485 wiring connections of the power meters first and then login into the PMD-2201 web page as Administrator, select “System Setting”→”I/O Interface Setting”; make sure the settings of the parameters (Baudrate/Parity/Stop bits) of the COM Port that are connected to the power meter are accurate. After all settings are completed, click “Save” button to save the changes.

(2) Select “Meter / Module Setting”→“Power Meter Setting”, and then follow the steps below to scan or add power meters.

(3) Scan ICP DAS Modbus RTU Power Meters:

a. Scan the power meters on the interface of the COM Port (**assuming the power meters are connected to the COM1**).

b. After the scanning is completed, the power meters connected to the COM Port interface will be displayed, click “Save” to complete the settings of the power meter list.

Power Meter List (Modbus RTU) COM1 COM2 LAN

No.	Address	*Power Meter	Nickname
2	2		
1	1	ICP DAS PM-3112	PM-3112

Setting Move Up Move Down Copy Remove

Save

Please note: if failed to scan the power meters, please make sure the RS-485 cable is properly connected. And then go to Step 1: “System Setting”→”I/O Interface Setting” to make sure the settings of the COM Port that are connected to the power meter are accurate. After all settings are completed, click “Save” button to save the changes and repeat Step3.a to perform scanning of the power meters again.

(4) Add ICP DAS Modbus TCP Power Meter manually

If there is power meter connected via network, please select LAN to set up the settings (No, IP, Port, NetID, and Nickname) of the Modbus TCP Power Meter. After all settings are completed, click “+” to add the Modbus TCP Power Meter to the list and then click “Save” to save the settings.

Main Page System Setting Meter / Module Setting Logger Setting Advanced Setting Rules Setting

Meter / Module Setting Power Meter Setting

Power Meter List (Modbus TCP) COM1 COM2 LAN

No.	*IP	Port	NetID	*Power Meter	Nickname
1	192.168.100.198	502	1	ICP DAS PM-3112	Ethernet Power Meter

No power meter exists, press this button to create one.

Save

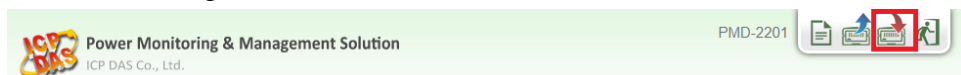
Power Meter List (Modbus TCP) COM1 COM2 LAN

No.	*IP	Port	NetID	*Power Meter	Nickname
2		502	1	Search	
1	192.168.100.198	502	1	ICP DAS PM-3112-MTCP	Ethernet Power Meter

Setting Move Up Move Down Copy Remove

Save

- (5) Save the settings to the PMD-2201.



- (6) After saving the settings to the PMD-2201, the settings of the connections to the power meters are completed. After the system is initialized, the power information of the connected power meters will be displayed on the home page.

Power Data Overview

Power Data Classification

Data Classification1	Data Classification2	Data Classification3
V	I	kW

Power Meters

PM-3114 Connection status ●

Loop	V	I	kW
Loop 1	105.592	0.495	0.000
Loop 2	105.592	0.000	0.000
Loop 3	105.607	0.000	0.000
Loop 4	105.607	0.000	0.000

Detailed information

PM-2133 Connection status ●

Loop	V	I	kW
Phase A	0.000	0.000	0.000
Phase B	0.000	0.000	0.000
Phase C	0.000	0.000	0.000
Total / A...	0.000	0.000	0.000

Detailed information

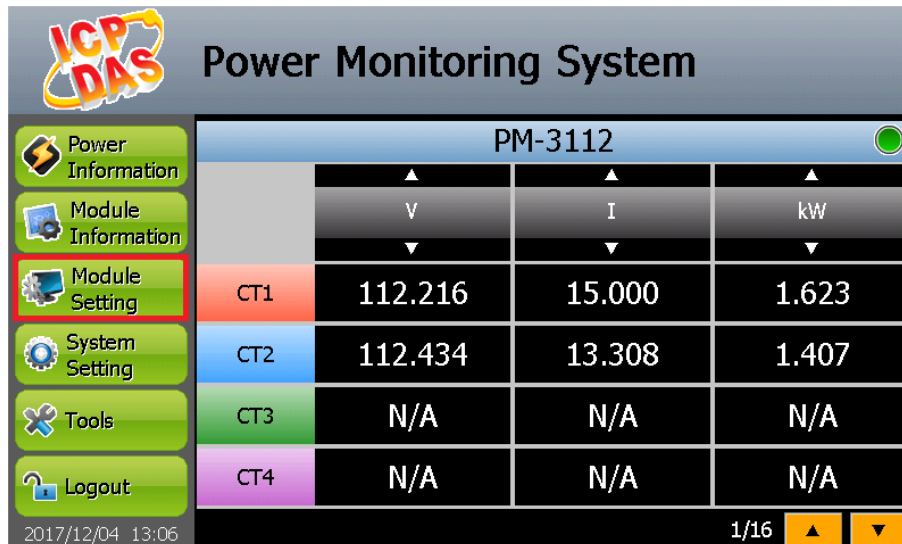
Refresh

4 Advanced Setting

4.1 Enable Data Logger from Local Side Screen Interface

User can enable the Power Data Logger function from the local side screen interface of PMD-2201. The detailed setting steps are as below:

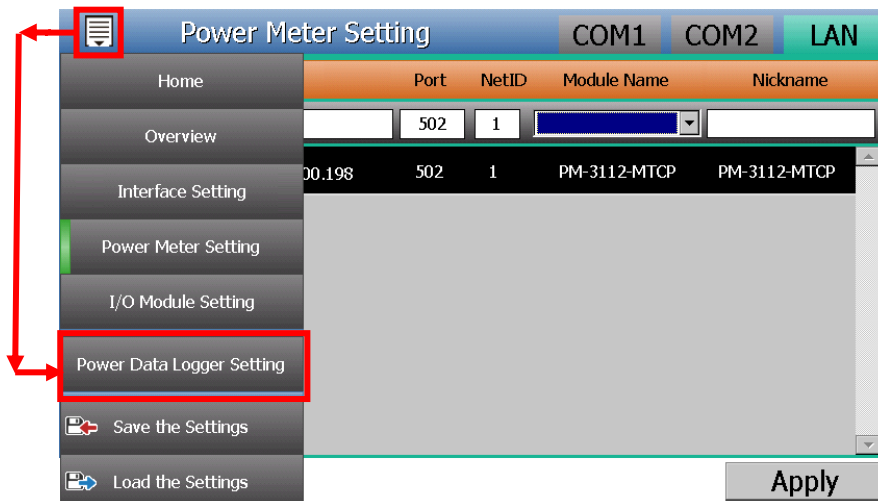
(1) Login PMD-2201 as the Administrator. Click the “Module Setting”.



The screenshot shows the 'Power Monitoring System' interface. On the left is a sidebar menu with options: Power Information, Module Information, Module Setting (highlighted with a red box), System Setting, Tools, and Logout. The main area displays a table for 'PM-3112' with columns for Voltage (V), Current (I), and Power (kW). The table has four rows for CT1, CT2, CT3, and CT4. CT1 and CT2 show numerical values, while CT3 and CT4 show 'N/A'. The bottom status bar shows the date '2017/12/04 13:06' and a page indicator '1/16' with navigation arrows.

PM-3112			
	V	I	kW
CT1	112.216	15.000	1.623
CT2	112.434	13.308	1.407
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A

(2) Click the “Power Data Logger Setting” on the “Module Setting” menu.



The screenshot shows the 'Power Meter Setting' interface. On the left is a sidebar menu with options: Home, Overview, Interface Setting, Power Meter Setting, I/O Module Setting, Power Data Logger Setting (highlighted with a red box), Save the Settings, and Load the Settings. The main area displays a table with columns: Port, NetID, Module Name, and Nickname. The table has one row with values: 502, 1, PM-3112-MTCP, and PM-3112-MTCP. The bottom status bar shows an 'Apply' button.

Port	NetID	Module Name	Nickname
502	1	PM-3112-MTCP	PM-3112-MTCP

- (3) Check “Enable Power Data Logger/Log Attribute Setting” to enable the Power Data Logger function. Modify and make sure the settings of the parameters. After all settings are completed, click “Apply” to save the changes.

The screenshot shows the 'Power Data Logger Setting' dialog box with the 'Logger Setting' tab selected. The 'Enable Power Data Logger / Log Attribute Setting' checkbox is checked. The settings are as follows:

Parameter	Value
Log Mode	Average
Column Header	<input type="checkbox"/> Add
Log Interval	5 minutes
File Name Format	YYYY-MM-DD.csv
End of Line Character	CRLF(Windows)
Log File Retention Time	3 month(s)

An 'Apply' button is highlighted with a red box at the bottom right.

- (4) If the user would like to send the power data file to the FTP server of the control center, please click the “FTP Setting” at the right-top corner of the page to enter the “FTP Setting” page.

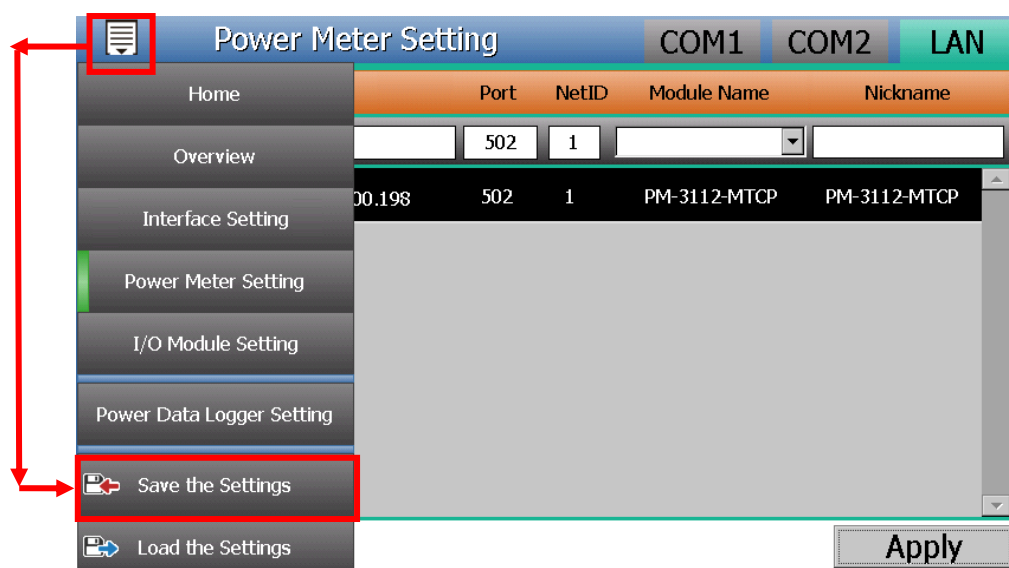
Check “Enable Data Log Upload Function” to enable the FTP Upload function. Modify and make sure the settings of the parameters. After all settings are completed, click “Apply” to save the changes.

The screenshot shows the 'Power Data Logger Setting' dialog box with the 'FTP Setting' tab selected. The 'Enable Data Log Upload Function' checkbox is checked. The settings are as follows:

Parameter	Value
Address	ftp://
Port	
ID	
Password	
Path	
Remote FTP Server Setting Test	<input type="button" value="Send"/>
Data Log Upload Frequency	Every 1 hour

An 'Apply' button is highlighted with a red box at the bottom right.

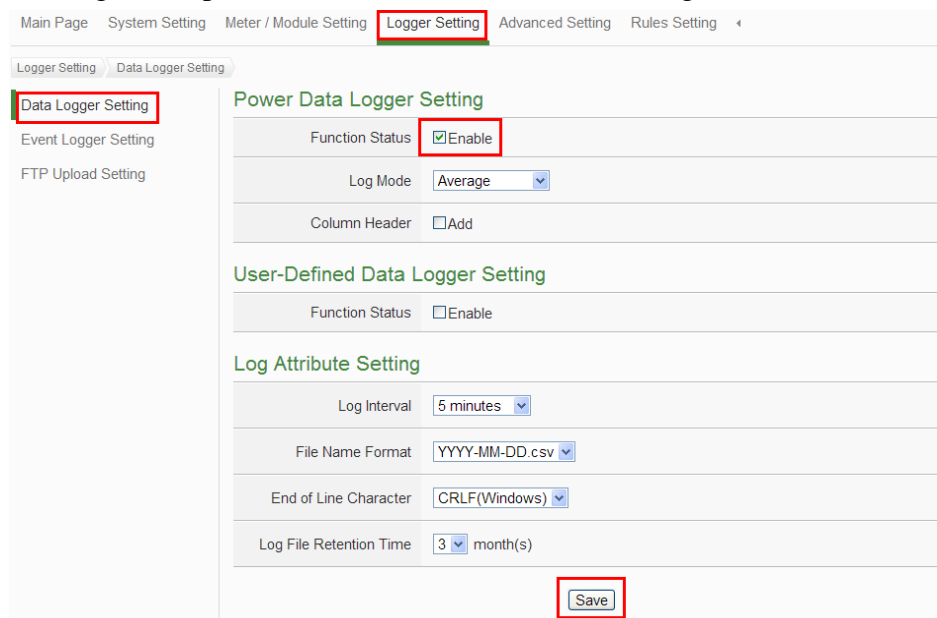
- (5) Save the settings to PMD-2201, and then the Power Data Logger function will be enabled. The system will start to save the power data in the MicroSD card.



4.2 Enable Data Logger From Web Page Interface

User also can enable the power data Logger function from the Web page interface. The detailed setting steps are as below:

- (1) Login into the PMD-2201 as administrator and select “Logger Setting”→ “Data Logger Setting”→ “Enable” Function Status, after the setting is completed, click “Save” to save the settings.



- (2) If the user would like to send the power data file to the FTP server of the control center, please click “Enable” and complete settings on the “FTP Upload Setting” Page. After all settings are completed, click “Save” button to save the changes.

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

Logger Setting FTP Upload Setting

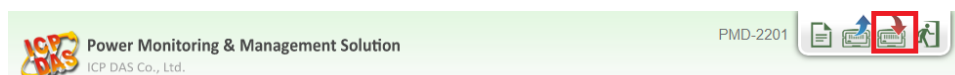
Data Logger Setting
Event Logger Setting
FTP Upload Setting

FTP Upload Setting Page

Function Status	<input checked="" type="checkbox"/> Enable
Remote FTP Server	*Address ftp://192.168.100.123
	Port 21
	*ID Admin
	Password *****
Data Log Upload Function	<input checked="" type="checkbox"/> Upload Power Data Log
	<input type="checkbox"/> Upload User-Defined Data Log
	Frequency Every 5 minutes
Event Log Upload Function	<input type="checkbox"/> Upload Event Log

Save

- (3) Save the settings to PMD-2201, and then the Data Logger function will be enabled. The system will start to save the power data in the MicroSD card.



4.3 Others Setting

In addition to collection, statistical analysis, recording and display of the power data, PMD-2201 also provides **I/O module control**, **Email sending** and **Schedule** functions. With the **IF-THEN-ELSE** logic rules function, PMD-2201 offers more thought-out power demand management and monitoring functions.

Please Note : Some advanced functions of PMD-2201 only can be enabled from the Web page interface. They cannot be enabled by the local side display interface of PMD-2201.

The following application is an example that will give more introductions of these functions:

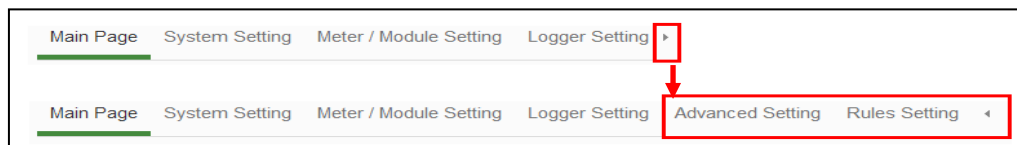
Set up a power monitoring system that will monitor if the electricity usage is unusual during **weekdays ((Monday to Friday / 8.00a.m. to 5:00p.m.))**. If any unusual condition is detected, the system will **send email message** to related personnel and **the DO channel of the Modbus I/O module will be set as “ON” to turn on the warning light**.

The user has to complete the Condition/Action settings of adding I/O

modules, Schedule and Email first, and then these settings can be included in the IF-THEN-ELSE logic settings for editing rules for monitoring, shown as below:

IF	THEN	ELSE
Schedule: Weekdays	Send Email	
Unusual electricity usage	Turn on warning light	Turn off warning light

Please note: The Advanced Setting function is hidden by default, click on the expand button to display the option, shown as below:



4.3.1 Scan and add ICP DAS Power Meter

PMD-2201 provides two interfaces (**local side display interface and remote side Web page interface**) for users to scan and add the ICP DAS power meters that are connected to the PMD-2201. Please refer to **【3. Basic Setting】** for the detailed setting steps.

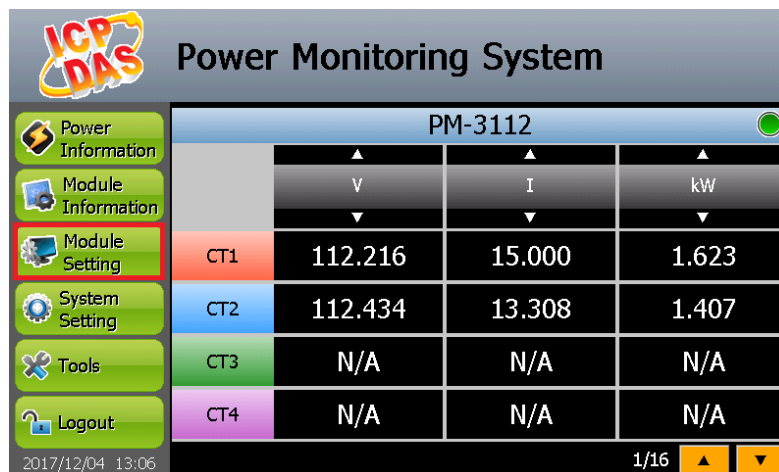
4.3.2 Scan and add ICP DAS M-7000 I/O Module

Description: Set up the "**Modbus I/O modules**" for the application example.

PMD-2201 provides two interfaces (**local side display interface and remote side Web page interface**) for users to scan the ICP DAS M-7000 I/O modules that are connected to the PMD-2201. Users can also complete the setting of ICP DAS M-7000 I/O modules by the two interfaces. The detailed setting steps of PMD-2201 are as below:

● Scan M-7000 I/O modules by Local Side Display Interface

- (1) Please verify the hardware installation of the ICP DAS M-7000 I/O modules, and make sure the RS-485 wiring connection between ICP DAS M-7000 I/O modules and PMD-2201 is accurate.
- (2) Login PMD-2201 as the Administrator. Click the “Module Setting”.

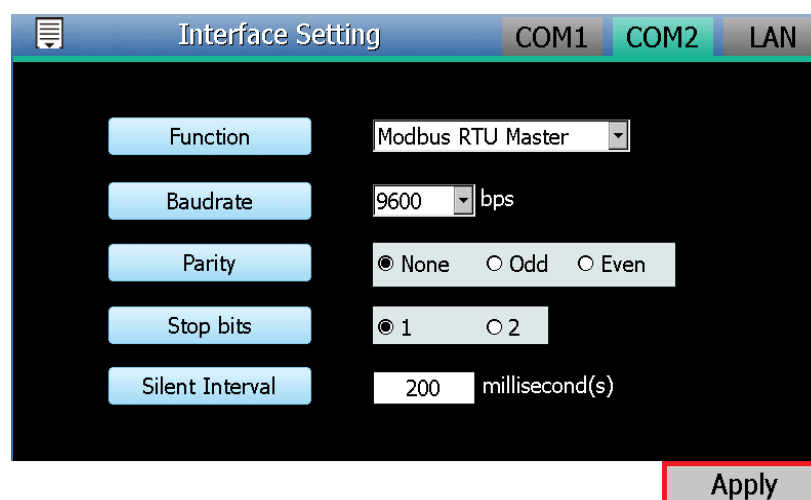
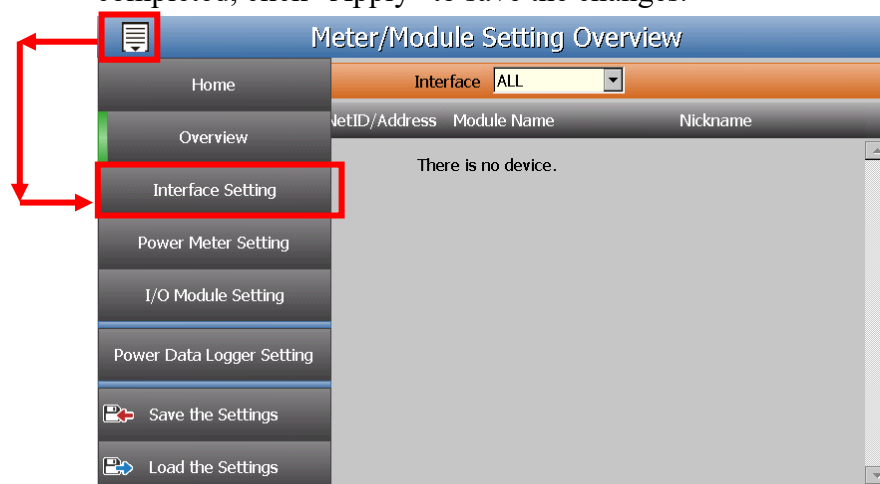


ICP DAS Power Monitoring System			
PM-3112			
	V	I	kW
CT1	112.216	15.000	1.623
CT2	112.434	13.308	1.407
CT3	N/A	N/A	N/A
CT4	N/A	N/A	N/A

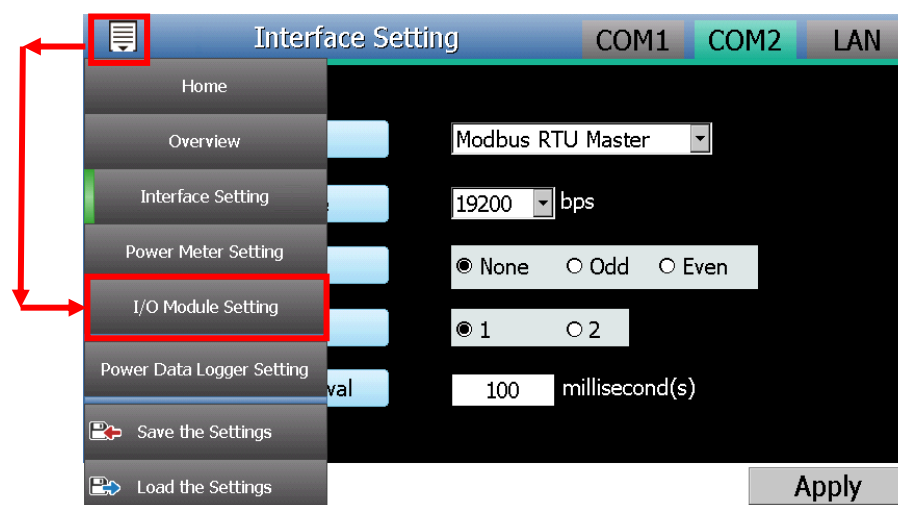
2017/12/04 13:06 1/16

- (3) Click the “Interface Setting” on the “Module Setting” menu. Modify and make sure the settings of the parameters (Baudrate / Parity / Stop bits) of the COM Port that are connected to the M-7000 I/O modules are accurate. After all settings are


completed, click “Apply” to save the changes.

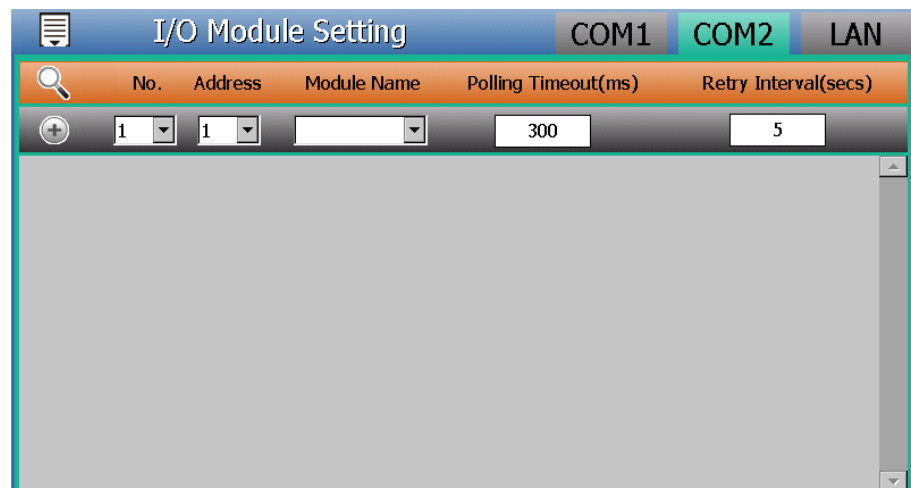


- (4) Click the “I/O Module Setting” on the “Module Setting” menu, and then follow the steps below to scan M-7000 I/O modules.

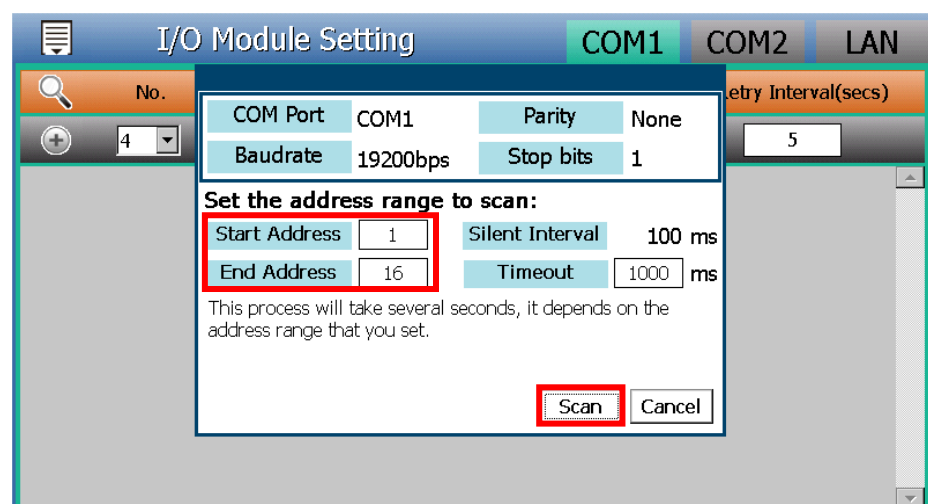


(5) Scan ICP DAS M-7000 I/O module

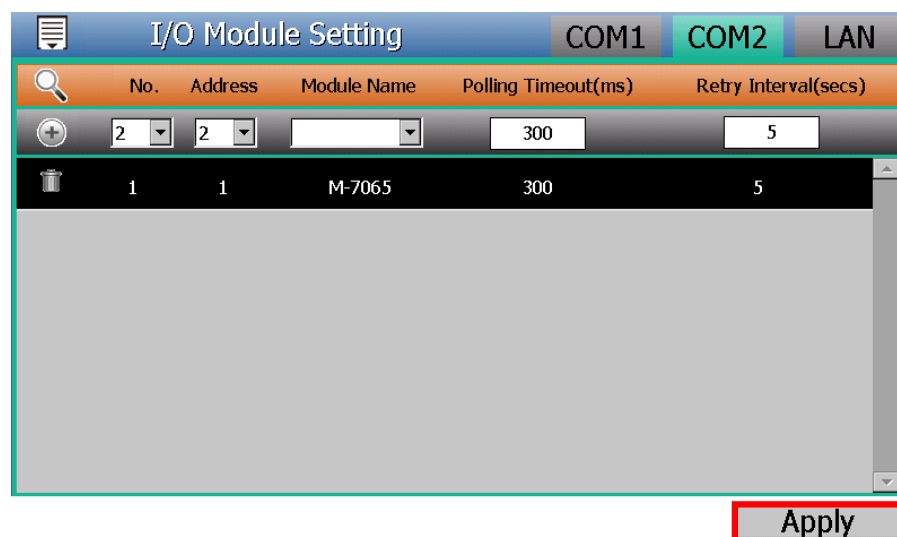
- a. Select the COM Port interface that is used to connect the M-7000 I/O Module from the right-top corner (**assuming the M-7000 I/O modules are connected to the COM2**). Click the  button to scan the ICP DAS M-7000 I/O modules that are connected to the PMD-2201.



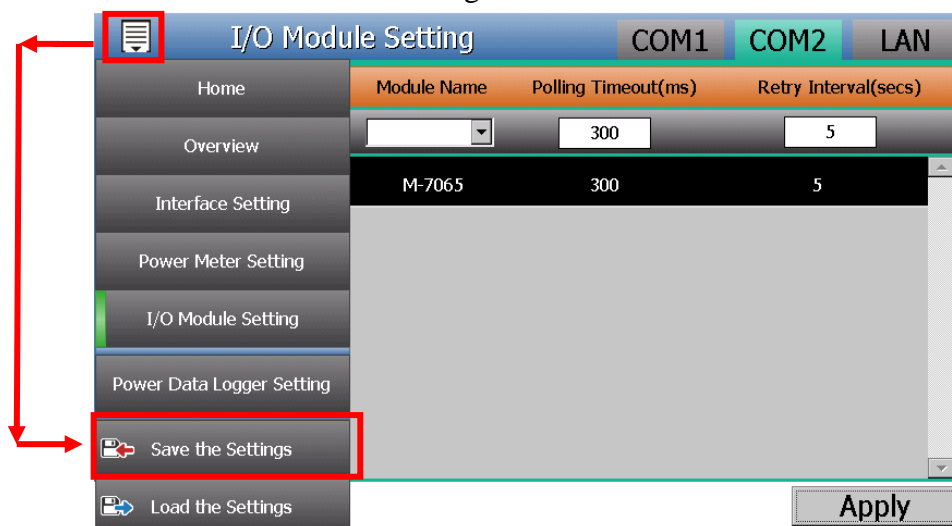
- b. When the Scan page appears, input the starting address and the ending address of the Modbus address that are going to perform scan. Click on “Scan”, the system will start to scan the M-7000 I/O module that match the settings previously set.



- c. After the Scan operation is completed, an M-7000 I/O module list will appear. After all settings are completed, click “Apply” button to save the changes.



- d. Click the “Save the Settings” on the “Module Setting” menu, and then the new setting will take effect.



Please Note :

If the Scan process is failed, please verify the settings of following items again.

- The RS-485 wiring connection between M-7000 I/O modules and PMD-2201.
- The parameter settings of the M-7000 I/O modules.
- The parameter settings of the Com Port of PMD-2201.

If there is any parameter modification, please remember to click Apply button, to save the change and start the scan process again.

● Scan M-7000 I/O modules by Remote Side Web page Interface

- (1) Please complete the RS-485 wiring connections of the ICP DAS M-7000 I/O modules first and then login into the PMD-2201 web page as the Administrator, select “System Setting”→”I/O Interface Setting” to make sure the parameters (Baudrate/Parity/Stop bits) of the COM Port connected are accurate. After all settings are completed, click “Save” button to save the changes.

- (2) Select “Meter / Module Setting”→“I/O Module Setting”, and then follow the steps below to scan or add I/O Modules to the list.

- (3) Scan ICP DAS M-7000 I/O Modules

- a. Scan the I/O modules on the interface of the COM Port that are connected to the M-7000 I/O Modules (**assuming the M-7000 I/O Modules are connected to the COM2**).

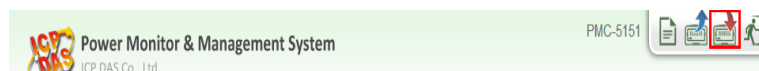
- b. After the scanning is completed, the M-7000 I/O Modules connected to the COM Port interface will be displayed, click “Save” to complete the settings of the M-7000 I/O Module List.

No.	Address	*Module Name / Nickname	Polling Timeout(ms)	Retry Interval(secs)
1	1	M-7065	300	5

Buttons: Setting, Move Up, Move Down, Copy, Remove, **Save**

Please note: if fail to scan the I/O modules, please make sure the RS-485 cable is properly connected. And then go to Step 1: “System Setting”→”I/O Interface Setting” to make sure the settings of the COM Port that are connected to the I/O Module are accurate. After all settings are completed, click “Save” button to save the changes and repeat Step 3.a to perform scanning of the I/O modules again.

- (4) Save the settings to the PMD-2201 (the user could also save the settings later after all other settings are completed)



4.3.3 Schedule Setting (From Webpage side)

Description: Set up the "weekdays (Monday to Friday / 8.00a.m. to 5:00p.m.)" setting for the application example.

Weekday Schedule setting steps:

- (1) Login into the PMD-2201 web page as the Administrator, select “Advanced Setting”→“Schedule Setting”→“Add new schedule”.

Nickname	Mode
+ Add new schedule	

Buttons: Save

- (2) Follow the figures and descriptions below to complete the settings, after all settings are completed, click “OK” button.

Schedule Setting

*Nickname	Weekdays
Description	Weekdays(8.00a.m. to 5.00p.m.)

Schedule Content Setting

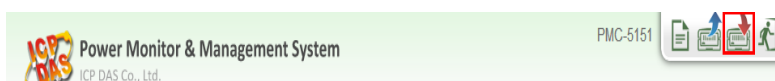
Mode	<input type="radio"/> Calendar <input checked="" type="radio"/> Repeat
*Day(s) of Week	<input type="checkbox"/> Sun <input checked="" type="checkbox"/> Mon <input checked="" type="checkbox"/> Tue <input checked="" type="checkbox"/> Wed <input checked="" type="checkbox"/> Thu <input checked="" type="checkbox"/> Fri <input type="checkbox"/> Sat
Exception Date(s)	<input type="button" value="Add"/>
*Time Range(s)	08:00 ~ 17:00 <input type="button" value="Remove"/> <input type="button" value="Add"/>

- (3) Save schedule settings.

Schedule Setting Page

Nickname	Mode
+ Add new schedule	
Weekdays	Repeat
<input type="button" value="Setting"/> <input type="button" value="Copy"/> <input type="button" value="Remove"/>	

- (4) Save the settings to the PMD-2201 (the user could also save the settings later after all other settings are completed).



4.3.4 Email Setting (From Webpage side)

Description: Set up the "Email" setting for the application example.

Email setting steps:

- (1) Login into the PMD-2201 web page as the Administrator, select “Advanced Setting”→“Email Setting”→“Add new email”.

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

Advanced Setting Email Setting

Email Setting

SMS Setting

Schedule Setting

Internal Register Setting

Flash HMI Setting

Email Setting Page

Nickname	Subject	Receiver
+ Add new email		

- (2) Please follow the figures and descriptions below to complete the settings.

■ Input the Nickname and Description of the Email.

Email Email 1 Setting

*Nickname	<input type="text" value="Email Alarm"/>
Description	<input type="text" value="Unusual electricity usage Alarm"/>

■ Set up SMTP Server and its ID/Password.

SMTP Server Setting

*SMTP Server	<input type="radio"/> Specify an address of SMTP server <input checked="" type="radio"/> Google Gmail - smtp.gmail.com
Port	<input type="text" value="465"/>
Authentication	<input checked="" type="checkbox"/> Enable *ID <input type="text" value="Admin"/> Password <input type="password" value="****"/> Security <input type="text" value="SSL"/>

■ Set up Sender Name and Receiver information

Email Address Setting

*Sender Name	<input type="text" value="Admin"/>
*Sender Email Address	<input type="text" value="Admin@gmail.com"/>
*Receiver Email Address	<input type="text" value="Admin@icpdas.com"/> <input type="button" value="Remove"/> <input type="button" value="Add"/>
Email Setting Test	<input type="button" value="Send"/>

■ Input Email content.

Email Content Setting

*Subject	<input type="text" value="Unusual electricity usage Alarm"/>
*Content	<div><input type="button" value="View"/> <input type="button" value="Edit"/> Unusual electricity usage!! Current Electricity : PM-3133 Submeter1 Total / Average Daily Accumulated Electricity</div>

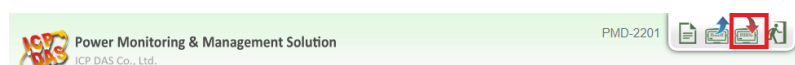
■ Click “OK” to complete the settings.

- (3) Save Email Settings.

Email Setting Page

Nickname	Subject	Receiver
+ Add new email		
<input checked="" type="radio"/> Email Alarm	Unusual electricity usage Alarm	Admin@icpdas.com

- (4) Save the settings to the PMD-2201 (the user could also save the settings later after all other settings are completed).



4.3.5 IF-THEN-ELSE Rule Setting (From Webpage side)

Description: Edit the "IF-THEN-ELSE Rule" in the application example. Please implement the settings of the following configuration before editing the IF-THEN-ELSE Rule: adding new Power Meter / adding new Modbus I/O Module / Schedule / Email.

Rule Setting steps:

- (1) Login into the PMD-2201 web page as the Administrator, select "Rules Setting"→"Add new rule".

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

Rules Setting

+ Add new rule

Rule Overview

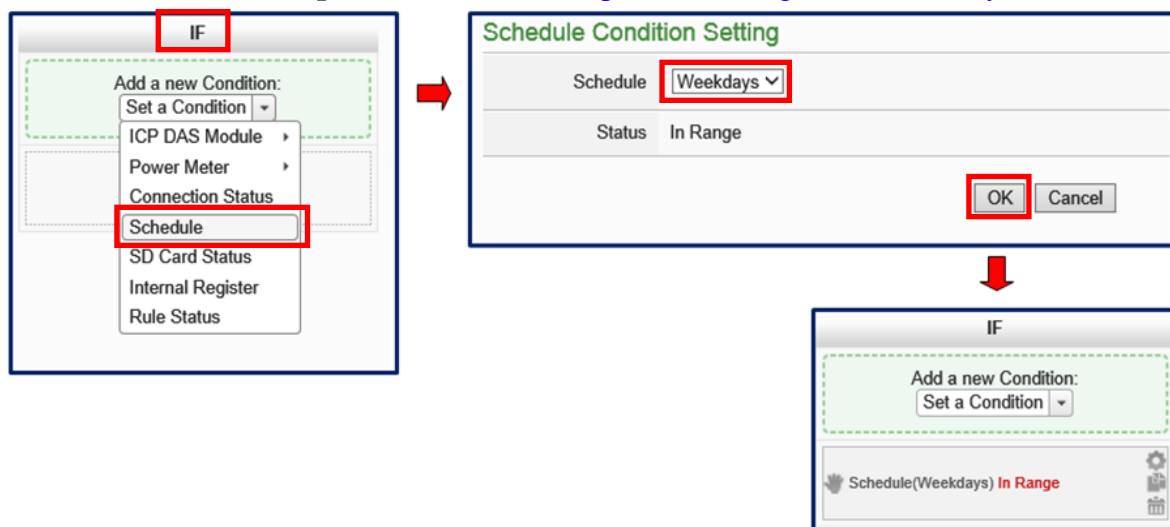
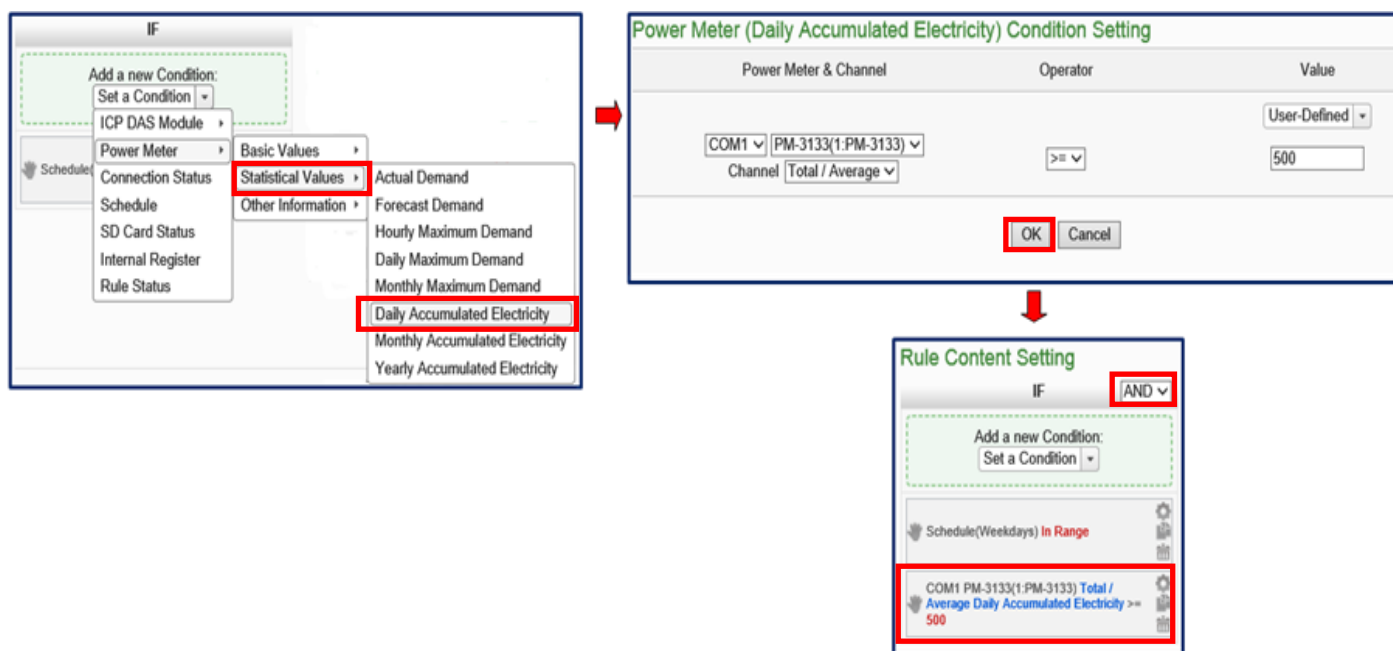
No rule exists, press left side button to create one.

- (2) Please follow the figures and descriptions below to complete the settings.

■ Input the Nickname and Description, and then click "Enable".

Rule Information Setting

*Nickname	Electricity Usage Rule
Description	Unusual Electricity Usage Rule
Status	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

■ Set up IF Condition: Set up the time range to be weekdays.**■ Set up IF Condition: When Daily Accumulated Electricity is over 500 kWh.**

■ Set up THEN Action: Send Email

THEN

Add a new Action:
Set an Action ▾

ICP DAS Module ▾
Power Meter ▾
Email
Internal Register
Rule Status

Email Action Setting

Email

Action

Email Information

Receiver Email Address

Subject

Content

OK Cancel

THEN

Add a new Action:
Set an Action ▾

Email(Email Alarm) Send

■ Set up THEN Action: Turn on warning light (M-7065 DO0=ON)

THEN

Add a new Action:
Set an Action ▾

ICP DAS Module ▾
Power Meter ▾
Email
Internal Register
Rule Status

DI Counter
DO

DO Action Setting

Module & Channel Module Channel

Status

Action Attribute Setting

Execution Frequency ☒ One Time ☐ Repeat

Waiting Time second(s)

OK Cancel

THEN

Add a new Action:
Set an Action ▾

Email(Email Alarm) Send

COM2 M-7065(1) DO0 = ON

■ Set up ELSE Action: Turn off warning light (M-7065 DO0=OFF)

The diagram illustrates the process of setting up an ELSE action. It begins with a menu where 'ICP DAS Module' and 'DO' are selected. This leads to the 'DO Action Setting' dialog where 'Module & Channel' is set to 'COM2' and 'M-7065(1)' with 'Channel' '0', and 'Status' is set to 'OFF'. Finally, the 'ELSE' action list shows 'COM2 M-7065(1) DO0 = OFF'.

(3) Save Rule Settings

The diagram shows the 'Rule Content Setting' dialog with 'IF', 'THEN', and 'ELSE' sections. The 'IF' section has 'Schedule(Weekdays) In Range' and 'COM1 PM-3133(1:PM-3133) Total / Average Daily Accumulated Electricity >= 500'. The 'THEN' section has 'Email(Email Alarm) Send' and 'COM2 M-7065(1) DO0 = ON'. The 'ELSE' section has 'COM2 M-7065(1) DO0 = OFF'. The 'Save' button is highlighted. Below, the 'Rule Overview' shows the complete rule configuration.

```

Rule Overview
Electricity Usage Rule
Unusual Electricity Usage Rule
< IF >
  Schedule(Weekdays) In Range (AND)
  COM1 PM-3133(1:PM-3133) Total / Average Daily Accumulated Electricity >= 500
< THEN >
  Email(Email Alarm) Send (One Time)
  COM2 M-7065(1) DO0 = ON (One Time)
< ELSE >
  COM2 M-7065(1) DO0 = OFF (One Time)
  
```

(4) Save the settings to the PMD-2201

