MS-PDU
User Manual

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MS-PDU User Manual

1. MS-PDU Summary

On the trend of future power distribution management technology development, combining the technology requirement of the modern data center application environment, adopting key technology with fully independent intellectual property, the product is designed in combination of network communication, power distribution and network management.

2. Main functions

2.1 Monitor： total load current, on/off status of each outlet, temperature and humidity

2.2 Control: Switch on/off each outlet, set the delay of outlets sequential switching

2.3 Keep the former state of outlets after reset.

2.4 Self-defined alarm: set the threshold of total load current, temperature and humidity.

2.5 System default alarm: when threshold of total load current is exceeded; when threshold of temperature and humidity is exceeded.

2.6 Alarm methods: buzzer alarm; red words alerts on web interface; Email alarm; SNMP trap alarm.

2.7 User management: user name and password configurable.

2.8 Access method: Web based, access via IE; SNMP (v1); Serial access via command line control.

3. Application

3.1 MS-PDU is applicable to server racks, network racks.

3.2 Outlet types and numbers are customized according to specific requirement.

3.3 MS-PDU is applicable to 110VAC/32A(16A), 220VAC/32A(16A).

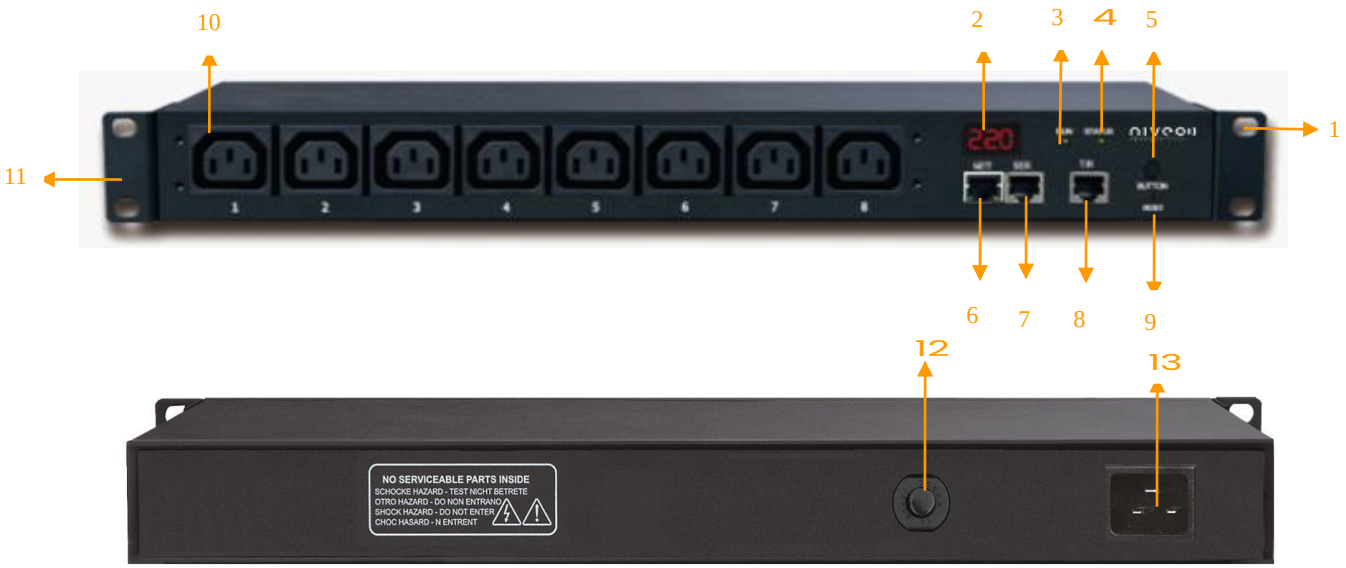
4. Product structure diagram

MS-PDU 1: Vertical Series



1. Mounting brackets
2. Wire terminal connection box
3. LED display
4. NET: Ethernet port
5. SER: serial port RS232
6. T/H: temperature & humidity sensor port
7. RUN: operation state indicator
8. STATUS: alarm indicator
9. RESET: reset button
10. BUTTON: selection button
11: outlets indicators
12: C14 plug locker
13: outlets/sockets
14: Mounting brackets

MS-PDU 2: Horizontal Series



1. Mounting brackets
2. LED display
3. RUN indicator
4. STATUS: alarm indicator
5. Button: selection button
6. NET port
7. SER: serial port RS232
8. T/H: temperature and humidity sensor port
9. RESET: reset button
10. Outlets
11. Mounting brackets
12. Overload protection
13. Power input

5. Mounting method

Horizontal or Vertical installation.

6. Software instruction

6.1 Software summary

MS-PDU is widely applied to the data centers of industries like network communication, telecom, electric power, finance, insurance, aerospace, transportation, information processing, education, medical, E-government etc.

6.2 Access methods

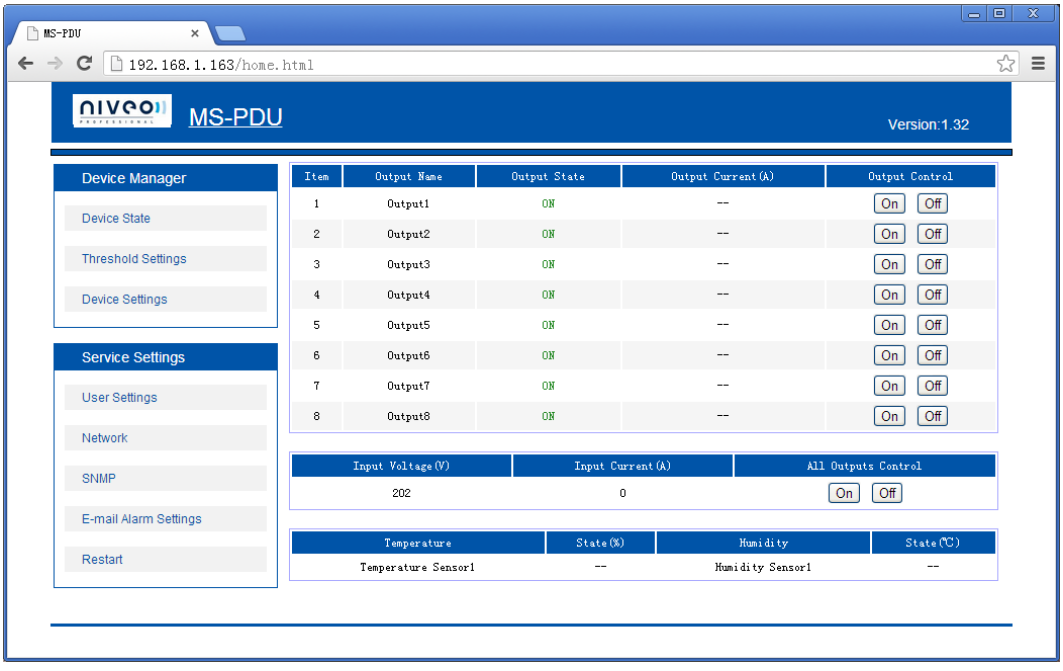
MS-PDU can be accessed via Web (support Internet Explorer, Google Chrome, Firefox), SNMP v1 and serial.

6.2.1 Web access

How to access the Web?

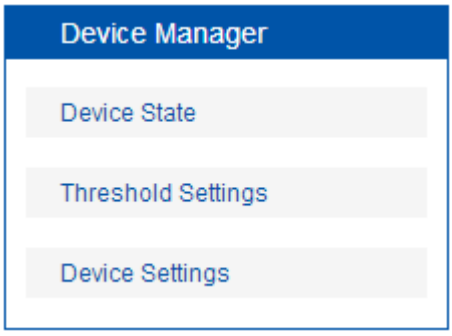
1. Connect one MS-PDU to the PC directly with the patch cable provided.
2. Check the IP of the PC, make sure it's in the same network segment of the IP of MS-PDU (The factory default IP is 192.168.1.161).

   For example: change the IP of the PC to be 192.168.1.X (X can be 0 to 255 except 161)
3. Input the IP of the MS-PDU into the web browser and enter, the login window will pop up. The default User name is **niveo** and Password is **niveo**. Main interface as below.



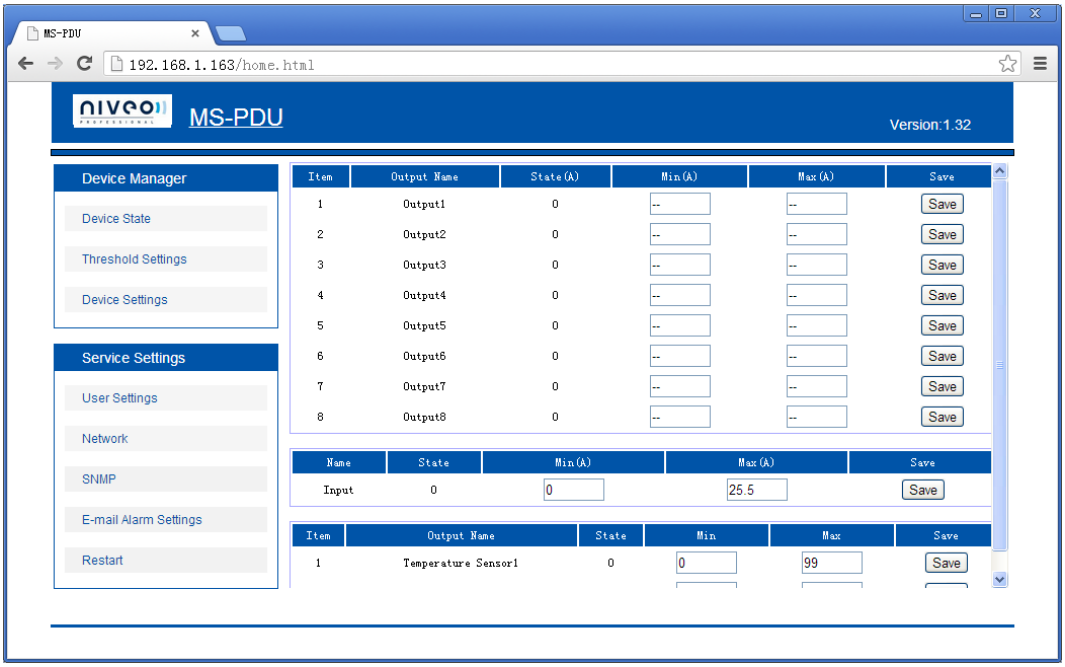
Main interface includes 3 parts: company logo & product name, Device Manager and Server Settings.

Device Manager has 3 sub menus， see below.

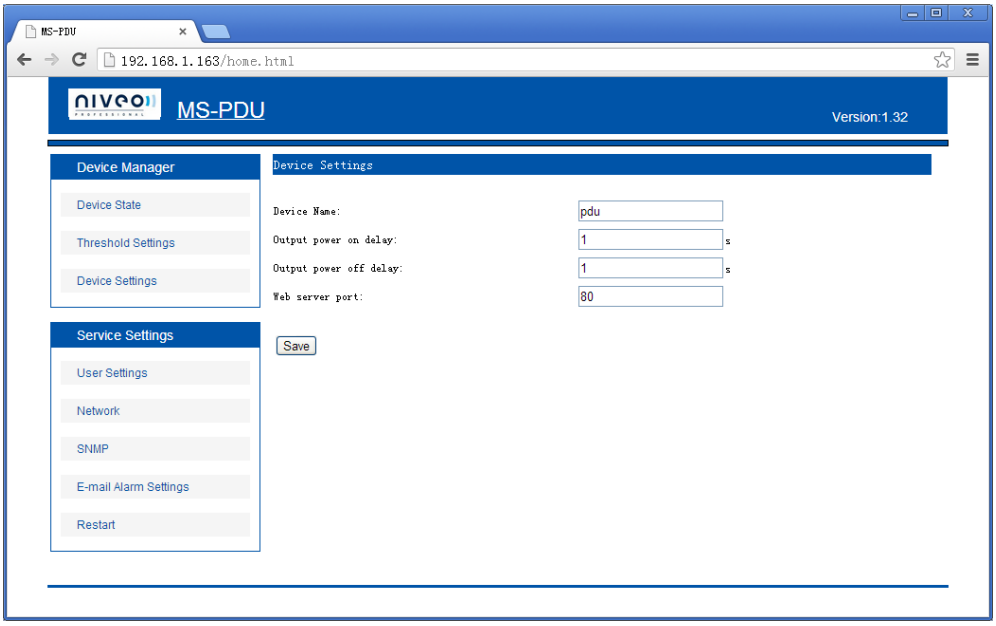


Device State: click it to the main interface displaying the on/off state of outlets and the state of temperature and humidity.

Threshold Settings: to set the threshold of load ampere, temperature and humidity. See below.



Device Settings: see below



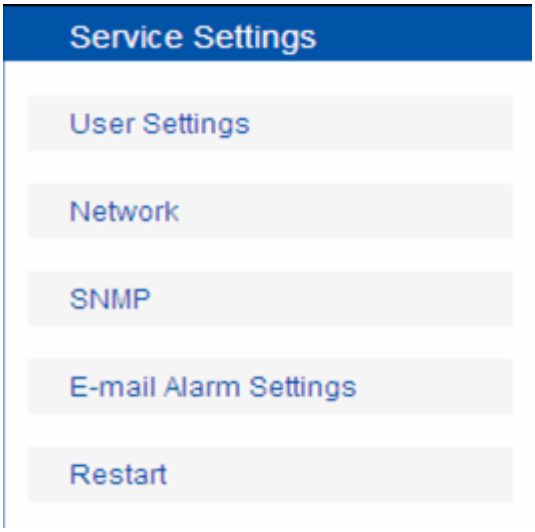
Device Name: set the name of PDU (name length 1-16 digits)

Output power on delay: set the interval of outlets sequential switching on (1-255s).

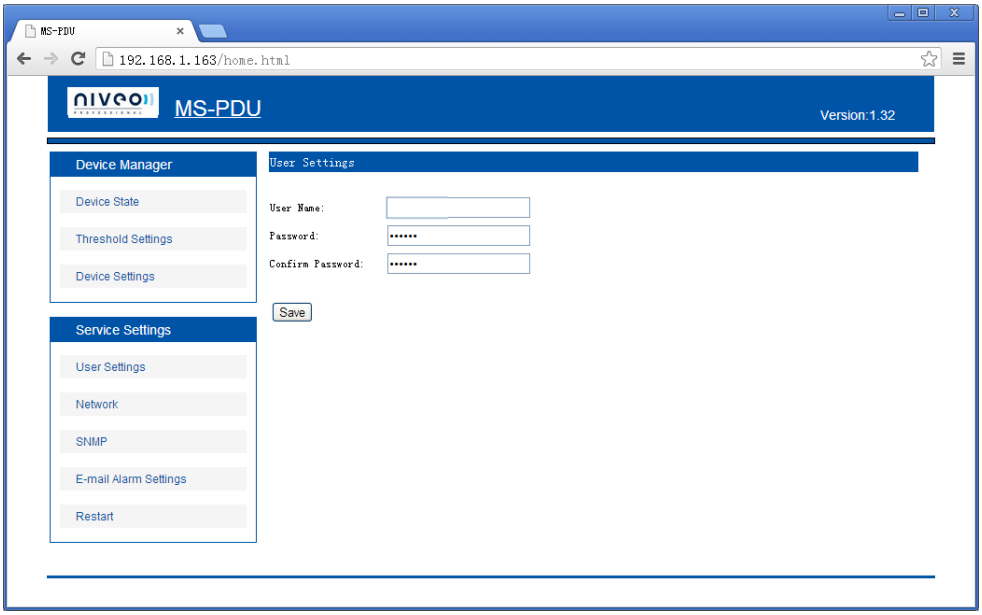
Output power off delay: set the interval of outlets sequential switching off (1-255s).

Web server port： fill in the port and save (1-65535).

Service Settings: see below



User Settings: set or modify the user name and password (Max. 16 digits)



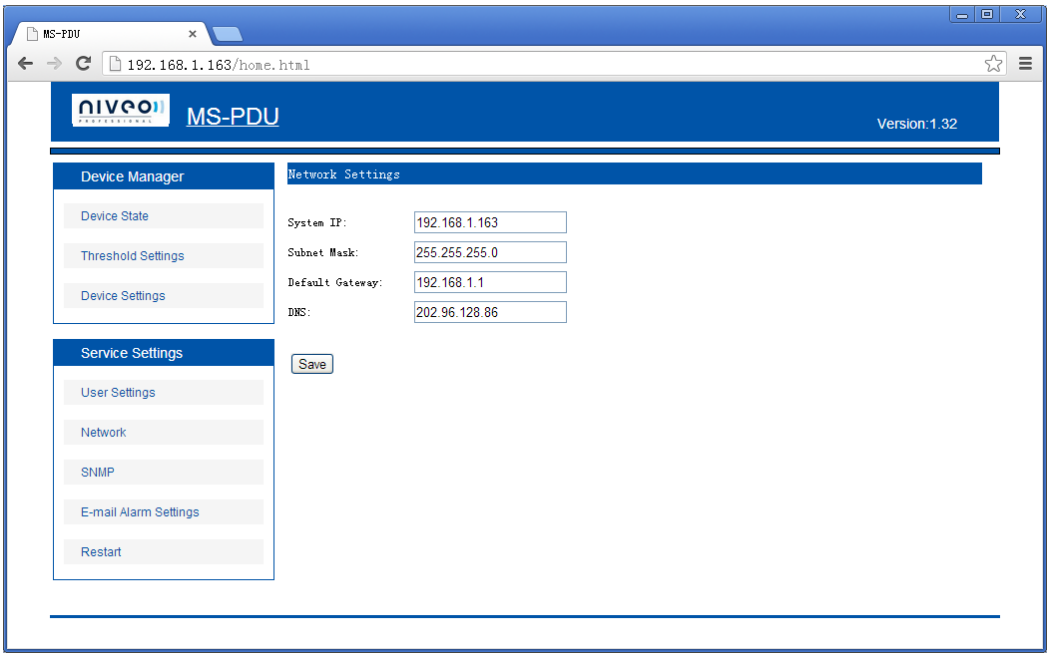
Network: System IP： 192.168.1.163（factory default IP）

Subnet Mask： 255.255.255.0

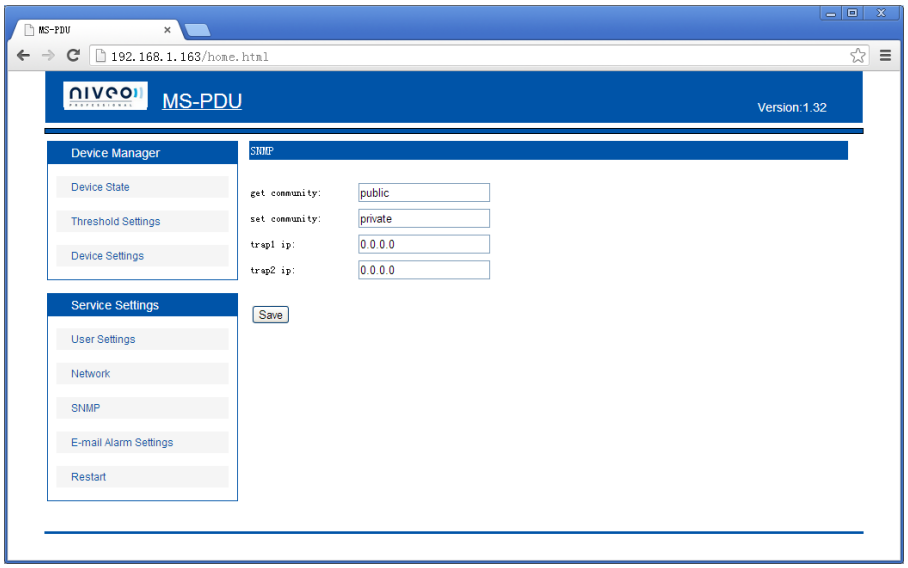
Default Gateway： 192.168.1.1

DNS： default as 202.96.128.86. Please fill in the right DNS in order to make the email alert.

Note: a restart of the software is necessary after a modification of the network settings.



SNMP: see below (support SNMP v1)

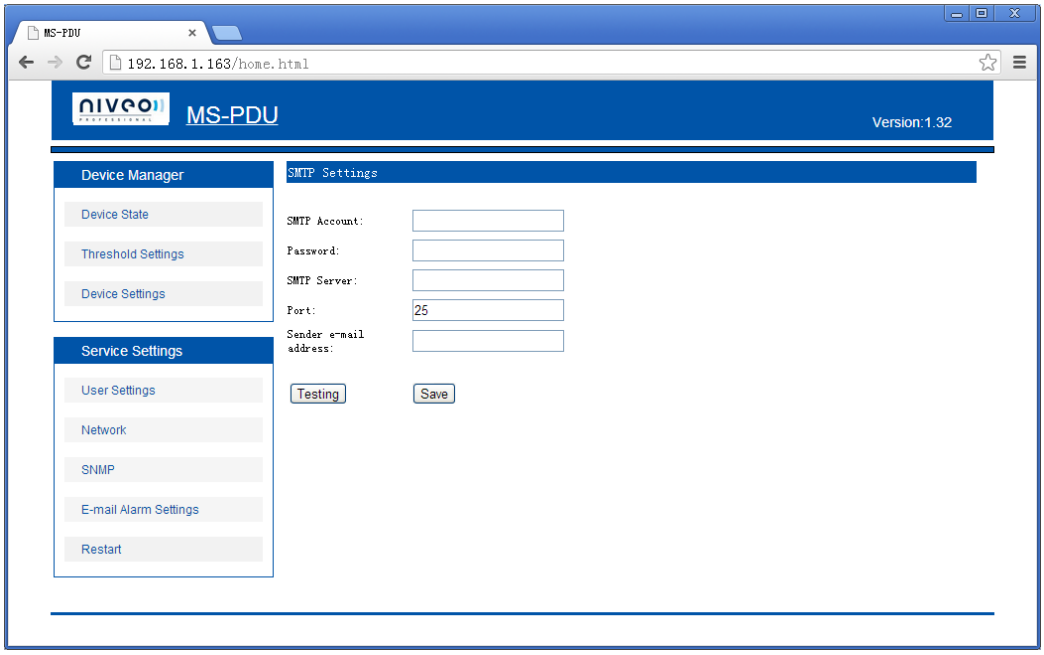


The default get community is “public” and set community is “private”. User can modify according to the specific application.

Fill in the trap address of SNMP management platform, trap alarm will be sent automatically. There are 2 Trap addresses.

Note: a software restart is necessary after a setting of SNMP.

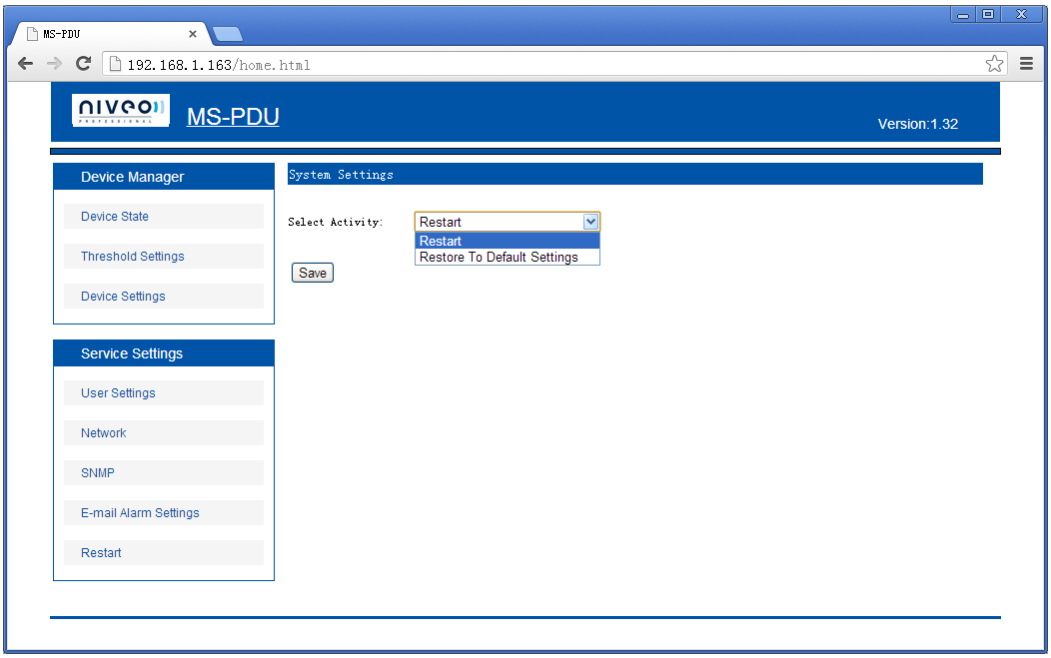
Email Alarm Settings: see below



Set the SMTP including SMTP account, password, SMTP server and port and save.

Click Testing and fill in the testing email address. If the test email is received, the setting is successful.

Restart: see below



Select Activity： to restart the software or restore to factory default settings.

Note： 1. Click RESET button, product will restart.

2.Click BUTTON and RESET at the same time, will restore the factory setting.

3.Buzzing will not alarm while restarting and restoring the factory setting.

6.2.2 SNMP Access

The software supports SNMP v1. A MIB file is provided with an enterprise number.

OID table as below.

Item	OID	Description	Mode
Device Name	1.3.6.1.4.1.30966.10.2.1.1	Name of the device	Read/Write
Device Type	1.3.6.1.4.1.30966.10.2.1.2	Type of the device	Read/Write
Output Num	1.3.6.1.4.1.30966.10.2.1.3	Number of outlets	Read
Input Voltage	1.3.6.1.4.1.30966.10.2.2.1	Input voltage	Read
Input Current	1.3.6.1.4.1.30966.10.2.2.2	Input ampere	Read
Output Current1	1.3.6.1.4.1.30966.10.2.3.1	Ampere of outlet No.1	Read

Output Current2	1.3.6.1.4.1.30966.10.2.3.2	Ampere of outlet No.2	Read
Output Current3	1.3.6.1.4.1.30966.10.2.3.3	Ampere of outlet No.3	Read
Output Current4	1.3.6.1.4.1.30966.10.2.3.4	Ampere of outlet No.4	Read
Output Current5	1.3.6.1.4.1.30966.10.2.3.5	Ampere of outlet No.5	Read
Output Current6	1.3.6.1.4.1.30966.10.2.3.6	Ampere of outlet No.6	Read
Output Current7	1.3.6.1.4.1.30966.10.2.3.7	Ampere of outlet No.7	Read
Output Current8	1.3.6.1.4.1.30966.10.2.3.8	Ampere of outlet No.8	Read
Output Current9	1.3.6.1.4.1.30966.10.2.3.9	Ampere of outlet No.9	Read
Output Current10	1.3.6.1.4.1.30966.10.2.3.10	Ampere of outlet No.10	Read
Output Current11	1.3.6.1.4.1.30966.10.2.3.11	Ampere of outlet No.11	Read
Output Current12	1.3.6.1.4.1.30966.10.2.3.12	Ampere of outlet No.12	Read
Output Current13	1.3.6.1.4.1.30966.10.2.3.13	Ampere of outlet No.13	Read
Output Current14	1.3.6.1.4.1.30966.10.2.3.14	Ampere of outlet No.14	Read
Output Current15	1.3.6.1.4.1.30966.10.2.3.15	Ampere of outlet No.15	Read
Output Current16	1.3.6.1.4.1.30966.10.2.3.16	Ampere of outlet No.16	Read
Output Current17	1.3.6.1.4.1.30966.10.2.3.17	Ampere of outlet No.17	Read
Output Current18	1.3.6.1.4.1.30966.10.2.3.18	Ampere of outlet No.18	Read
Output Current19	1.3.6.1.4.1.30966.10.2.3.19	Ampere of outlet No.19	Read
Output Current20	1.3.6.1.4.1.30966.10.2.3.20	Ampere of outlet No.20	Read
Output Current21	1.3.6.1.4.1.30966.10.2.3.21	Ampere of outlet No.21	Read
Output Current22	1.3.6.1.4.1.30966.10.2.3.22	Ampere of outlet No.22	Read
Output Current23	1.3.6.1.4.1.30966.10.2.3.23	Ampere of outlet No.23	Read
Output Current24	1.3.6.1.4.1.30966.10.2.3.24	Ampere of outlet No.24	Read
Switch1	1.3.6.1.4.1.30966.10.2.4.1	On/off state of outlet No.1	Read/Write
Switch2	1.3.6.1.4.1.30966.10.2.4.2	On/off state of outlet No.2	Read/Write
Switch3	1.3.6.1.4.1.30966.10.2.4.3	On/off state of outlet No.3	Read/Write
Switch4	1.3.6.1.4.1.30966.10.2.4.4	On/off state of outlet No.4	Read/Write
Switch5	1.3.6.1.4.1.30966.10.2.4.5	On/off state of outlet No.5	Read/Write
Switch6	1.3.6.1.4.1.30966.10.2.4.6	On/off state of outlet No.6	Read/Write

Switch7	1.3.6.1.4.1.30966.10.2.4.7	On/off state of outlet No.7	Read/Write
Switch8	1.3.6.1.4.1.30966.10.2.4.8	On/off state of outlet No.8	Read/Write
Switch9	1.3.6.1.4.1.30966.10.2.4.9	On/off state of outlet No.9	Read/Write
Switch10	1.3.6.1.4.1.30966.10.2.4.10	On/off state of outlet No.10	Read/Write
Switch11	1.3.6.1.4.1.30966.10.2.4.11	On/off state of outlet No.11	Read/Write
Switch12	1.3.6.1.4.1.30966.10.2.4.12	On/off state of outlet No.12	Read/Write
Switch13	1.3.6.1.4.1.30966.10.2.4.13	On/off state of outlet No.13	Read/Write
Switch14	1.3.6.1.4.1.30966.10.2.4.14	On/off state of outlet No.14	Read/Write
Switch15	1.3.6.1.4.1.30966.10.2.4.15	On/off state of outlet No.15	Read/Write
Switch16	1.3.6.1.4.1.30966.10.2.4.16	On/off state of outlet No.16	Read/Write
Switch17	1.3.6.1.4.1.30966.10.2.4.17	On/off state of outlet No.17	Read/Write
Switch18	1.3.6.1.4.1.30966.10.2.4.18	On/off state of outlet No.18	Read/Write
Switch19	1.3.6.1.4.1.30966.10.2.4.19	On/off state of outlet No.19	Read/Write
Switch20	1.3.6.1.4.1.30966.10.2.4.20	On/off state of outlet No.20	Read/Write
Switch21	1.3.6.1.4.1.30966.10.2.4.21	On/off state of outlet No.21	Read/Write
Switch22	1.3.6.1.4.1.30966.10.2.4.22	On/off state of outlet No.22	Read/Write
Switch23	1.3.6.1.4.1.30966.10.2.4.23	On/off state of outlet No.23	Read/Write
Switch24	1.3.6.1.4.1.30966.10.2.4.24	On/off state of outlet No.24	Read/Write

6.2.3 Serial access

Baud rate is 9600.

There are 5 commands: OUTPUT, INPUT, SWITCH, RESET and REBOOT.

OUTPUT command：OUTPUT X

For example: send command OUTPUT 1, get output 1 current: X A.

INPUT command: INPUT X (1 is voltage, 2 is current)

For example: send command INPUT 1, get total voltage: X V

send command INPUT 2, get total current: X A

SWITCH command: SWITCH X

For example: send command SWITCH 1, get the on/off state of output 1.

RESET command: to reset to factory default configuration.

REBOOT command: to reset the PDU

7. Technical parameters

No	Item		Parameters
1	Input	Rated input voltage	110/220V~ 0/60 Hz
		Input plug	Standard: IEC60309 plug
		Cable	16A：3×2.5mm², 32A：3×6.0mm²
		Max. load	16A, 32A
		Overload protection	Master circuit breaker 1P
2	Output	Rated output voltage	110/220VAC
		Max. load	16A, 32A
		Outlet types	Standard: IEC320 C13 Other sockets optional
		Outlet numbers	Optional
3	Ports	NET port	1 x RJ45
		Serial port	1 x RJ45
		Temperature/humidity sensor port	1 x RJ11
4	Display	Operation state	1 x LED
		Error state	1 x LED
5	Digital ammeter	Total ampere	Full scale：32A/16A Accuracy：±1%+ 0.2 Resolution：200mA; Response：400ms
		Individual ampere	Full scale：25A Accuracy：±1%+0.1 Resolution：100mA ; Response：400ms
6	Temperature		Working condition：-40℃~+100℃， Accuracy：±1℃; Response：4s
	Humidity		Accuracy：±5%RH Response：400ms

7	Dimension	L×W ×H	X²×66.6×44.4mm
8	Case	Color	Black
9	Fittings	Mounting brackets	2pcs
		Ethernet wire	2M, blue
		Serial wire	2M, yellow
		User Manual	1 x CD
10	Optional fitting	Sensor	Temperature & humidity sensor
11	Environment	Working condition	0℃～55℃
		Relative humidity	10～90%
		Storage	-20℃～+70℃
12	ROHS	YES	