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# Preface

#### **Version Description**

Manual version: V1.0

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This manual is made according to currently available information and subject to change without further notice. Whilst every effort has been made to ensure the accuracy and reliability of the contents contained herein, the Company cannot be held liable for any harm or damage resulting from any omissions, inaccuracies or errors contained in the manual.

#### **Brief Introduction**

This User Manual describes the installation and operation of IP\_PDU equipment. Before you use our device for the first time, please read all the included materials carefully, and install and operate this series of products in keeping with items listed in the manual, so as to avoid damaging the device resulting from malpractice. Thank you for choosing our products.

#### **Environmental Protection**

This product complies with the design requirements associated with environmental protection. The storage, use and disposal of the product should be conducted in accordance with related national laws and regulations.

We welcome you to put forward advice and suggestion to our work, which shall be viewed as the ultimate support to us.

# **Chapter 1 Introduction**

# **1.1 Overview**

IP-PDU provides power distribution and management solutions. Power distribution system is fitted with multiple outputs designed to distribute electric power and voltage. Power management system is a power switching control unit (It also include remote control), which is a combination of precision ammeter and Ethernet communication, to provide users real-time device monitoring mechanism, and provide centralized monitoring software, managers also can monitor a large number of digital socket.

# **1.2 Features**

- Provides 8 ways of output interface; Input voltage is 110V AC or 220V AC; Maximum output current is up to 10A for each outlet. Maximum output Total current is up to 16A;
- Provides smog, water logging, entrance guard, temperature and humidity and other environmental acquisition interface(optional);
- Perfect LED monitoring panel functions: The panels can display devices operating status, total load current, operating voltage, individual load current and on/off status of each unit;
- Rich control functions: Outlet on/off control, order on/off delay time interval set of outlet, on/off time setting of outlet. It is capable to keep the original status of each unit and configuration after a system reboot;
- System Alarm Functions: Alarming when total or individual load current exceeds the rating, or unit malfunctions, over temperature or humidity, smog, water logging or entrance guard is opened;
- A variety of alarm mode: Panel status LED indicator flashing; buzzer beep alarming; automatically send E-mail to the system administrator; SNMP Traps alarming;
- A variety of Access and management configurations: Support Telnet, Web Server, centralized management software, SNMP MIB integrated network management system;

- Support devices cascade function: It provides 2-way switchable 10/100M Ethernet to implement multi-platform IPPDU cascade management;
- System support RTC time keeping, and granted time from NTP at the same time, support network system upgrades;
- System software provides Log recording: To record and save the local alarming data, and to provide log review and output.

# **Chapter 2 Functional Specifications**

# 2.1 PDU Front Panel

## 2.1.1 Front Panel sketch maps



Figure 2-1 Front Panel sketch map

# 2.1.2 Front Panel LED Indication

There are 18 indicators on the front panel of the device, and their functions are:

LED name	Color	Functions	Status	Description
SYS	Red	System	On	System abnormal
		alarm	Off	System normally
PWR	Green	Power	On	Power supply normal
		Indication	Off	Power off
ON1—ON8	Green	Output	On	Output on
		Status	Off	Output off
ALM1ALM8	Red	Output	Flashing	Output warning, Relay
		Alarm		damaged or Current
				overload
			Off	Output without warning

# 2.1.3 Front Panel interface

#### Ethernet

Two adaptable 10/100M Ethernet interfaces, one for device management, and the other for device cascade.

# TH interface

RS232 serial communication with RJ45 physical interface connects temperature and humidity transmitter for monitoring the environment temperature and humidity.

# WATER interface

Connect RJ45 port of water sensor for monitoring the water leaking.

# SMK interface

Connect RJ45 port of smog sensor for monitoring smog in the environment, mainly used to prevent the fire.

# **DOOR interface**

Connect RJ45 and Security port of door magnetic alarm.

# LED display instruction:

The left three digital pipe display name and the right three digital pipe display data, for instance, AC indicates voltage; CH1—CH8 indicates each output and the corresponding value is the current value of output; ALL indicates the total current value; IP1 indicates the first digit of IP address; IP2 indicates the second digit of IP address; IP1 indicates the third digit of IP address.

# Key-help:

KEY is used to cyclically switch the LED digital display. Each press will make it to display the next parameters. If with the long press, the display will automatically switch to next parameters every second.

# 2.2 PDU Back Panel

# 2.2.1 Back panel sketch maps



Figure 2-2 Back Panel sketch map

# 2.2.2 Back panel indicator light

Eight indicator lights on the back panel: when output interface with voltage, the indicator light is on , otherwise, the indicator light is off.

# 2.2.3 Back panel interface

Back panel provides eight power output interfaces, one power input interface and one overload protection switch.

# **Chapter 3 WEB configuration instructions**

Connect the device and computer with network cable, open the IE browser and login the network management interface( Default IP address : 192.168.0.168, User name and password: admin )

#### 1) Display function of current/voltage/switch/sensor real-time state

After login the network management interface, as shown in the following picture:

Rower Distribution Unit	Device status										
Sys Information	NO	NAME	CURRENT (Amps)	ENERGY (KWH)	STATUS	CONTROL					
Devic Status	1	1	0.0	0.00000	OFF	NONE 🛩					
Configuration	2	2	0.0	0.00000	OFF	NONE 🛩					
🍗 Up load	3	3	0.0	0.00000	OFF	NONE 🛩					
🍗 User Manage	4	4	0.0	0.00000	OFF	NONE 🛩					
Nent Logs	5	5	0.0	0.00000	OFF	NONE 🛩					
Nestart	6	6	0.0	0.00000	OFF	NONE 🛩					
'🕐 Restart	7	7	0.0	0.00000	OFF	NONE 🛩					
	8	8	0.0	0.00000	OFF	NONE 🛩					
	Total Cu	rent:	0.0								
	In Voltag	e:	225			Apply					
	Globle Contro	ol:		Al	1 Outlets NONE	<ul> <li>Apply</li> </ul>					
	Senso	r Status									
	Door :	NO Alarr	n								
	Water L	ogging: NO Alarr	n	Temperat	ture: 27.5						
	Smog Al	arm: NO Alarr	m	Humidity:	32.5						

"CURRENT(Amps)": Real-time current.

"ENERGY(KWH)": Energy Consumption (form power on to now).

"STATUS": Switch-status, ON: turn on, OFF: turn off.

"Total Current": Total eight Current.

"In Voltage": Input voltage.

"Door": The state of door magnetic alarm.

"Water Logging": The state of water sensor.

"Smog Alarm": The state of smog sensor.

"Temperature": Environment temperature, if the device doesn't connect to temperature and humidity sensor, it's 0.

"Humidity": Environment humidity, if the device doesn't connect to temperature and humidity sensor, it's 0.

"CONTROL": NONE is no operation, ON represents open the corresponding output, OFF represents close the corresponding output. Press the "Apply" button to complete the setting after selection.

"Global Control": Unified control of eight outputs, NONE is no operation,

ON represents open all the outputs and OFF represents close all the output. After press the "Apply" button, device will open or closed all the output in turn according to the time of delay parameter setting.

#### 2) System information display function

After login the system, click the icon beside the "Sys Information", then click "Sys Information" to enter the system information interface, as shown in the following picture:

⊳ Power Distribution Unit	t System Information				
🔍 🏷 Sys Information					
Sys Information	Verify :	YES			
Devic Status	Software Version :	V1.0			
🖲 🅟 Configuration	Hardware	V1.0			
🖽 🍅 Up load	Version :				
🗉 🍥 User Manage	Last Time Update :	Jul 13 2011 15:44:58			
Event Logs	Ethernet Address(MAC):	00:01:02:03:04:00			
Restan	Device Number:	0123456789			
	Device Name:	device_second			
	Device Location:	hangzhou			
	Contact Person:	xiongxiaohui			
	Remark Infor:	0571-85333849			
	apply				

"Verify": Indicate whether the sampling current and voltage value is verified,

YES: verified, NO: not verified.

"Software Version": Software version number.

"Hardware Version": Hardware version number.

"Last Time Update ": Software version update time.

"Ethernet (MAC)": Network physical address.

"Device Number": Device number, it can be modified.

"Device Name": Device name, it can be modified.

"Device Location": Device Location, it can be modified.

"Contact Person": Related contact person, it can be modified.

"Remark Informs": Remark Information, it can be modified.

Every item that can be modified has at most 15 characters to be set and press "apply" button to confirm after modification.

#### 3) Limit configuration function

After login the system, click the icon beside the "Configuration", then click "Threshold Config" to enter the limit configuration interface, as

shown in the following picture. You can modify the minimum and maximum current value, the minimum and maximum voltage value, and minimum and maximum value of temperature and humidity. The maximum current value is up to 10A and the minimum current value is 0A, the maximum voltage value is up to 249VAC and the minimum voltage value is 0VAC. Press "apply" button to confirm after modification. If the actual real-time value is beyond the range of the limit configuration and system alarm is on, the system will send alarm signals.

ጶ Power Distribution Unit	Cur	Current threshold setting									
Sys Information	NO	NAME	Low Limit(Amps)	High Limit(Amps)							
Devic Status	1	1	0.0	10.0							
Devic Status	2	2	0.0	10.0							
Configuration	3	3	0.0	10.0							
🍥 Threshold Config	4	4	0.0	10.0							
iming Control	5	5	0.0	10.0							
	6	6	0.0	10.0							
Alarm Setting	7	7	0.0	10.0							
Network Config	8	8	0.0	10.0							
└────────────────────────────────────	Sen	sor/Voltag	e threshold setting	Apply							
m Nestan	NO	NAME	Low Limit	High Limit							
	1	In Voltage	0	249							
	2	Temperature'	0.0	80.0							
	3	Humidity1	0.0	% 85.0							
				Apply							

#### 4) Timing switch configuration function

After login the system, click the icon beside the "Configuration", then click "Timing Control" to enter the Timing open/close configuration interface, as shown in the following picture. You can modify the switching time. In the "ACTIVE" options, OFF indicates timing off is effective, ON indicates timing on is effective, ON/OFF Repeat indicates repeating the timing switch every day, NONE represents no operation. All the configuration formats are same. Press "apply" button to confirm after modification. The actual timing switch value equals timing switch value adds time delay switch. "Device Time" displays the system time, if the system time does not agree with the local time, you can modify it in the time setting page.

Power Distribution Unit     Sys Information     Sys Information     Devic Status     Sys Configuration	Device ON/OI Timin Contr	e Time :: FF g ol	2011/07/14 09:	:10	):32	
Threshold Config	NO	NAME	ACTIVE		On Time(yy/mm/dd)	Off Time(yy/mm/dd)
timing Control	1	1	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
to Delay Control	2	2	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
Alarm Setting	3	3	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
Network Config	4	4	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
SNMP Config	5	5	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
B D load	6	6	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
🖲 🔥 User Manage	7	7	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
🗉 💿 Event Logs	8	8	ON/OFF Repeat	~	2011/07/11 08:51	2011/07/11 08:50
🖄 🍗 Restart						Apply

#### 5) Delay switch Configuration function

After login the system, click the icon beside the "Configuration", then click "Delay Control" to enter the delay switch Configuration interface, as shown in the following picture, you can modify the delay switch time. The maximum delay of each group switch operation is up to 3500s. If the value is to be set greater than 3500, the configuration is invalid and it will recover the last correct settings. Press "apply" button to confirm after modification.

Power Distribution Unit Sys Information Sys Information	ON/O Delay Contr	FF		
🖻 խ Devic Status	NO	NAME	On Delay(sec)	Off Delay(sec)
👘 👷 Devic Status	1	1	1	1
🔍 🏷 Configuration	-	-	•	•
Threshold Config	2	2	2	2
ming Control	3	3	3	3
Delay Control	4	4	4	4
	5	5	5	5
🌝 Network Config	6	6	6	6
to SNMP Config	7	7	7	7
SysTime Set	8	8	8	8
🖭 🍅 Up load	-	-	L	
😐 🍗 User Manage				Apply
🖲 🅟 Event Logs				******
🗄 🍗 Restart				

#### 6) Alarm configuration function

After login the system, click the icon beside the "Configuration", then click "Alarm Setting" to enter the Alarm configuration interface, as shown in the following picture. You can set the alarm related parameters, drive the alarm E-mail and buzzer alarm, and set the alarm E-mail parameters. Press "Save" button to confirm after modification and press "Test" button to test whether the configurations are correct.

鯵 Power Distribution Unit	Alarm Enable setting	9	
🗄 խ Sys Information			
by Sys Information	Disable 🔽 Sound alarm		
🖹 🇄 Devic Status	Enable 🛛 🖌 Email alarm		
	SMTP Address:	192.168.1.101	
🖻 խ Configuration	SMTP Port	25	
	SMIP POL	20	-
	Name :	XXXX	
👘 👷 Delay Control	Password:	•••••	
Alarm Setting	To Address:	xxxx	
😁 🎲 Network Config	Cc Address:	****	
to SNMP Config			
🎲 SysTime Set	From Address:	XXXX	
🗄 🍅 Up load			
🗉 🍅 User Manage	Save Test		
🗄 🍅 Event Logs			
🗄 🍅 Restart			

#### 7) Network configuration function

After login the system, click the icon beside the "Configuration", then click "Network Setting" to enter the network configuration interface, as shown in the following picture. You can set the network related parameters, and drive the DHCP, IP address, gateway, subnet mask and DNS. Press "Apply" button to confirm after modification.

Distribution Unit	Network settin	g
Sys Information	Enable 💙 DHCF	,
🖻 🍥 Devic Status	IP Address:	192. 168. 1. 110
👘 Devic Status	Subnet Mask:	255, 255, 255, 0
Configuration	Default Gateway:	192. 168. 1. 1
mig Threshold Config	Primary DNS:	202. 101. 172. 35
Delay Control	Secondary DNS:	202. 101. 172. 47
<ul> <li>Alarm Setting</li> <li>Network Config</li> <li>SNMP Config</li> </ul>	Apply	
SysTime Set	Information: (1) if you have chang (2) you can see the i manual.	yed IP Address, please use the new ip address login in. p address through the LED display.detailed information in the use's

#### 8) SNMP configuration function

After login the system, click the icon beside the "Configuration", then click "SNMP Config" to enter the SNMP configuration interface, as shown in the following picture. You can set the SNMP related parameters. The device supports SNMP v1/v2/v3, in "SNMP" options, if you choose SNMPV2, the device use V2 format to report TRAP, otherwise use V3 format. SNMP v2, SNMP v3 and TRAP related configuration items are displayed on this configuration interface. In "Trap Dest1/2 SecurityLevel" option of "SNMP TRAP Configure" ID1/ID2/ID3, ID x(x=1, 2, 3) indicates

the device use related parameters of ID number x(x=1, 2, 3) in "SNMPV3 Configure" when encrypted. Press "Apply" button to be active immediately after modification.

Power Distribution Unit	SNMP op	tions								
🖮 🀑 Sys Information	version	SNMPV3 💙								
Come Sys Information										
🖻 🌰 Devic Status	SNMPV2	Configure								
Composition Devic Status	GET Com:									
Configuration	SET Com:									
- (m) Threshold Config	TRAP Com:									
- ming Control										
- Delay Control	SNMPV3	Configure								
	ID	Sec Name	Sec Level		Auth Protocol		Auth Password	Pri Protocol		Pri Password
- metwork Config	1	microchip	Auth, Pri	~	MD 5	~		AES	~	•••••
(BNMP Config	2	SnapAdain	Auth, NoPri	~	SHA	~	•••••	DES		•••••
I go ayarine set	3	root	NoAuth, NoPr	~	MD 5			DES		
® 🥵 UserManage B 🍜 EventLogs ® 🍜 Restart	Apply	)								
	SNMP TR	RAP Configu	ire							
	Error Trap R	Repeat Time :	3 seconds							
	Trap Dest1	Enable:	Dizable 🔽							
	Trap Destion	nation1:	192.168.1.32							
	Trap Dest1	SecurityLevel:	ID1 🔽							
	Trap Dest2	Enable:	Enable 🐱							
	Trap Destion	nation2:	192.168.1.32							
	Trap Dest2	SecurityLevel:	ID 1 🔽							
	Apply	)								

#### 9) System time setting function

After login the system, click the icon beside the "Configuration", then click "SysTime Set" to enter the system time setting configuration interface, as shown in the following picture. There two ways to set system time, one is network timing setting and the other is manual setting. When select GMT as your time zone, the system time is UTC. "Time Updates" do not use network setting or set it every 10m.

A Dessee Distribution Units	
Sys Information	Internet time
to Sys Information	setting
Devic Status	Time 10 Minutes V
👷 Devic Status	Time Service 192 168 1 100
Configuration	TIME SELVET 192.186.1.186
Threshold Config	lime Zone GMI+8:00 V
Timing Control	(mm ] vr
to Delay Control	Apply
- (to Alarm Setting	Swatem Time
- Network Config	Set
SNMP Config	Apply
bysTime Set	
🛡 🍗 Up load	Information:
🗉 🍗 User Manage	(1) For example:2011/02/03 11:39:20 ( yyyy/mm/dd hours:minutes:seconds) (2) if you select "GMT", the time is same as UTC time.
🖲 🍗 Event Logs	
B. Destart	

#### 10) System upgrade and upload/download of parameter file function

After login the system, click the icon beside the "Up load", then click "Up load" to enter the configuration interface. Fined the bin file with "浏览" button and press "upload" to finish upgrading automatically, system will reboot after that. You can upload all configuration record of system parameters with "upcfg" button and load down device parameters with "getdown". As shown in the following picture.

🐤 Power Distribution Unit	Up load file
Sys Information	Upload a new ROM image into flash.
Devic Status     Devic Status	Select Image: 浏览 upload
Configuration	
Threshold Config     Image: Timing Control	Upload a new configure file into flash.
- Delay Control	Configure File: 浏览 upcfg
me SNMP Config	
bysTime Set	Get device configure file. getdown
Up load     Up load     Up load     Up load      User Manage      Event Logs	Information: (1) ROM imgae's format is must .bin, please check your input file is right, system will auto reboot. please wait a moment. (2) If you click "getdown", you will get down the device's configure file, please reboot the system (3) if you click "getdown", you will get down the device's configure file.

#### 11) User management function

After login the system, click the icon beside the "User manage", then click "User manage" to enter the user management interface. The main function of this interface is to change user name and password. Press "Apply" button to be active immediately. Use the new user name and password to login the system. As shown in the following picture.

Original	
Namo:	
Deservicent	
Fassyord:	
New	
Name:	
PassWord:	
	Apply

#### 12) Log recording function

After login the system, click the icon beside the "Event Logs", then click "Event Logs" to enter the log recording configuration interface. Each page shows 15 event record, start display from the first record with "First" button, scroll forward with the "Prevsions" button and scroll back with the "next" button. Export log File with "SaveAs" button and choose .TXT format to save the log file. As shown in the following picture.

Num	Date	Description
0000	2011/07/14 08:26:41	Out1 relay damage!
0001	2011/07/14 08:26:04	Out1 relay damage!
0002	2011/07/13 17:40:34	Out1 relay damage!
0003	2011/07/13 16:00:09	Out1 relay damage!
0004	2011/07/13 15:52:39	Out8 relay damage!
0005	2011/07/13 15:52:36	Out5 relay damage!
0006	2011/07/13 15:52:35	Out4 relay damage!
0007	2011/07/13 15:51:17	Out1 relay damage!
0008	2011/07/13 15:51:11	Out7 relay damage!
0009	2011/07/13 15:51:10	Out6 relay damage!
0010	2011/07/13 15:51:06	Out2 relay damage!
0011	2011/07/13 15:51:05	Out1 relay damage!
0012	2011/07/13 15:48:43	Input voltage over
0013	2011/07/13 15:48:40	Out8 relay damage!
0014	2011/07/13 15:48:40	Out7 relay damage!

ĩ

First Previous Next SaveAs

#### 13) System restart function

After login the system, click the icon beside the "Restart", then click "Restart" to enter the system restart configuration interface, the system will restart automatically after pressing "apply" button. You also can set the system to restart immediately. The restart will reset the default parameters, as shown in the following picture.

# **Restart System**

Click restart to reboot this device.



# **Chapter 4 Technical Specification**

# **4.1 Operating Environment**

The device has a wide range of operating temperature and is able to work normally and stably in highly adverse environment.

$0^\circ \mathrm{C}~\sim~+50^\circ \mathrm{C}$
$-40^\circ\mathrm{C}~\sim~+70^\circ\mathrm{C}$
10 %~95 %
70~106 kpa

The environment should be free from corrosive and solvent gases, dust,

and magnetic interference.

# 4.2 Power Supply

Input voltage	AC 220V / AC 110V
Max input current	16A
Maximum output current	10A
Power consumption	<7 W

# 4.3 Mechanical Specifications

Dimension: 430mm×43.5mm×203mm

# **4.4 Ethernet Interface Specification**

Ethernet Interface Speed rate: 10M/100M adaptive, 10M half duplex,

10M full duplex, 100M half duplex and

100M full duplex optional.

Ethernet interface is compatible with IEEE 802.3 protocol

# 4.5 TH interface

Electrical characteristics: In line with the CCITT V.28 protocol

Transmission rate: 9600bps

Interface type: RJ45

# **Chapter 5 Method of installation**

# 5.1 Safety Requirement

Please read the following safety items before installation to avoid physical injury and damage to this product or any other products connected. To avoid potential hazard, the product can be used only within specified scope. <u>Maintenance can be conducted only by technical personnel</u> authorized by our company.

1. Avoid fire or physical injury.

2. All power supply should be shut off during installation, which can be turned on only when all terminals have been connected correctly and checked to be free from mistakes.

3. Connect and disconnect in a properly. When device is powered up, do not connect or disconnect data cable without due cause.

4. Grounding. The product should be linked to the ground through earthed conductor. To avoid electric shock, the earthed conductor must be in connection with the ground. Make sure that the product is correctly earthed before connecting with the input or output terminals.

5. Correct connection. Users are expected to use accompanied accessories. In the event that special connections are needed, please pay attention to the corner allocation requirements.

6. Don't operate when there is no cover plate over the device. Do not operate the product if the cover plate or panel has been dismounted.

7. No contact with bare circuit is allowed. Do not touch bare connectors or components when power is on.

8. No operation is allowed if there is suspicion of failure. Call authorized maintenance personnel for examination and reparation should the product be suspected of damage.

9. Good ventilation. Do not operate under humid or explosive environment.

10. Maintain the surface of the product clean and dry.

## 5.2 Inspection upon Unpacking

After unpacking the product, inspect the type, quantity and condition of device and accessories inside according to the list of contents specified in this manual. Contact the Company or its distributors and agencies immediately should abnormal circumstances arise.

### 5.3 Power Supply

Check the power supply of the device. The power input should be configured in accordance with related requirements. Pay particular attention to the voltage and polarity if the power supply is DC.<u>Please disconnect the power supply before</u> you plug in/out power cable. And operate the device under the environment which is suggested by the user manual.

# 5.4 Test

Set to join the right power supply, the device willself-test, PWR light is on continuously, and all the LEDdigital tube displays the number 8. After self-testing, LED displays real-time voltage.

# 5.5 Set up and Connection

According to the requirements of network environment is connected, open the power, equipment enter the normal working condition.

If the device is not working properly, please see the fault diagnosis and exclusion, if still not rule out the possibility of failure, please contact with the company or the company dealers, agents contact.

# **Chapter 6 Appendix**

# 6.1 How to make temperature and humidity interface connection

The temperature and humidity interface is RJ45.

No.	1	2	3	4	5	6	7	8
TH	12VDC	RXD	TXD		GND			

# 6.2 How to make water logging, smog, entrance guard alarm interface connection

The interface is RJ45.

No.	1	2	3	4	5	6	7	8
	12VDC	SIG		GND	GND	GND	GND	GND

# 6.3 Making of Ethernet Interface Connecting Cable

Ethernet interface Connecting Cable adopts twisted pair line with its specific making methods divided into two international standards, which are EIA/TIA568A and EIA/TIA568B. Position the tail of crystal head downward (i.e. the flat side upward), determine the lines with figures as 1 2 3 4 5 6 7 8 from left to right, and the distributions of each line are as follows:



The following tables show two international standards: EIA/TIA568B Standard

No.	1	2	3	4	5	6	7	8
Defin	TXD+	ΤX	RXD+			RX		
ition		D-				D-		
Color	White/	Ora	White/	Bl	White/	Gr	White/	Bro

	Orange	nge	Green	ue	Blue	een	Brown	wn
EIA/TIA568A Standard								
No.	1	2	3	4	5	6	7	8
Defin	TXD+	ΤX	RXD+			RX		
ition		D-				D-		
Color	White/	Gr	White/	Bl	White/	Ora	White/	Bro
	Green	een	Orange	ue	Blue	nge	Brown	wn

Making of straight-through line:

Both heads are connected as per T568B line sequence standard.

Making method of crossover line:

One head is connected as per T568A line sequence while the other head is connected as per T568B line sequence.

# 6.4 Failure Diagnoses and Troubleshooting

Phenomena	Potential Cause	Measures
Equipment power indicator PWR light is not bright	<ol> <li>External power supply is not plugged in</li> <li>Conductor dropped into machine frame that leads the power supply to be short circuited with the ground.</li> <li>Malfunctions of power supply module</li> </ol>	<ol> <li>Plug the external power supply</li> <li>Remove the conductor</li> <li>Contact the supplier</li> </ol>
Before receiving the output load condition, display output current or voltage	<ol> <li>Sampling resistor may weld.</li> <li>Reference voltage is not correct.</li> </ol>	Contact the supplier
Ethernet ACT indicator light is not bright	1. Not in accordance with the standard Ethernet cable	Remaster the Ethernet cable according to standard

# 6.5 Warranty Card

Our company is committed to provide users with the following terms:

- 1. Warranty service
  - 1) Within the charge free warranty term (within 12 months since the purchase of the product), damaged parts can be exchanged free of charge and maintenance charges will be free in the conditions that the device is considered to be malfunctioned in normal service by our company.
  - 2) Within the charged warranty term (more than 12 months and within 36 months since the purchase of the product), damaged parts will be charged for corresponding cost with free maintenance service in the conditions that the device is considered to be malfunctioned in normal service by our company.

2. Users can not enjoy warranty service with the following cases and corresponding cost of damaged parts replacing and maintenance service will be charged

- (1) Exceed 36 months since the purchase of the product
- (2) Can't provide certificate of purchasing date, and serial No. of product shows that ex-works term has exceeded 36 months;
- (3) Include but not limit to the abnormal service conditions such as violent knocking, extrusion, drop, liquid immersion that cause damages;
- (4) Fragile label on the device is damaged;
- (5) User disassembles this product himself
- (6) Force majeure that leads to product damage, such as earthquake, flooding and lightening stroke;

3. The newly installed parts after maintenance will be repaired free of charge within 12 months since the installation date.

- 4. When malfunction occurs, users can choose to send it to our company to receive maintenance service or to post it to maintenance points of our company all over the country to be repaired.
- 5. Our company does not undertake any responsibilities for losses caused by abnormal operation; for losses really caused by product itself, including but not limited to all direct or indirect losses due to data loss, our company will only undertake responsibilities within the selling price of products.

Produ	ct Name: IP_PDU	Device No.:		
	Maintenance date	No. of Service Bill		
1				
2				
3				
4				
5				

# Repair and Maintenance Record

版本号	修改人	修改日期	修改内容
V1.0.0	Linef	120610	将"IP PDU USER manual v1"整理
V1.0.0	Liuci	120019	成完整的英文说明书。
V1.1.0	Yingpj	120620	整理,告警配置功能 WEB 截图里
			姓名和邮件地址删除

修改记录:(此页不打印)