



DPDU Instruction manual

V1.0

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Chapter One Product introduction

1.1 Product overview

Single-phase DPDUV3 AC PDU intelligent meter is based on innovative SUM (sustainable, scalable and maintainable) design concept technology. As a key component of metered-type cabinet distribution unit (PDU), it can provide active metering function to realize energy optimization and circuit protection after loading into the main body of the PDU. User-set alarm thresholds can effectively reduce risks by sending real-time local and remote alarms to warn of potential circuit overload. Metered rack-mounted PDUs provide power usage data to enable data center managers to make informed decisions about load balancing and appropriate IT sizing, significantly reducing total cost of ownership. Users can access the metered cabinet PDU over Ethernet or RS485. This series of products can be widely used in IDC, banks, securities, government, enterprises and other data center room

1.2 function Introduction

Functional project	specification	
Electrical parameter	Input voltage	176-264VAC, 1PH
	Input current	Max. 32A
	frequency	50/60 Hz
	Output voltage	176-264VAC
	Output digit	Optional, up to 12 bits
	Circuit breaker protection (please specify brand and quantity)	optional
Structural dimension	Mounting method (vertical or horizontal)	level
	Width (applicable PDU width series)	55mmAnd above
	Protrude the height of the socket surface	There is no
	Material (please indicate plastic or sheet metal))	Sheet metal
Working environment	Operating temperature	-10° to +50° C
	Working humidity	5-95%RH
	altitude	0 - 3 000 m
Safety regulations and certificates	Certificates and declarations	CE
User interface	Display screen	TFT color screen
	Operate the key	3 keys
	Communication interface	Ethernet one, RS485 two, USB one
	Temperature and humidity interface	1pcs

	Indicator light	Operation, electrical energy, communications, relay control
Electrical parameter measurement and control function	Total PDU measurement	Voltage, current, power, electrical energy.
	Measurement of each phase	Voltage, current, power, and electrical energy. °
	Each output can be remotely on/off control	have
	Users can customize the power-on/power-off sequence and interval for each output	have
	The output unit can be controlled in groups	have
	Administrator rights can be defined at different levels	have
	You can customize alarm thresholds	Current and voltage can be set
	Cascading function	have, RS485

1.3 Model Selection

DPDUV3-1130032

DPDUV3-XXXXXX-XXXX

DPDUV3 indicates an intelligent instrument PDU

-XXXXXX

X:0 vertical, 1 horizontal

X:0 DC, 1 single-phase, 2 three-phase four-wire, 3 three-phase three-wire, 4 two-phase three-wire

X:0 indicates no branch monitoring and no control; 1 indicates branch control; 2 indicates branch monitoring; 3 indicates both monitoring and control.

XXX: specification current

-XXXX: Customer requirements: the first X, indicating the number of temperature and humidity;

The second X represents several switching devices; The third X: 0, without USB, 1, with USB;

The fourth X, 0 without 485, 1 with 485;

Among them, the standard does not take the "customer requirements" part, the standard unified with a network, a USB, a temperature and humidity, two 485 ports.

Chapter II Technical parameters and installation

Product structure diagram	number	project	parameter	
	①	Liquid crystal display	Display mode	TFT color screen
			Display mode	Meter information
			Display direction	level
			Refresh time	300ms
	②	Network port	IP ADD、MAC、DHCP、MASK、Gateway	
			SNMP (V1/V2c/V3)	
			HTTPS/HTTP	
			SNTP	
			Network user	
	③④	RS485 port	Cascading configuration, modbus, baud rate	
	⑤	USB	Software upgrade and log export	
	⑥	Temperature and humidity port	Temperature and humidity sensor detection	
	⑦	LED Indicator light	Operation, communication, electrical energy indication	
	⑧	Relay indicator light	1, 2. ... 8	
	⑨	Fault indication	From top down: network hardware failure; cascade. Green is normal, and red is a fault.	
	⑩	Page down button	ap down to turn the page Short press to cancel the beep Hold down for more than 10 seconds to restart the device	
	④	Page up button	Tap down to turn the page Short press to cancel the beep Press and hold for more than 10 seconds to enter the menu	
	⑫	Reset key	Hold down for more than 10 seconds to reset device parameters	
Liquid crystal display infographic	Display content		parameter	
	Model number voltage current power Power factor		Voltage: Resolution: 0.1V Accuracy: ±1%+1 word Response time: 400ms Current:	

	Electric energy	Resolution: 0.001A Accuracy: $\pm 1\% + 1$ word Response time: 400ms Power: Resolution: 0.001KW Accuracy: $\pm 1\%$ Response time: 400ms Power factor: Resolution: 0.001 Response time: 400ms Electric energy: Resolution: 0.001KWh Accuracy: $\pm 1\%$ Response time: 400ms Temperature: Resolution: 0.1°C Accuracy: ± 0.5 Response time ³ : $\leq 10\text{s}$ Humidity: Resolution: 0.1RH Precision ² : $\pm 3\%$ Response time ³ : $\leq 6\text{s}$
	Temperature 1 Humidity 1 Temperature 2 Humidity 2 Temperature 3 Humidity 3	
	Humidity 4	
	IO1 IO2 IO3 IO4	
	Socket 1 current Socket 2 current Socket 3 current Socket 4 current Socket 5 current Socket 6 current	
	Socket 7 current Socket 8 current	
	Temperature 1 alarm value Humidity 1 Alarm value Temperature 2 alarm value Humidity 2 Alarm value Temperature 3 alarm value Humidity 3 Alarm value	
	Temperature 4 alarm value Humidity 4 Alarm value	

	MAC address DHCP status: ON/OFF IP address/port number	
	Software version Hardware version Cascading: Host or slave time date	
	Relay setting Network setup Device restart Language setting factory data reset	
	Relay setting	Short press the upper button to control Press the down button to select Long press the upper button to return to the upper level
	Network setup	Short press the upper button to control Press the down button to select Long press the upper button to return to the upper level
	Device restart	Short press the upper button to control Press the down button to select Long press the upper button to return to the upper level
	factory data reset	Short press the upper button to control Press the down button to select Long press the upper button to return to the upper level

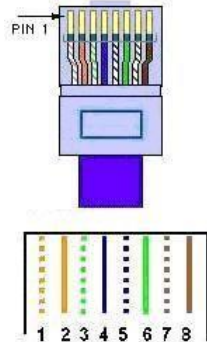
2.1 User interface and parameters

2.2 Terminal Definition

2.2.1 RS485 port terminals

RS485 ports, Pin4(blue)485 B, Pin5(blue and white)485 A.

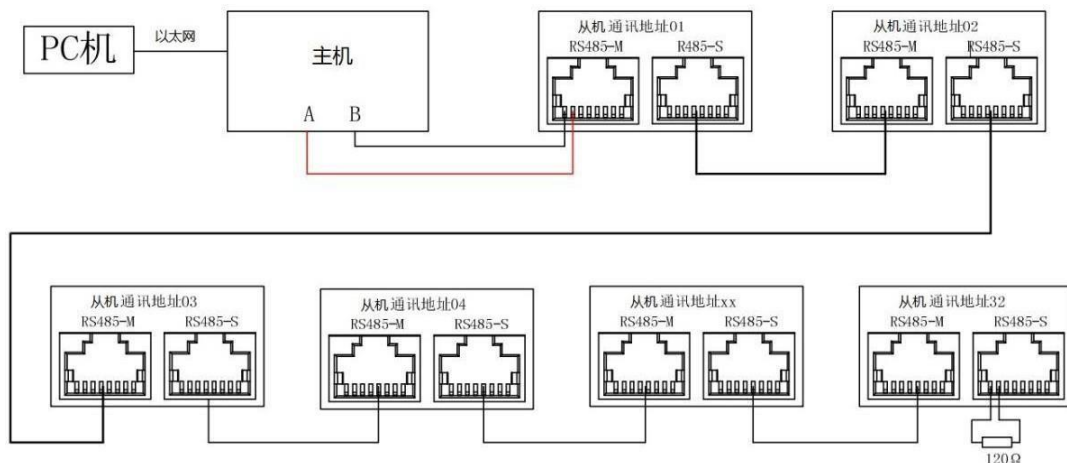
Note: The cable color of RJ45 may be incorrect, as shown in the figure. One end is terminal 1.



color	Function description
1 Orange white	NC
2 Orange	NC
3 green white	NC
4 blue	RS485-B
5 blue white	RS485-A
6 green	NC
7 Brown white	NC
8 Brown	NC

2.2.2 Level Communication

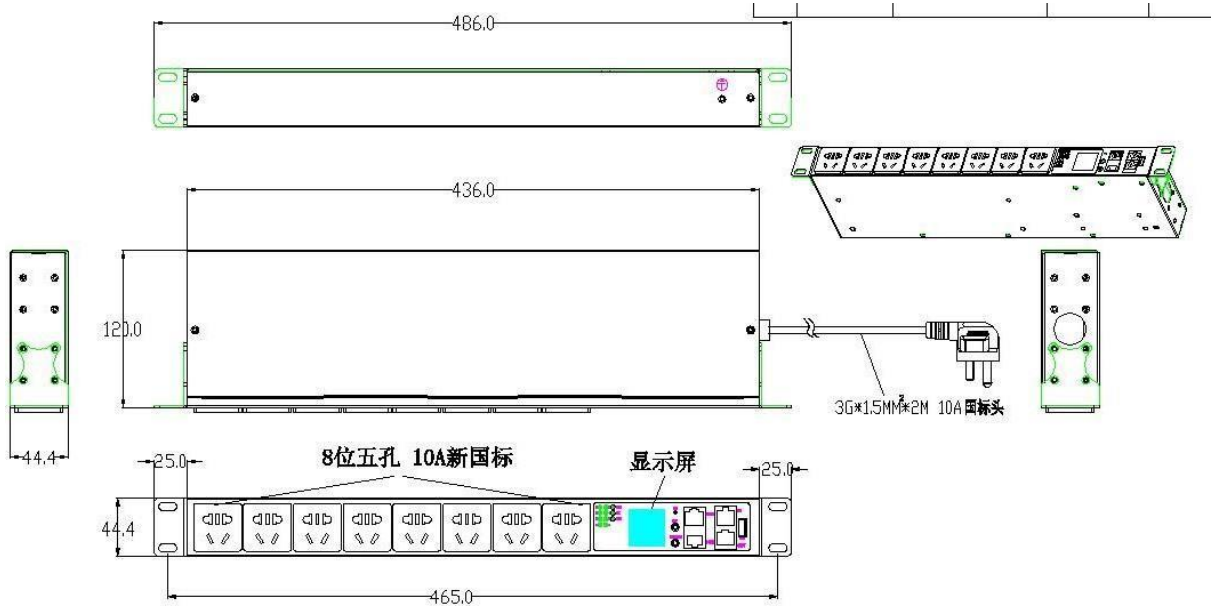
RS485-M and RS485-S are the same RS485 communication bus and provide two interfaces for easy cascading. It is recommended that RS-485 communication cascades be connected to a maximum of four meters to ensure the validity of safety data. Connect to the upper computer through the host computer. Common shielded twisted pair cables can be used for communication cables. When RS485 communications cables are routed outdoors, ensure that the shielded layer of the cables is grounded and the total length of the communications cables should not exceed 1200 meters. The positive and negative polarity of the RS-485 port of each device must be connected correctly. If the shielded twisted pair cable is long, you are advised to connect it to about 120 ohms and reduce the transmission rate to improve communication reliability.



2.3 Install

2.3.1

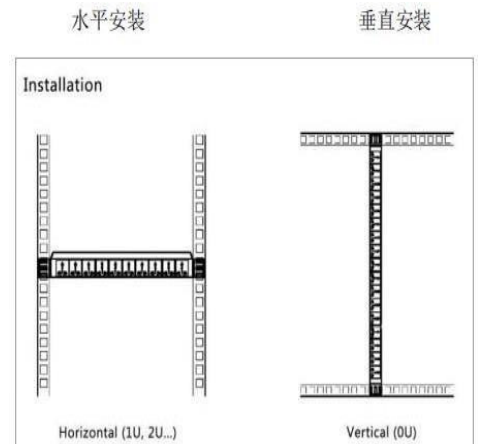
Product size: 486*120*44.4mm,



2.3.2

◆ Installation instructions and maintenance

1. Rack type power socket unit is installed in 19" industrial cabinet. Install at the front end of the protected device (or system).
- 2, when the socket is connected to the power system, it can be The rear equipment is powered on.
- 3, the load current of the protected equipment should be no more than 16A, Do not use over load.
- 4, this product is strictly prohibited to disassemble, otherwise, by All consequences arising therefrom shall be borne by oneself.
5. Please use fixed support during installation.
- 6, please connect the wire correctly, pay attention to the safety of electricity.



Chapter 3 Network operations

3.1 Supported browsers

You can use Google ®Chrome® or Mozilla®Firefox® to access the PDU through its Web UI. Other commonly used browsers may work, but have not been fully tested.

3.2 Cascading Settings

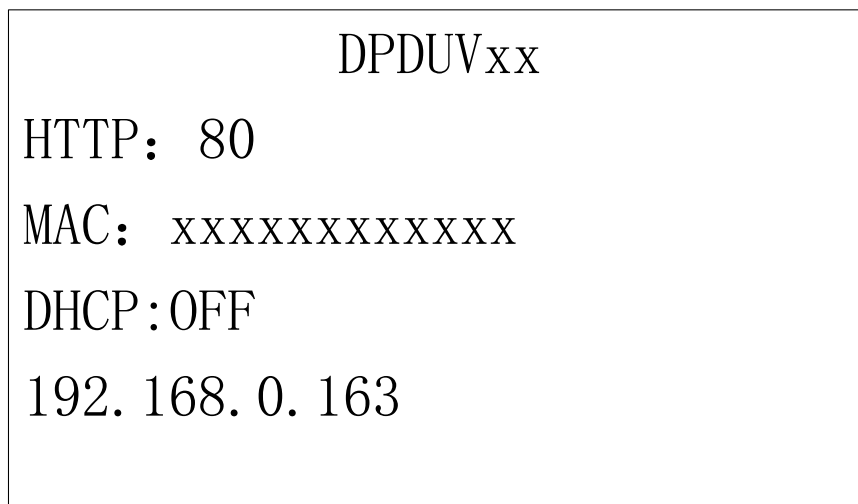
you can use the PDU system IP address to the URL as a Web interface, use case-sensitive user name and password to log in

PDU factory default using a static IP address, the default address for 192.168.0.163, in the display module LCD display, you can query the current IP address from the network status page. To configure dynamic IP addresses, enable the DHCP function on the device

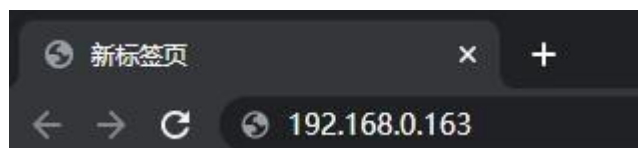
before using cascade function, need to each IPDU configuration choice master-slave mode, in which the host mode only a PDU, PDU mode can be configured by default to Taiwan from the machine

3.2.1 Cascading Settings

After the PDU is powered on, connect a network cable to its network port. On the LCD of the display module, you can press the key to query the IP address (192.168.0.163) from the network status page



Enter the IP address of the PDU in the URL field of the Web browser (http://192.168.0.163 in the web page), as shown in the figure:

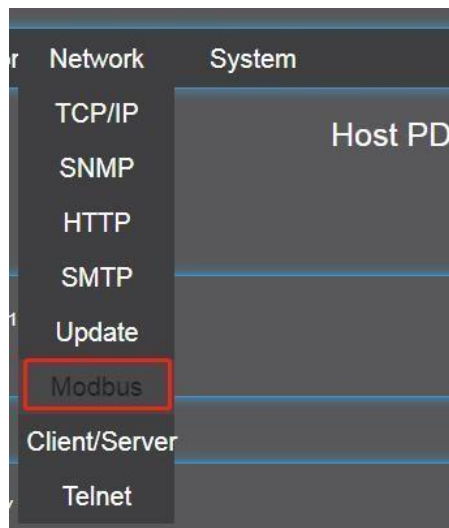


The default user name and password of the super administrator are "admin", and then click

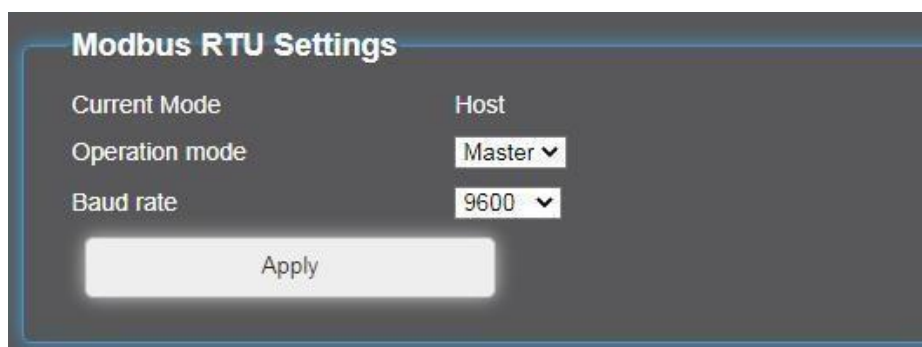
login, as shown in the picture:

A screenshot of a login window with a dark background. It features a close button (X) in the top right corner. Below it, there are two input fields: 'User Name' with the text 'admin' and 'Password' with masked characters (dots). At the bottom, there are two buttons: 'English' and 'Log On'.

In the Network Settings on the Web interface, click Modbus Settings, for example



In the cascading Settings, select the current PDU as the host/slave mode and click Set, as shown in the figure

A screenshot of the 'Modbus RTU Settings' form. It has a title bar 'Modbus RTU Settings'. Below it, there are three settings: 'Current Mode' set to 'Host', 'Operation mode' set to 'Master' (with a dropdown arrow), and 'Baud rate' set to '9600' (with a dropdown arrow). At the bottom, there is an 'Apply' button.

In the upper right corner of the page, click Restart PDU to make the working mode Settings change take effect.

Check the PDU table header. In the LCD display of the display module, press the key and

the status page expansion bar becomes host, indicating that the PDU host mode is set successfully. If the status page expansion bar is set to slave, then the status page expansion bar becomes slave x, as shown in the figure

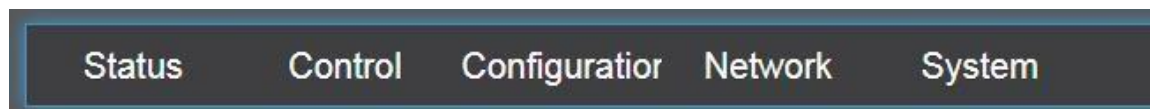
```
software: 1.0.0
hardware: 1.2-1.2
Cascade: Host
Time: 08:05:20
Date : 2022-10-27
```

3.2.2 Connection Mode of the Host and Slave Host

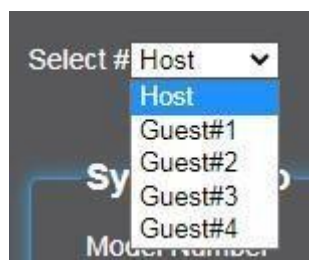
After one host PDU and four slave PDUs (a maximum of four) are configured in master/slave mode through the Web configuration, connect network cables to the network ports of the host PDUs. The network ports of the four slave PDUs (a maximum of four slave PDUs) are suspended, and connect the host and slave PDUs in series through the RS485 interface. In this way, host PDUs are cascaded to slave PDUs. Users can control host IPDU and slave PDUs by logging in to the Web interface of host PDUs.

3.3 Device Status Description

Device status contains device information about the host and four slave servers, power data, temperature and humidity information, and alarm status information



On the Web interface, click Status to display the host data by default. You can select the status data of slave 1 to slave 4 from the drop-down menu, as shown in the figure

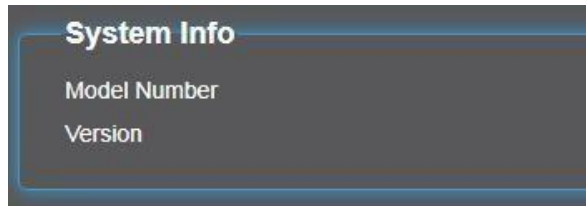


3.3.1 Device Information

PDU device information, including the model and version, is shown in the figure

System Info	
Model Number	DPDUv3L
Version	1.0.14

If the slave is not connected, the following information is displayed:



3.3.2 Power Status

The power state of the PDU includes voltage, current, active power, power factor and electrical energy, as shown in the figure

Real-Time Data			
Voltage	230.6V	Current	0.000A
Active Power	0.000kW	Power Factor	1.000
Energy	4.186kWh	Frequency	49.965Hz

If the slave is not connected, the following information is displayed:

Real-Time Data			
Voltage		Current	
Active Power		Power Factor	
Energy		Frequency	

3.3.3 Temperature and Humidity Status

Temperature and humidity status of the PDU, showing the current temperature and humidity data, as shown in the figure

Sensor			
Temperature1	-	Humidity1	-
Temperature2	-	Humidity2	-
Temperature3	-	Humidity3	-
Temperature4	-	Humidity4	-

If the system fails to read information from the T/H sensor, a hyphen (-) is displayed.

By default, the device has only one T/H port. However, the device supports the expansion of T/H devices through a built-in or external sensor box.

3.3.4 Alarm Status

PDU alarm status: Indicates the status of the voltage, current, temperature, humidity, and I/O sensor (such as access/water/smoke sensor) relative to the corresponding threshold

Alarm status:

current state value is lower than warning threshold column corresponding lower limit of configuration, according to the limit

current state value is higher than or equal to the alarm threshold column on the configuration of the corresponding threshold, according to the limit

otherwise will show the normal state

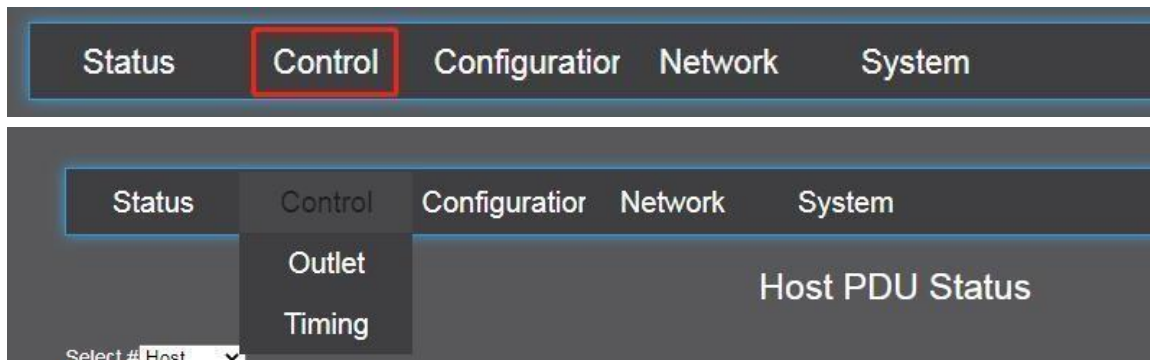
if the equipment is not connected, it is shown as a "-"

Alarm Status			
Voltage	Normal	Current	Normal
Temperature1	-	Humidity1	-
Temperature2	-	Humidity2	-
Temperature3	-	Humidity3	-
Temperature4	-	Humidity4	-
IO Sensor 1	-	IO Sensor 2	-
IO Sensor 3	-	IO Sensor 4	-

The PDU does not reserve sensor ports for I/O nodes, but supports the use of built-in or external sensor boxes to expand sensor nodes.

3.4 Relay control description

Relay control includes group (virtual group) control, relay independent control, and relay timing control

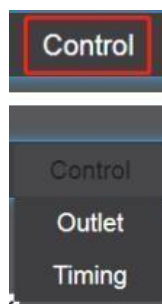


3.4.1 Relay group control

In the relay control of Web interface, click group control, as shown in the figure

3.4.2 Independent control of relay

In the control menu of Web interface, click Relay control, as shown in the figure



Through the current interface, the user can view the relevant electrical energy data of the corresponding socket of the host/slave and the current state of the relay. In addition, the user can control the relevant state of the relay by setting the state of the relay or opening the off-limit action:

Status

Control

Configuration

Network

System

Host PDU Outlet Control

Select #

Host

No.	Name	Group No.	Voltage	Cur.	Power	Energy	State	Action	Energy Reset	Min	Max	Limit Action	
1	Outlet1	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
2	Outlet2	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
3	Outlet3	0	235.0V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
4	Outlet4	0	235.0V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
5	Outlet5	0	235.1V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
6	Outlet6	0	235.1V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
7	Outlet7	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
8	Outlet8	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
Total								OFF	☐			None	Apply

Relays support both individual control and batch control

Status

Control

Configuration

Network

System

Host PDU Outlet Control

Select #

Host

No.	Name	Group No.	Voltage	Cur.	Power	Energy	State	Action	Energy Reset	Min	Max	Limit Action	
1	Outlet1	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
2	Outlet2	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
3	Outlet3	0	235.0V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
4	Outlet4	0	235.0V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
5	Outlet5	0	235.1V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
6	Outlet6	0	235.1V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
7	Outlet7	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
8	Outlet8	0	234.7V	0.00A	0.000KW	0.000KWh	ON	OFF	☐	0.00	10.00	None	Apply
Total								OFF	☐			None	Apply

① : A single control socket, which can be controlled by closing, disconnecting, and restarting

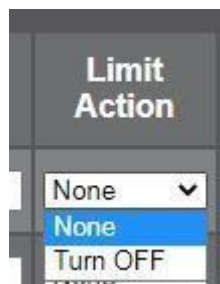
② : Batch control socket, support closed, disconnected, restart three state control

Among them, the restart operation is to disconnect the socket immediately, wait for the set restart time after the relay closes, the socket's final

The status is closed.

Sockets also support off-limit Settings. When the current in the socket is lower than the set minimum value, or greater than the set maximum value,

The current socket will operate the relay according to the off-limit action set by the user:



3.4.3 Timing setting of relay

PDU supports simple timing action Settings:

Status Control Configuration Network System					
Host PDU Outlet Timing					
Device # Host					
No.	Name	Weekly Timing	ON Time	OFF Time	
1	Outlet1	-	00:00	00:00	Setting
2	Outlet2	-	00:00	00:00	Setting
3	Outlet3	-	00:00	00:00	Setting
4	Outlet4	-	00:00	00:00	Setting
5	Outlet5	-	00:00	00:00	Setting
6	Outlet6	-	00:00	00:00	Setting
7	Outlet7	-	00:00	00:00	Setting
8	Outlet8	-	00:00	00:00	Setting

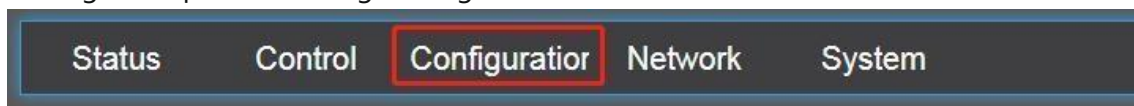
Users can reasonably control the state of the relay by setting the opening and closing time of the corresponding socket:

Outlet Timing Settings

Name	Outlet1
Weekly Timing	☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday ☐ All
Outlet On Time[hh:mm]	00:00
Outlet Off Time[hh:mm]	00:00
Setting	Cancel Save

3.5 Parameter Settings

Parameter Settings include device alarm threshold Settings, sensor alarm threshold Settings, and power clearing Settings for the host and slave



3.5.1 Setting Device Alarm Thresholds

On the Web interface, click the Settings menu, as shown in the picture

The screenshot shows the 'Host PDU Configure' web interface. At the top, there is a dropdown menu labeled 'Select # Host' with 'Host' selected. Below this is a section titled 'Device Alarm Threshold'. Inside this section, there is a 'Beep Alarm' toggle set to 'ON'. Below the toggle, there are two rows of settings. The first row is for 'Voltage', with 'Upper Limit' set to '300.0 V' and 'Lower Limit' set to '0.0 V'. The second row is for 'Current', with 'Upper Limit' set to '10.00 A' and 'Lower Limit' set to '0.00 A'. At the bottom of the section is an 'Apply' button.

Among them,

Buzzer switch: Specifies whether to enable the buzzer to buzz when an alarm is generated.

Voltage/current threshold: sets the upper and lower alarm thresholds of the current voltage/current.

3.5.2 Setting Sensor Alarm Thresholds

Sensor threshold Settings are as follows:

The screenshot shows the 'Sensors Alarm Threshold' web interface. It contains a table of sensor settings. Each row represents a sensor and has two columns for 'Upper Limit' and 'Lower Limit'. The sensors are Temperature1, Humidity1, Temperature2, Humidity2, Temperature3, Humidity3, Temperature4, and Humidity4. The units for temperature are °C and for humidity are %RH. The values for the upper limit are all set to 90.0 and the values for the lower limit are all set to 0.0. At the bottom of the table is an 'Apply' button.

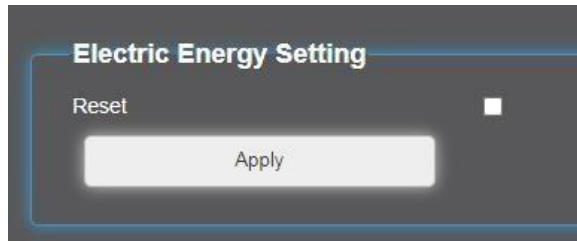
Sensor	Upper Limit	Lower Limit
Temperature1	90.0 °C	0.0 °C
Humidity1	90.0 %RH	0.0 %RH
Temperature2	90.0 °C	0.0 °C
Humidity2	90.0 %RH	0.0 %RH
Temperature3	90.0 °C	0.0 °C
Humidity3	90.0 %RH	0.0 %RH
Temperature4	90.0 °C	0.0 °C
Humidity4	90.0 %RH	0.0 %RH

You can set the upper and lower alarm thresholds for the current temperature and humidity. The current device supports only one temperature and humidity interface.

However, the device supports the expansion of sensors through a built-in or external sensor box. In this case, you can set upper and lower alarm thresholds for the temperature and humidity in the sensor box

3.5.3 Setting the Electrical Energy

In the setting of electrical energy, the electrical energy of the host/slave can be cleared, as shown in the figure



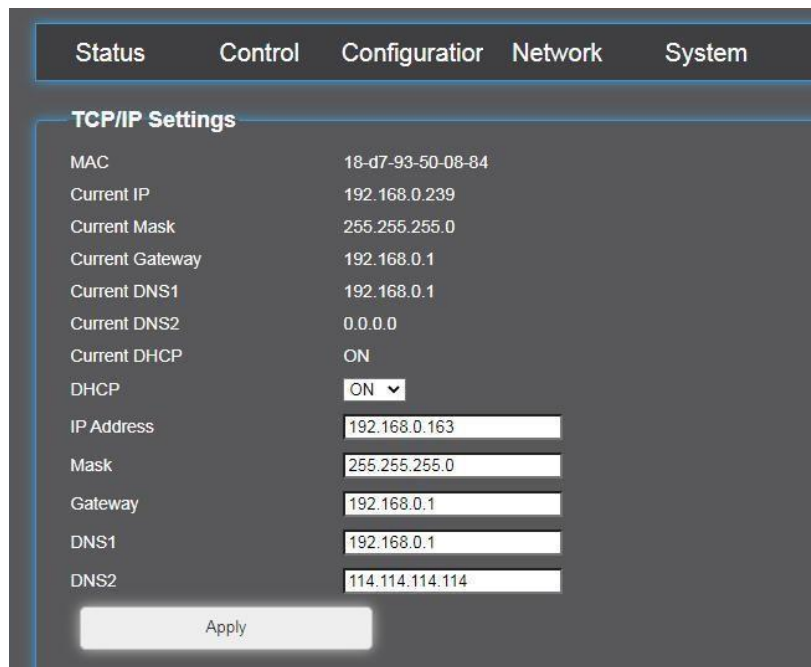
In TCP/IP Settings, DHCP is set to ON by default. The IPDU automatically obtains an IP address assigned by any DHCP server. If DHCP is set to ON, the IP address, mask, and gateway boxes are invalid, as shown in the figure

3.6 Network Settings

Network Settings include IP address Settings, SNMP Settings, web login mode Settings, email Settings, upgrade Settings, Modbus Settings, client/server Settings, and Telnet Settings.

3.6.1 TCP/IP Settings

The device supports static or dynamic IP addresses:



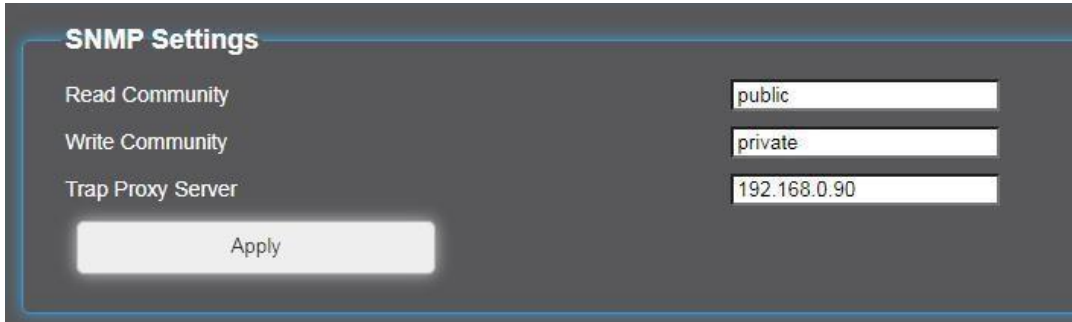
You can enable or disable DHCP to select a static IP address or a dynamic IP address.



If DHCP is set to Off, you can customize a static IP address by entering the required value in IP address, mask, gateway, and DNS server. If dynamic IP addresses need to be set, set DHCP to Enable.

3.6.2 SNMP Settings

When you select SNMP, you can perform operations on SNMP by setting the community name and proxy server IP address.

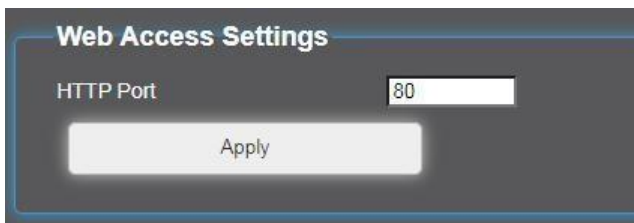


The image shows a configuration window titled "SNMP Settings". It contains three input fields: "Read Community" with the value "public", "Write Community" with the value "private", and "Trap Proxy Server" with the value "192.168.0.90". Below these fields is an "Apply" button.

3.6.3 Web Settings

The PDUs can access web data through HTTP or HTTPS. You can set the PDUs to access data through HTTP or HTTPS on the web page.

If you select the HTTP option, you can set the port to be accessed. The default port is 80. You can also customize the following parameters:



The image shows a configuration window titled "Web Access Settings". It contains one input field: "HTTP Port" with the value "80". Below this field is an "Apply" button.

When HTTPS is selected, you can set the access port, certificate type, and certificate reset function:

The screenshot shows three sections of a web interface:

- Web Access Settings:** Contains a dropdown menu for 'HTTP/HTTPS Select' set to 'HTTPS' and a dropdown menu for 'HTTPS Port' set to '443'. Below these is an 'Apply' button.
- Certificate and Key Setting:** Contains two radio buttons: 'Default Certificate and Key' (selected) and 'User Certificate and Key'. Below the radio buttons is an 'Apply' button.
- Regenerate Certificate and Key:** Contains a checkbox labeled 'Regenerate' which is currently unchecked. Below the checkbox is an 'Apply' button.

The default HTTPS port is 443.

The certificate and key Settings are mainly used to determine whether the PDU uses the certificate automatically generated by the device or the certificate imported by the user to log in to the web interface. By default, the PDU uses the certificate automatically generated by the device and the validity period of the certificate is 10 years

Currently, the device supports the import of the ECC certificate or RSA2048 certificate to meet users' security requirements.

The purpose of regenerating the default certificate and key is to reset the time of the default certificate generated by the device to the current PDU time. In this case, the certificate expires or an error occurs and you cannot log in to the web interface.

3.6.4 Upgrade Settings

In upgrade Settings, users can import customized certificates and keys and upgrade the current firmware.

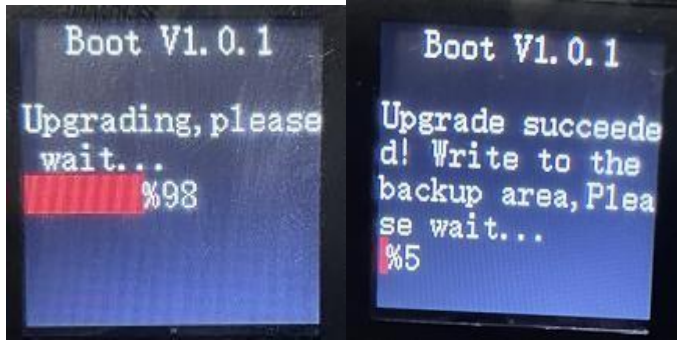
The screenshot shows two sections of a web interface:

- Update:** Contains a text input field for 'Firmware/Certificate/Private' with a button labeled '选择文件' (Select File) and the text '未选择任何文件' (No file selected). Below the input field is an 'Apply' button.
- TFTP Settings:** Contains a checkbox labeled 'TFTP Enable' which is currently unchecked. Below the checkbox is a text input field for 'TFTP Server IP' with the value '0.0.0.0'. Below the input field is an 'Apply' button.

The PDU supports certificate, key, and device firmware import through web, and firmware import through TFTP. To upgrade the firmware, you are advised to use TFTP. When upgrading the firmware through TFTP, you can set the IP address of the TFTP server, run the TFTP software on the local computer, and save the firmware to the corresponding

folder. The TFTP task searches for the TFTP server every one minute. If the server exists, the firmware is upgraded immediately.

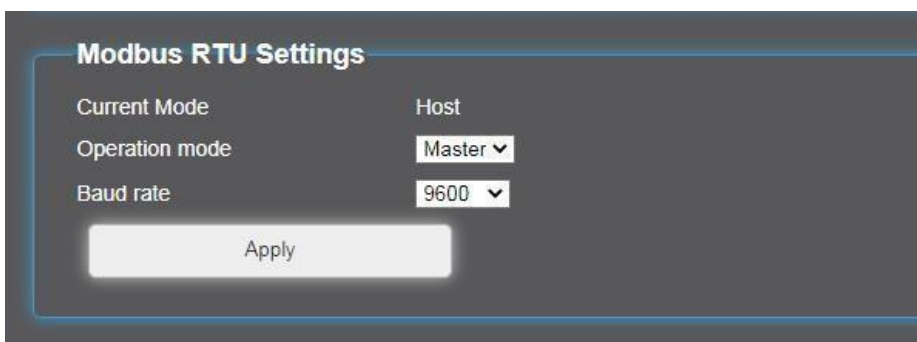
After the firmware upgrade is complete, the LCD will prompt you to upgrade, and the LED running light will keep blinking quickly. Please wait patiently until the upgrade is complete:



Additional note:

1. The PDU supports PING PONG upgrade. Even if the power is off during the upgrade, the PDU can still be upgraded after it is powered on again
2. The version and type of PDUs are mutually exclusive. Therefore, it is recommended to upgrade PDUs in batches through TFTP. After obtaining the firmware in TFTP, PDUs of the same version automatically refuse to upgrade to ensure that PDUs of the same version do not upgrade firmware repeatedly.
3. The PDU firmware is large. Therefore, wait until the upgrade is complete and ensure that the network is normal.
4. During the PDU upgrade, do not perform other operations, such as clicking buttons, using SNMP, and logging in to the web page.

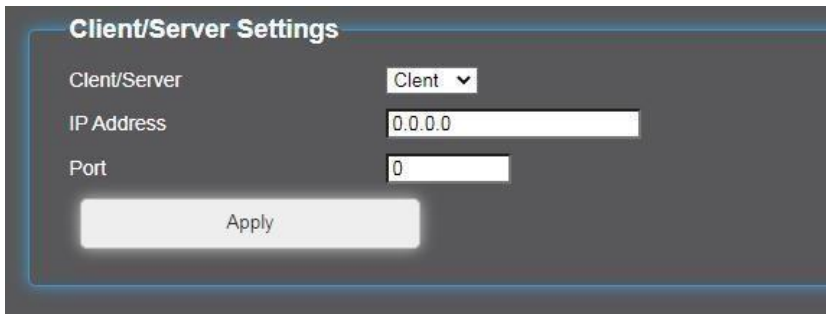
3.6.5 Modbus Settings



ModbusRTU is for setting the master-slave mode of the current device (see Section 3.2).

3.6.6 Client/Server Settings

The PDU supports users to copy data directly through TCP server/client, facilitating secondary development

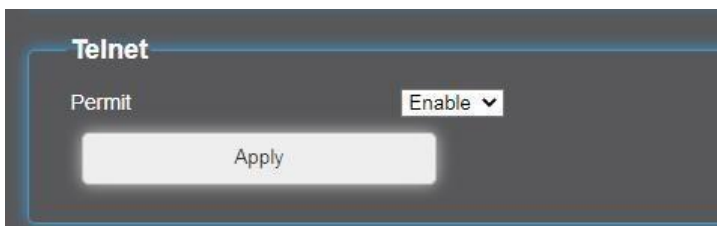


The 'Client/Server Settings' interface features a dark grey background with a blue border. It contains three input fields: 'Client/Server' with a dropdown menu showing 'Client', 'IP Address' with a text box containing '0.0.0.0', and 'Port' with a text box containing '0'. Below these fields is a light grey 'Apply' button.

For the relevant agreement text, you may consult the relevant personnel of the Department.

3.6.7 Telnet Settings

PDU is only used by users to read or control devices through Telnet, or for secondary development:



The 'Telnet' interface has a dark grey background with a blue border. It includes a 'Permit' label and a dropdown menu set to 'Enable'. A light grey 'Apply' button is positioned below the dropdown.

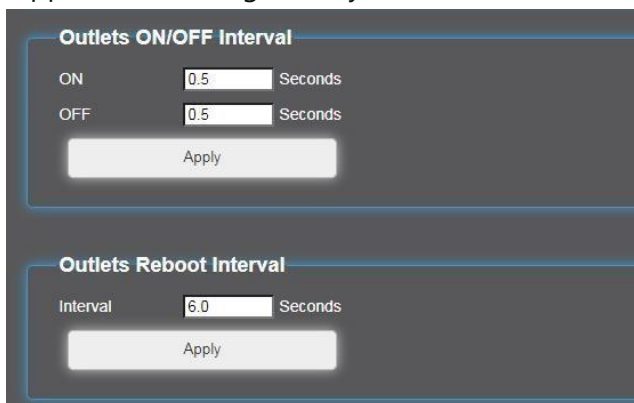
The default Telnet user name and password are admin. After the administrator user name and password are changed, the Telnet user name and password are also changed.

3.7 System Settings

System Settings include relay Settings, sensor Settings, time Settings, user Settings, USB Settings, logs, tools, equipment information, etc.

3.7.1 Relay Settings

PDU supports the setting of relay break, close and restart time:



The 'Relay Settings' interface is divided into two sections. The top section, 'Outlets ON/OFF Interval', has two rows: 'ON' with a text box '0.5' and 'Seconds', and 'OFF' with a text box '0.5' and 'Seconds'. The bottom section, 'Outlets Reboot Interval', has one row: 'Interval' with a text box '6.0' and 'Seconds'. Each section has a light grey 'Apply' button.

The interval ranges from 0.1 seconds to 60 seconds.

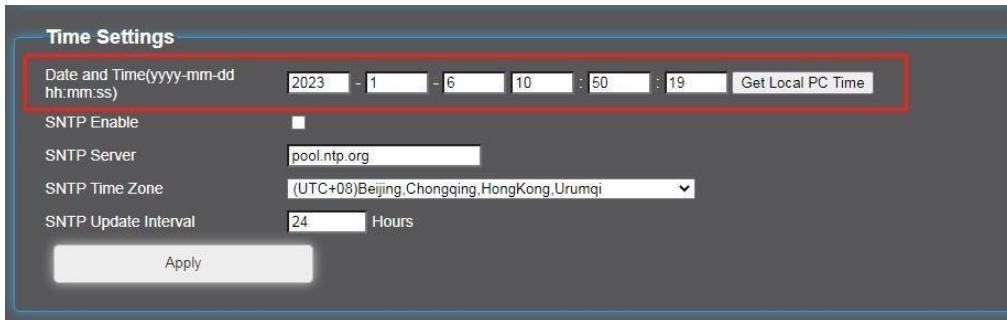
After the restart time is set, the socket will power off immediately after the user sets the restart time, and the socket will close after waiting for the restart time.

3.7.2 Time Setting

After receiving the PDU, you are advised to set the system time once to ensure system time accuracy.

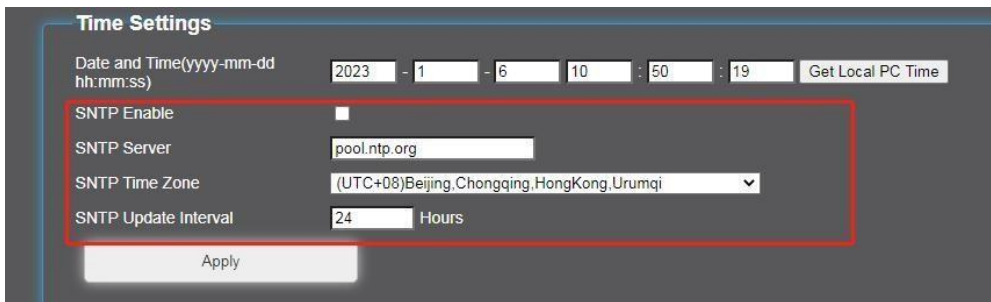
The PDU can directly obtain the time of the current PC as the PDU time. It also supports the function of communicating with the NTP server.

If you use the current PC time as the PDU time, you can directly click Obtain PC Time and do not select Enable SNTP. Otherwise, the setting fails



The screenshot shows the 'Time Settings' window. At the top, there's a 'Date and Time' field with a format '(yyyy-mm-dd hh:mm:ss)' and a 'Get Local PC Time' button. Below this, there's a section for SNTP settings. The 'SNTP Enable' checkbox is unchecked. The 'SNTP Server' is set to 'pool.ntp.org'. The 'SNTP Time Zone' is set to '(UTC+08)Beijing,Chongqing,HongKong,Urumqi'. The 'SNTP Update Interval' is set to '24 Hours'. An 'Apply' button is at the bottom.

If the NTP server is used for time synchronization, you need to enable SNTP and set the SNTP server address, current time zone, and time interval:

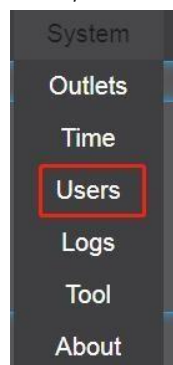


This screenshot is similar to the previous one, but the 'SNTP Enable' checkbox is now checked. The other settings (SNTP Server, SNTP Time Zone, SNTP Update Interval) remain the same. The 'Apply' button is still at the bottom.

After the configuration is complete, the PDU restarts, and the NTP server time is automatically obtained.

3.7.3 User Settings

In the system Settings of the Web interface, click user Settings, as shown in the figure



User Settings, used to add, modify, or delete a user. Three users can be added to the device: super user, user 1, and user 2.

The default user name and password of the administrator are admin. The administrator's username and password are mandatory, and you cannot leave either blank.

The username and password for users 1 and 2 are optional. You can close a common user account by leaving the user name and password blank. Common users have no permissions by default. The administrator can add access permissions for common users and click "Permission Setting" to set permissions

User List

User Type: User

Username: admin

Password: *****

Apply

3.7.4 Querying Logs

The PDU logs are of the following types: event logs and alarm logs:

Start Date: 年 / 月 / 日 End Date: 年 / 月 / 日

Log Type: All (selected), Alarm, Event

Search Clear

You can select the log type to obtain the log information of the related type and time.

No.	Date	Time	Category	Event
1	2023-01-06	09:49:56	Event	Super user login
2	2023-01-06	09:45:51	Event	Super user login
3	2022-12-13	08:16:39	Event	Super user login
4	2022-12-12	20:46:20	Event	The log is emptied
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-

By default, the storage system supports 1000 logs. When the logs are full, the storage system overwrites the logs in a rolling manner

You can also download logs. After you click the download button, logs are downloaded to the PC through the browser.

3.7.5 Tools

On the toolbar, you can customize the PDU, and restart and reset the PDU

The screenshot shows two sections of a configuration interface. The top section, titled 'Device Settings', contains the following fields: Model Number (DPDUv3L), LCD Title (DPDUv3L), LCD Display Direction (Rotate 270°), LCD Backlight (Custom), LCD Backlight Time (3 [1-10]minutes), LCD Rest Brightness (0 [0-100]%), Log Out (ON), Logout Time (3 [1-10] minutes), WEB Title (OFF), and Hostname in Router (0E1). An 'Apply' button is at the bottom of this section. The bottom section, titled 'Restart', has a 'Select action' dropdown set to 'Restart' and an 'Apply' button.

Among them,

In the Model setting field, you can set a personalized name for the current PDU. In this way, the name is displayed in SNMP and device status.

LCD title and display direction item, you can set the LCD LCD title has been displayed direction, support rotation of 0/90/180/270 degrees four directions of the display, the factory will be set by default.

The LCD backlight supports PWM dimming and can be set to two modes: steady on and custom. Under steady on mode, the screen brightness can be set to 0~100%, as shown in the figure:

This close-up shows the 'LCD Backlight' dropdown menu open, with options 'Custom', 'Constant Light', and 'Custom' (highlighted in blue). Below it, the 'LCD Backlight Time' is set to 3 minutes and the 'LCD Rest Brightness' is set to 0%.

In the custom mode, the user can set the backlight time and the screen brightness, as shown in the figure. When the backlight time is up, the LCD will enter the screen state and keep the set screen brightness. When the user presses the button or an alarm occurs, the screen will restore to 100% brightness:~

This close-up shows the 'LCD Backlight' dropdown menu set to 'Custom'. The 'LCD Backlight Time' is set to 3 minutes and the 'LCD Rest Brightness' is set to 0%.

Automatic logout option, is to facilitate the user does not operate the web page, after the interval of how many minutes, automatically log out to the login interface, the default is 3 minutes, the user how to set to close, then the user login web page, will neverlog out. The main purpose of WEB title is to facilitate users to set the title bar in the PDU web page:

In Restart options, you can reset the PDU or restore parameters in the PDU:

3.7.6 About

About the interface, it is to record the current PDU firmware and some parameters related to the running time:

Internal model	Software Version	Hardware Version
DPDUV3L_NP1_HMC	1.0.12	1.2-1.2
Software Last Update Time	Uptime	
12/12/2022	23Days 6Hours 49Minutes	

The content cannot be changed by users. When users need to provide after-sales service

for the current device, they can provide the current screenshot to our company, and our company can provide relevant after-sales service according to the information on the current interface

3.8 Other Settings

3.8.1 Display Bar Description

In the upper right corner of the interface, there is a current status bar. You can display the current login user, alarm status, logout, Chinese/English switching, and the current device time.



Click on different display content, you can quickly enter different interfaces

- 1) Click the current login user bar to enter the user setting interface
- 2) Click "Alarm" to go to the log view bar
- 3) Click "Logout" to exit the system and switch between different users to select login
- 4) After clicking "Chinese", the device switches to the English interface display
- 5) Click the current device time to enter the time setting interface

3.8.2 Obtaining IP Addresses

A PDU can obtain an IP address in the following ways:

First, after the PDU is connected to the router, it obtains the IP address assigned by the router in static or dynamic mode.

In the second mode, after the PDU is directly connected to a PC through a network cable, the PC is configured with a static IP address. If the PDU is on the same network segment as the PC, the PDU can be accessed directly.

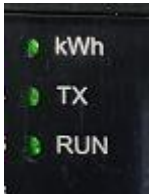
Third, after the PDU is directly connected to a PC through a network cable, set a static IP address on the PC. If the PDU is set to obtain an IP address dynamically, set the IP address on the PC to 192.168.0.xxx. After about 15 seconds, the PDU automatically obtains a certain URL from 192.168.0.160 to 192.168.0.169. In this case, the PDU can be directly accessed without router participation.

Fourth, the user can directly set the dynamic or static address of the PDU through the LCD.

Chapter Four Troubleshooting

For problems that persist or are not described here, please contact our customer service center.

4.1 Common Problems

problem	solution
The network is disconnected	◆ Check whether the LED indicator of the network port is blinking properly ◆ Check the integrity of the network cable ◆ Verify the PDU network Settings
inaccessible Web user interface	◆ Verify that you can ping through the ip address of the PDU ◆ validation Web browser you are using to support PDU, see "supported Web browser" ◆ validate input url is correct ◆ Reset the device
	On the LCD, the current status is displayed. Green indicates connectivity or normal status, and red indicates disconnection or error The first item in the first row indicates whether the PDU hardware is normal The second line in the first row indicates the network connection status of the PDU The four dots in the second row, which are displayed only in host mode, indicate whether slave 1 to slave 4 is connected.。
The parameters displayed on the LCD are garbled	◆ through the LCD to reset the device parameters ◆ through the Reset button to Reset the device parameters ◆ Still not solved, you can contact our after-sales treatment
	Indicator status description: kWh indicator: After the PDU is loaded, this indicator blinks irregularly Check whether the metering function is normal TX indicator: When the PDU serves as the host, this indicator indicates that the host sends the message from the slave When the PDU serves as the slave, this indicator indicates the read signal of the corresponding host of the slave to determine whether the cascading status is normal RUN indicator: When the PDU is running normally, this indicator is on and off at an interval of 1 second During firmware upgrades, or parameter resets, this light will blink rapidly and irregularly, indicating that the device is also in normal operation

4.2 SNMP Faults

problem	solution
Unable to execute GET or SET	◆ Verify the community and view SNMP Settings” ◆ validation is correct open UDP port 161 ◆ If SNMPv3 is used, check whether the parameters are correct
Unable to receive trap	◆ verify the trap proxy server IP address configuration is correct ◆ Verify that UDP port 162 is correctly opened
The trap received by esight is not recognized. Procedure	◆ Refer to the documentation received by your gateway to verify that these traps are properly integrated into the alert /trap database