SMART PDU
& SMART CABINET

USER'S MANUAL

SMART PDU/CABINET

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Catalogue

I. Smart PDU General Function Introduction

Smart PDU have A, B, C, D models. A & B type have the function of remote monitoring and remote controlling: A type can implement total circuit and branch circuit monitoring and controlling; B type only can implement the total circuit monitoring and controlling. C & D type have remote monitoring function: C type can monitor both of the total circuit and branch circuit; D type can only monitor the total circuit. A, B, C, D four types of the corresponding product model are defined respectively: Class A: GMSC; Class B: GMC; Class C: GSM; Class D: GM.

Remote monitoring function include: total current, voltage, branch current (B & D type don't have this function), total power, total electric energy, temperature, humidity, smog, water logging, entrance guard etc.

Remote controlling function include: total circuit switch control, branch circuit switch control, branch circuit time delay switch control, branch circuit timing switch control etc. For the detailed function of all the types, please refer to < SPDU model selection>, here is the product appearance picture as below:

Note：Cixin PDU product: select A type。

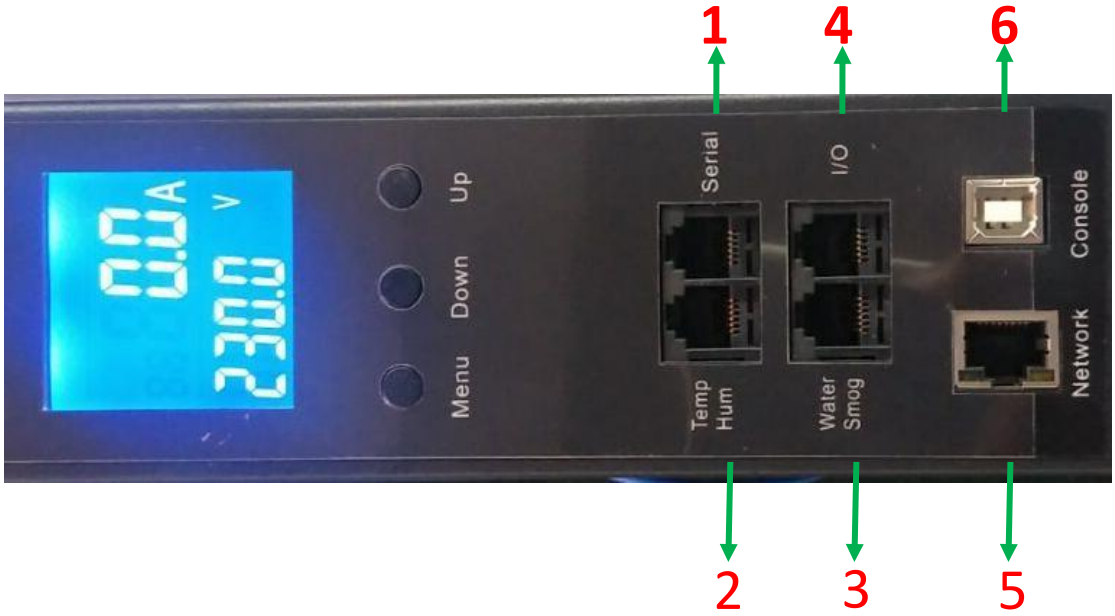
Smart PDU Function List

Main function	Details	Function series			
		Switched		Monitoring	
		A	B	C	D
Monitor	Total current	●	●	●	●
	Outlet load current	●	●	●	
	On/Off state of each outlet	●	●		
	Total power(kw)	●	●	●	●
	Total energy consumption(kwh)	●	●	●	●
	Input voltage	●	●	●	●
	Frequency	●	●	●	●
	Temperature/Humidity	●	●	●	●
	Smoke	●	●	●	●
	Door controlling	●	●	●	●
	Water logging	●	●	●	●
Control	Switch on/off input power		●		

	Switch on/off individual outlet	●			
	Delay switch on/off individual outlet	●			
	Timing switch on/off individual outlet	●			
Configure	Set the delay of outlet sequential switching	●			
	Clear the total energy consumption(kwh)	●	●	●	●
Alarm	Total current upper limit	●	●	●	●
	Outlet current upper limit	●	●	●	
	Temperature/Humidity upper limit	●	●	●	●
	Smoke	●	●	●	●
	Water	●	●	●	●
	Door	●	●	●	●
Alarm method	Buzzer	●	●	●	●
	email				
	GSM Message(optional)				
User management	User rights management and software update				

1.1 Overview

The Smart PDU have Ethernet port, RS485 port, USB-RS232 port, Temp/Humidity port, Senor Port, I/O port etc. The interface definition is as blow:



Input/output Interface instruction: 4 RJ11 ports, the order of corresponding pins are as below:

1、Serial

RS485 Serial communication port is used for local monitoring mainly and can be communicated with RS485 port locally. And also can be matched with HMI (Human Machine Interface) provided by this company. The communication Baud rate is 9600. (Details can be seen on HMI OPERATING INSTRUCTIONS)

1	2	3	4	5	6
GND	485A-	485A-	485A+	485A+	GND

2、 Temp/Humidity

It is temperature and humidity interface. Usually, it (IIC bus type sensor) is optioned by the supplier because too many kinds of sensors in the market. The pins are as follows:

SCL: Clock; SDA: data; GND: Grounding; +5V: Power Positive Pole

1	2	3	4	5	6
GND	GND	SCL	SDA	+5V	+5V

3、Sensor

It is universal transducer Interface and can be used for the sensor signal input such as smog, water logging switch.

1	2	3	4	5	6
+24V	+24V	Water	SMOG	GND	GND

The pins are as follows:

Water: water logging monitor. It is high potential at normal conditions. When it monitored low potential, it will watering alarm; SMOG: Smog monitor. It is high potential at normal conditions. When it monitored low potential, it will SMOG alarm. +24V and GND is power supply.

4、 I/O

It is common digital value input/output. There are two routes for each input and output and can be used for status indicator of entrance guard and output control of dry contact etc.

1	2	3	4	5	6
GND	DI.0	DI.1/DO.0	DI.2	DI.3/DO.1	+24V

DI.0-DI.3 are digital value electrical level input. The input level between 5~24Vdc. These Pins can monitor input signal, when input level is higher than 5VDC, it can be regarded high level 1. Otherwise Low level 0. DO.0、DO.1 can be used output control, when control, it short to GND. The dry contact is used for entrance guard condition monitoring. If the entrance guard is passive switch signal, it can be used by connecting the 24V power simultaneously. DO.0 and DO.1 are the dry contacts output over the ground. The drive capability is not above 200mA, 100Vdc. They are respectively as water logging and smog alarm output.

5、 Network

It is network interface and used for TCP/IP internet network connections.

6、 USB

It is common interface for RS232 port transform to USB port and used as console debugging port.

7、 Key

Function keys instructions

7.1) UP: Page Up to view each loop current respectively, MODBUS protocol device ID, communication baud rate, IP address; Default data: ID=48 ； BAUD=9600 ； IP=192.168.2.188。

7.2) DOWN: Page Down to view each loop current, IP address, baud rate, device ID, etc.

7.3) MENU：Parameter Settings button, detailed setting method is as follows:

1、 Keep pressing "menu" button more than 3 seconds, after hearing the "drop" sound into the set state.

2、Press up and down keys, respectively, to view the ID number (device), BD (baud rate),

the UI (current I limit), 12 a upper limit of class II (current), P11 (upper limit of branch current level I), P12 (shunt current class II cap), UU (voltage upper limit), UL (lower voltage), UT (limit temperature), LT (lower temperature), UH (humidity limit), ED1 (four DI/DO alarm can make), LD1 (four I/O normal setting), EST (smoke, water enabled), LST (smoke, water status Settings), etc. All the parameters.

3、ED1 and EST defaults to zero, when need to enable this feature, please set to 1.

4、LD1 and LST defaults to zero, it indicates that the bit low level accordions normal, high level anomaly; If one is set to 1, show the high level for normal, low level of anomaly. Users have to set up correctly according to the actual use.

5、In the current parameter display page, press "menu" button to enter a state of parameter modification, and the numbers start flashing, then press the up and down key can modify the value, press "menu" button again to confirm.

6、Keep pressing the "menu" button for 5 seconds to exit the set state.

7.4) MENU + DOWN： Keep pressing the two keys at the same time for more than 3 seconds, and the equipment restart, any parameters don't reset at this time.

7.5) MENU+UP: Keep pressing the two buttons at the same time by more than 20 seconds, the equipment restart, and the equipment IP address restore factory Settings: 192.168.2.188.

1.2 Introduction of software operation interface

1.2.1 Login interface

Default login parameters：

IP Address： 192.168.2.55

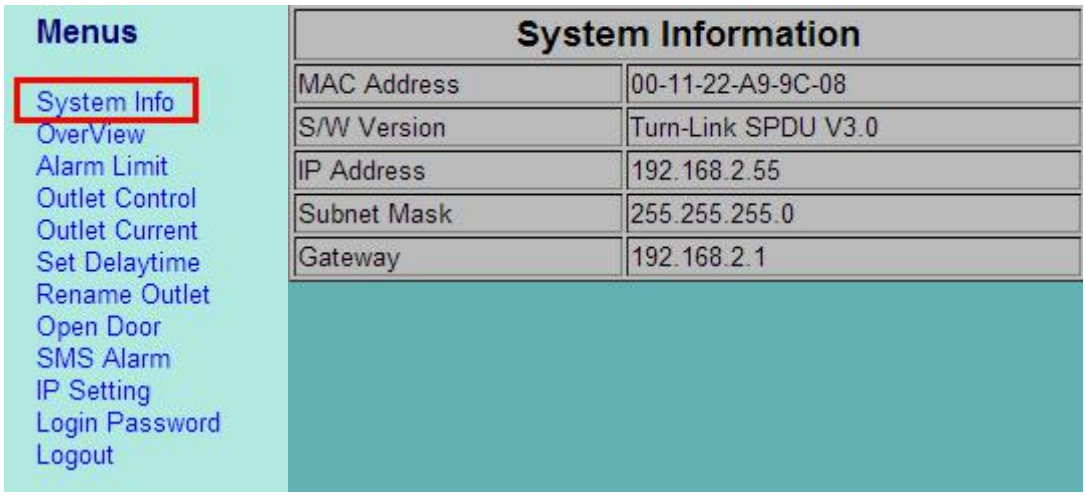
Name ： 123

Password ： 123

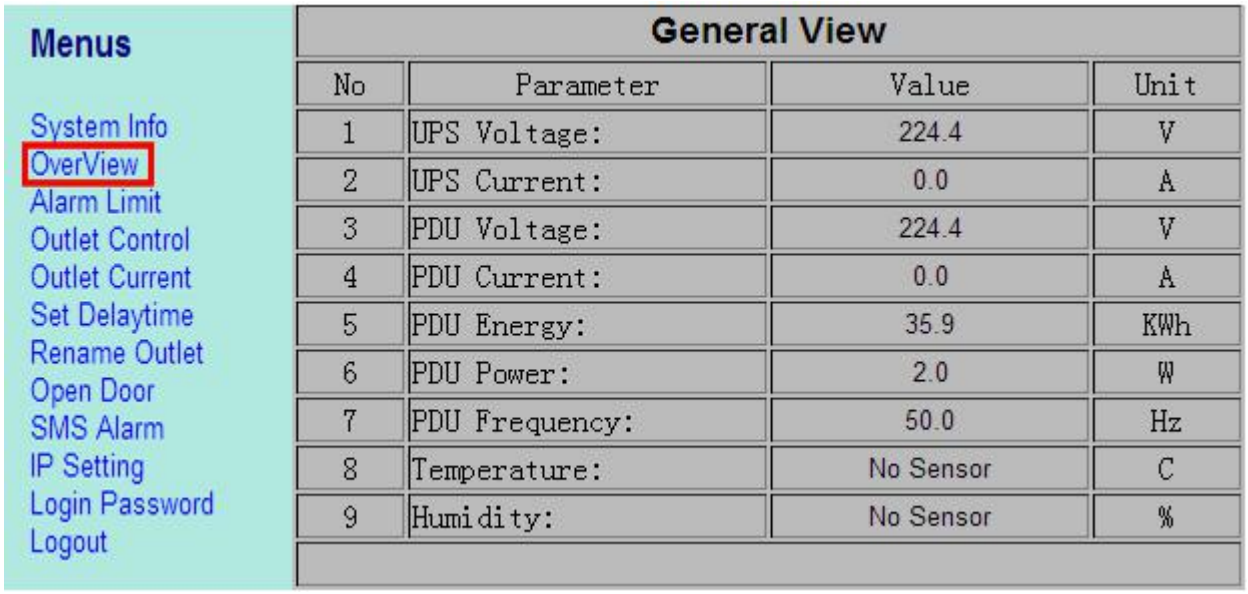
Remarks： Whenever forget the IP address or password ,you can press the reset key(behind a small hole) about 10 seconds, the system will reset to the default IP address:192.168.2.55, and the default name :123、default password : 123。

1.2.2 System Information Overview

From this interface, the MBC address, S/W Version, IP address , Subnet Mask,Gateway etc. can be checked.

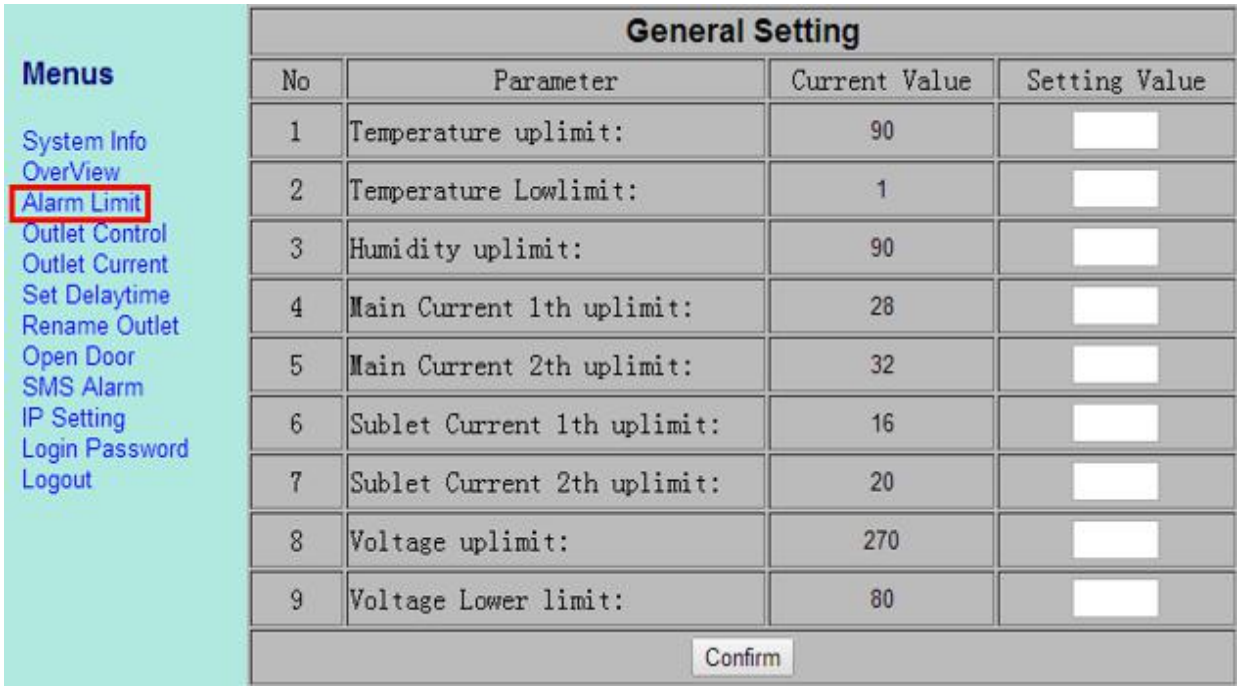


1.2.3 Parameter Overview Interface



From this interface, the voltage, total current, electric energy, power, frequency, temperature humidity etc. can be checked.

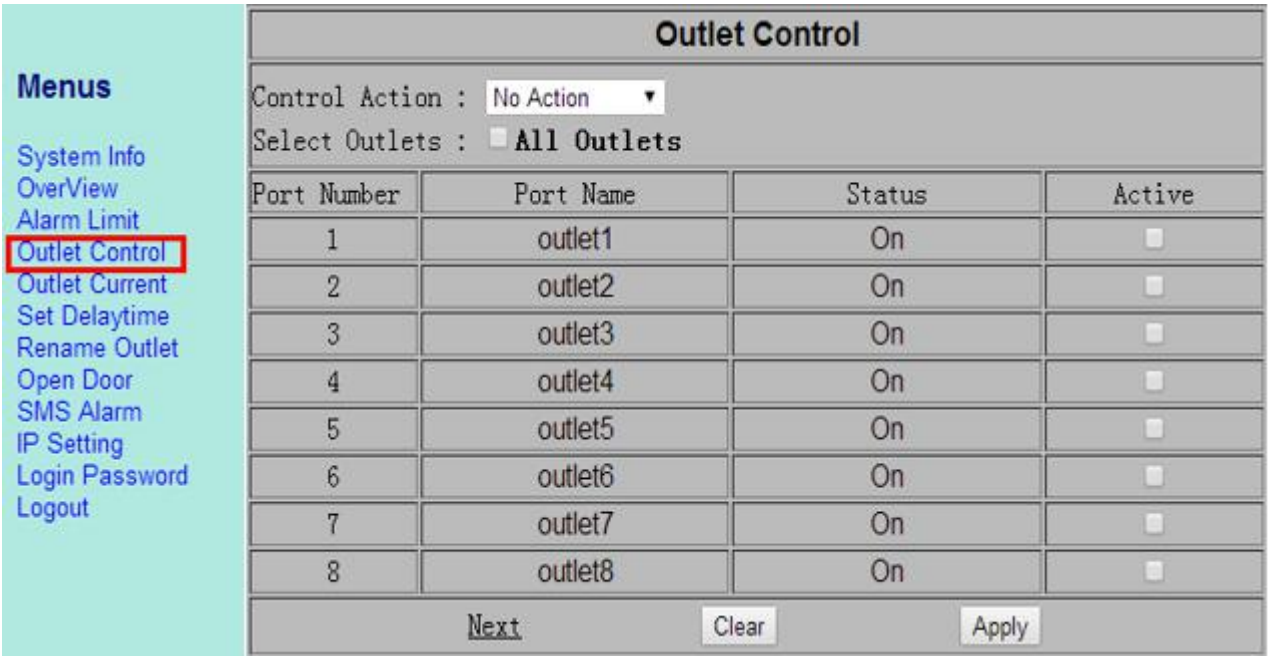
1.2.4 Alarm value setting interface



From this interface: the temperature upper limit, temperature lower limit, humidity upper limit,

humidity lower limit, total current upper limit I, total current upper limit II, sublet current upper limit I, sublet current upper limit II etc. can be set.

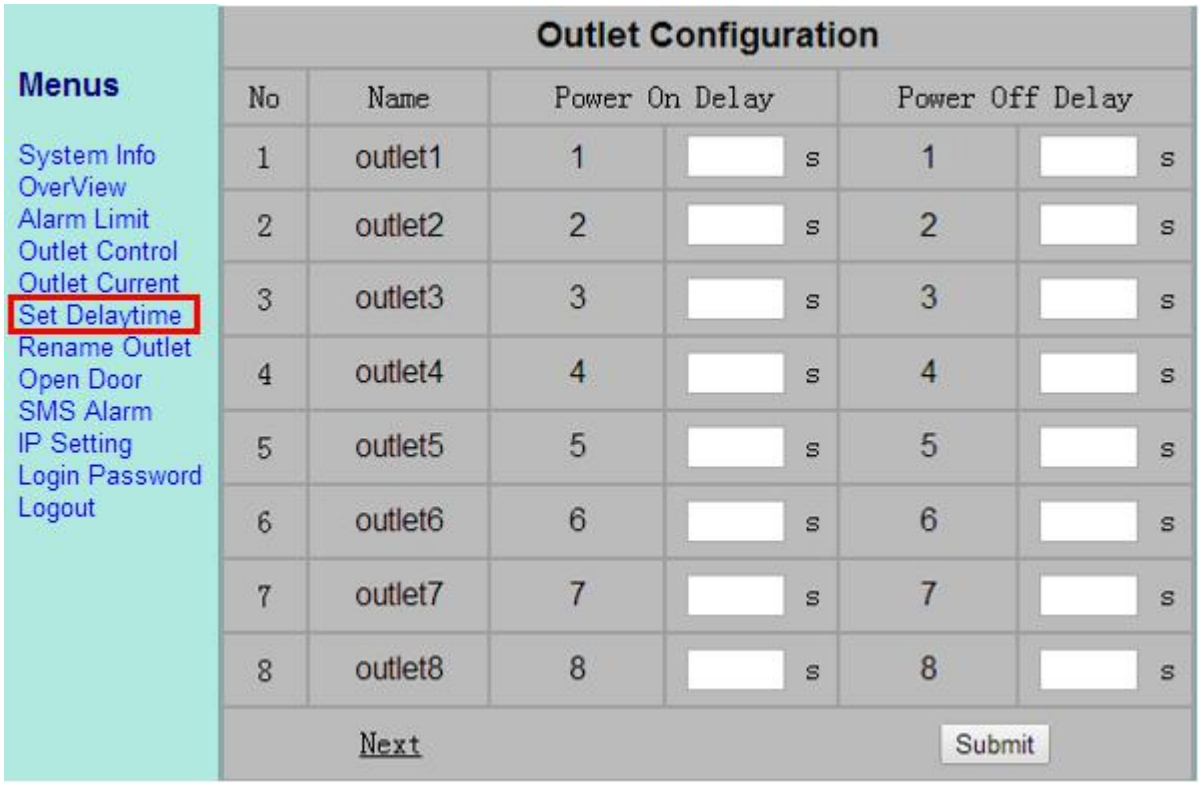
1.2.5 Remote device control interface



All the outlets or some individual outlets can be selected. The control action include “on immediate”, “on delay”, “off immediate”, “off delay” 4 types. “Delay on/off” action is only available after setting the delay time parameter.

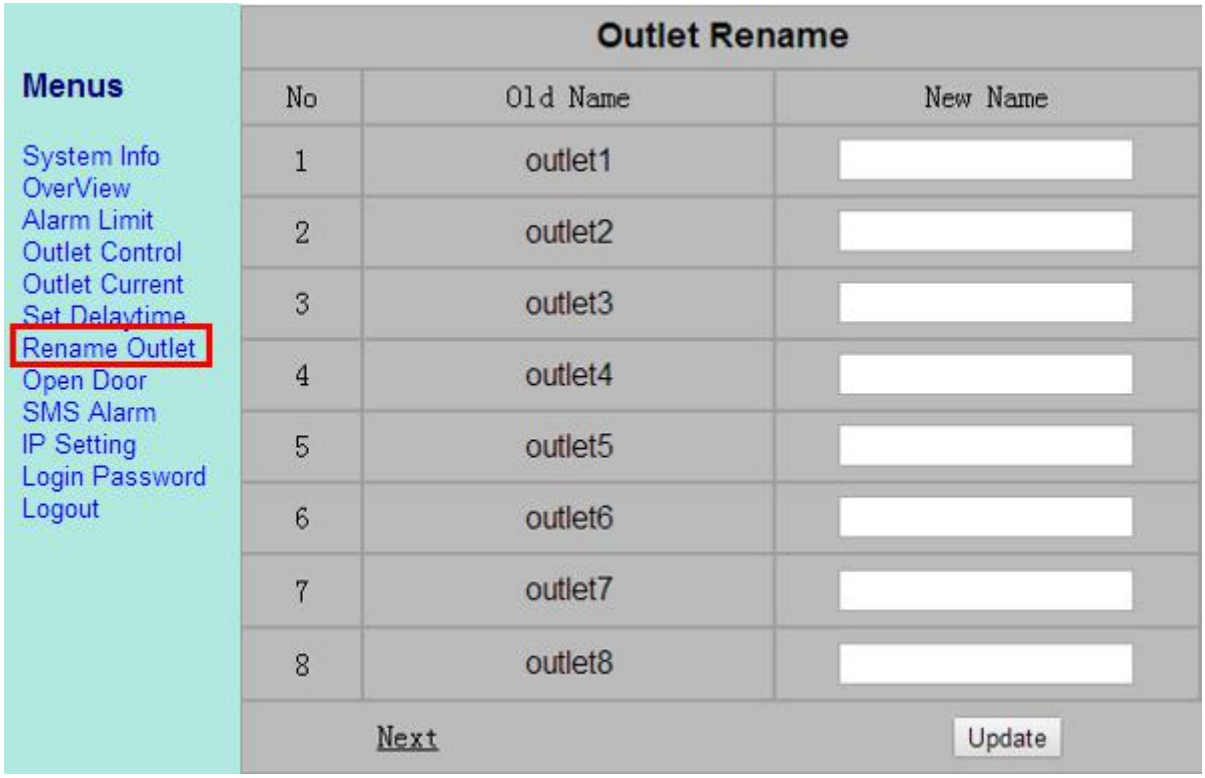
In this page, press the “opendoor” button, then can enter opendoor page. As follow.

1.2.6 Time delay parameter configuration interface



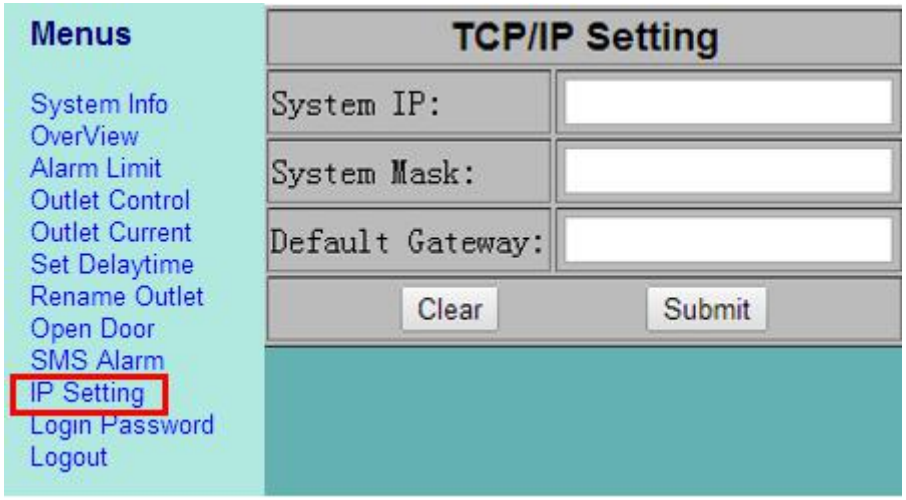
Please fill in the time delay on/off value for each outlet from this interface. The time unit is second and the max value is 999 seconds.

1.2.7 Rename Outlet interface



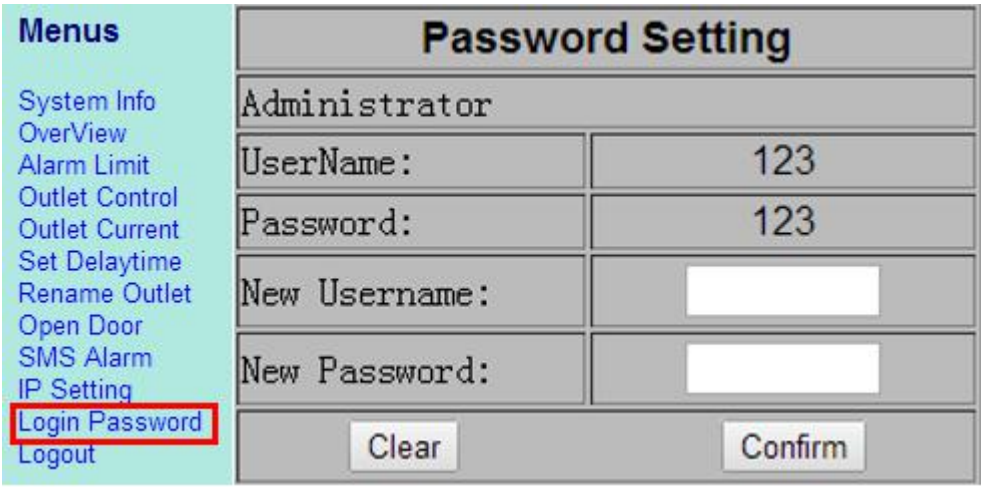
From this interface can rename outlet, total length no more than 20 character.

1.2.8 Revising the IP address



You have to fill in all the information for system IP, system mask and system gateway. When finished it, reboot smart PDU, the new IP address can be used.

1.2.9 Setting for login user name and password



Setting and amending login user name and password can be done on this interface.

1.3 Technical parameters of the device

1、 Working voltage: single phrase 100~250VAC, three phrase 380VAC
2、Maximum power current: 16~63A
3、Working frequency: 50/60Hz

1.4 Smart PDU centralized control system

1.4.1 Through the cascade serial of the master Smart PDU, the slave Smart PDU can be realized remote real-time monitoring and control management for several equipment's power supply in multi cabinets. The functions of Smart PDU are described as above chapters.

1.4.2 Master network Smart PDU: This device was connected to the network devices such as router or interchanger etc. through Ethernet interface, and can be realized TCP/IP remote communications. Meanwhile, it can be connected to the Slave Smart PDU by RS485 serial port and can be cascaded up to 64 pieces Slave Smart PDU in turn.

1.4.3 Slave serial Smart PDU: This device can be connected to the Master network Smart PDU by RS485 serial port, and can be realized serial port communication monitoring and controlling.