KoPa®

2025.09

CKX53 Imaging Solution User Manual

Solution①

WiFi Camera(For BF)

With 0.43X tube lens

Solution②

Smart Display Camera(For BF)

With 0.43X tube lens

Content

Chapter 1 Notes And Safety Requirements .....- 1 -
1.1 Cautions and notes .....- 1 -
Chapter 2 Package List .....- 2 -
Chapter 3 Hardware introduction .....- 3 -
Chapter 4 Installation methods .....- 4 -
4.1 Camera install to Leica DMi1 inverted binocular microscope .....- 4-6 -
4.2 Remove camera from microscope .....- 6 -
4.3 Par-focal .....- 6 -
Chapter 5 Connection Methods .....- 7 -
5.1 USB connection .....- 7-8 -
5.2 HDMI connection(only for 12.0MP camera) .....- 8 -
5.3 5G WiFi connection .....- 8-9 -
Chapter 6 Troubleshooting And Frequently Asked Questions .....- 10 -
6.1 Abnormal power-on status problems .....- 10 -
6.2 Image problem .....- 10 -
6.3 Interface problems .....- 10 -
Chapter 7 Disclaimer .....- 11 -

Chapter 1 Notes And Safety Requirements

1.1 Cautions and notes

(1) To avoid danger or damage incurred to the lens, do not touch the lens or sensor directly with your fingers.

(2) To avoid failure or electric shock hazard and so on, do not disassemble or modify the internal structure of the device.

(3) Do not plug in or unplug the USB port or the HDMI port when hands are wet.

(4) Do not use alcohol and other organic solvents to clean.

(5) If the lens or sensor is dirty or damp, you should better use dry and non-linen fabric or professional lens tissue to wipe them. To avoid scratches on the surface, do not touch the lens with your fingers. Wipe the lens or sensor lightly.

(6) The products are not specifically designed for an outdoor use. Do not expose it to outdoor environment without any protection. Excessive temperature and humidity will damage the lens. Please avoid using the product under the following environment: high temperature or high humidity environment, places with direct sunlight, dirt or vibration and places near heat source.

(7) Please use and store in the following environment:
Operating temperature ：0℃~ 40℃;
Storage temperature：-10℃~ 60℃;
Operating Humidity ：30~60%RH;
Storage Humidity：10~80%RH.

(8) If any foreign matter, water or liquid enter into the device by accident, disconnect the USB cable immediately. Please send it to the maintenance center and do not use the hair dryer to dry it by yourself.

(9) To prevent microscope from being tripped over or dropped, please put away the device's USB cables in use or standby.

(10) To avoid electric shock by accident, please power off microscope before you move your Windows PC or laptop.

(11) The cleanliness of the device lens will directly affect clarity degree of contents from the computer screen during preview. Problems like various circles or spots on the screen may mostly be incurred by dirt on the lens. When cleaning, please use professional lens tissue or other professional detergent to clear the dirt on the lens.

(12) Registered trademark and copyright information: this product is copyrighted by GUANGZHOU OSTEC ELECTRONIC TECHNOLOGY CO.,LTD.Without written authorization of the company, any organization or individual shall not copy, print or translate any part of this article into another language.

Chapter 2 Package List

1. Camera(With 0.43X tube lens)

2.15.6-inch monitor with customized RK3399 operating system included (Solution ① only)

2.Power adapter and power cord(Solution ① only)

(Optional Chinese, American, European, Australian, Korean,British standard,etc.)

3.Wired mouse and keyboard(Solution ① only)

5.Gigabit Ethemet cable(Solution ① only)

6.Allen key

7.One paper with QR code and link to download software

Software、Manual Download
软件、说明书下载

Windows Download
PC软件下载

Windows download link:
PC软件下载链接:
https://ostec.com.cn/downloads/

For 5.0/8.0MP

For 12.0MP

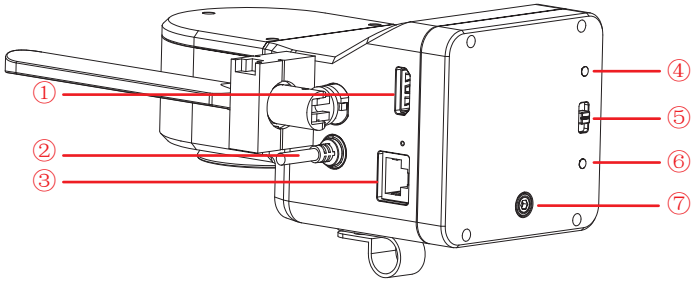
KoPa WiFi Lab For Android/iOS Download
KoPa WiFi Lab 安卓/iOS 软件下载

软件说明书下载

Software Manual Download

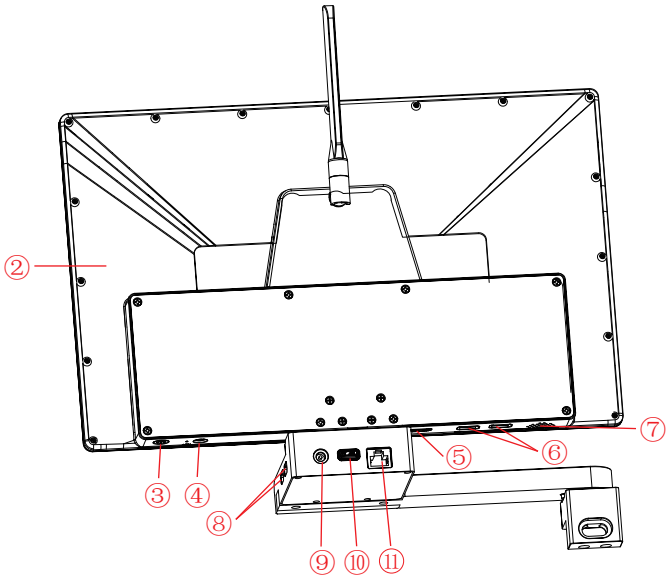
Chapter 3 Hardware Introduction

3.1 Names and Functions of Camera Components



①	HDMI output interface	Connect the display device via an HDMI cable.
②	USB output / power supply	Solution 1: USB Mode: Connect to a computer for data transfer; images can be captured via software on the computer. WiFi Mode: Connect to an adapter to power the camera; wireless devices can capture images by connecting to the camera's WiFi. Solution 2: Power the camera.
③	WAN network interface	Solution 1: WiFi Mode: Connect to a router to access a local area network (LAN), enabling Windows computers, smartphones, and tablets within the LAN to share the microscope image. Alternatively, connect directly to the internet. Solution 2: Connect to a display screen.
④	PWR (Power indicator)	Solution 1: When in OFF mode, the indicator light is red. When in USB mode or WiFi mode, the indicator light is green. Solution 2: The indicator light is green.
⑤	USB/OFF/WiFi Working Mode Switching (solution ① only)	USB: When the USB cable is connected to the computer, images can be captured through the computer software. OFF: Power off, when the camera stops working. WiFi: Wireless devices connect to WiFi to capture images.
⑥	Easy focus hole	Internal filament focus structure is used to adjust the 0.43X field lens of the camera to achieve par-focal with electronic imaging and observation under eyepiece.

3.2 Name and function of each component of the display



①	5G WiFi antenna	5G WiFi signaling.
②	Display	IPS 1080P 15.6" high color gamut display.
③	Power switch	Switch on and off. Keep press for 4 seconds to power on / off.
④	Headphone and microphone interface	Connect with headset cable to achieve transmission of audio signals.
⑤	HDMI output interface	Through the HDMI cable, connected with the display device, video, signal transmission and so on.
⑥	USB interface	Can be connected to a mouse, keyboard, U disk, convenient for the use of software.
⑦	Speaker hole	Volume channel hole.
⑧	USB interface	Can be connected to a mouse, keyboard, U disk, convenient for the use of software.
⑨	Power input interface (DC 12V 5A)	Powering the display
⑩	USB interface	Can be connected to a mouse, keyboard, U disk, convenient for the use of software.
⑪	Network	Connected to the camera for signal transmission

Chapter 4 Installation Methods

4.1 Camera install to Leica DMi1 inverted binocular microscope

(1) Camera Installation:

1) Loosen the screws on the microscope eyepiece tube, remove the cover plate as shown in Figure 1;

2) Place the camera on the microscope and tighten the screws as shown in Figure 2;

(2) 15.6-inch Display Installation Method:

1) Secure the mounting block to the display using an Allen wrench to tighten the 4 screws;

2) Mount the display on the side of the microscope using an Allen wrench to tighten the 2 screws, as shown in Figure 3;

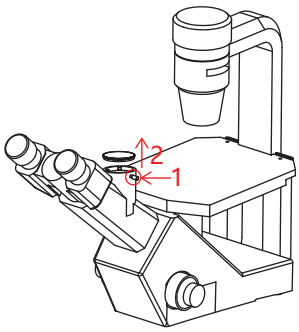


图1

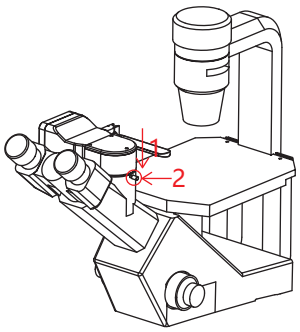


图2

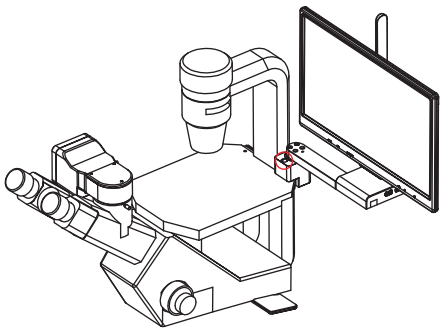


图3

4.2 Remove camera from microscope

Reverse the order with the installation.

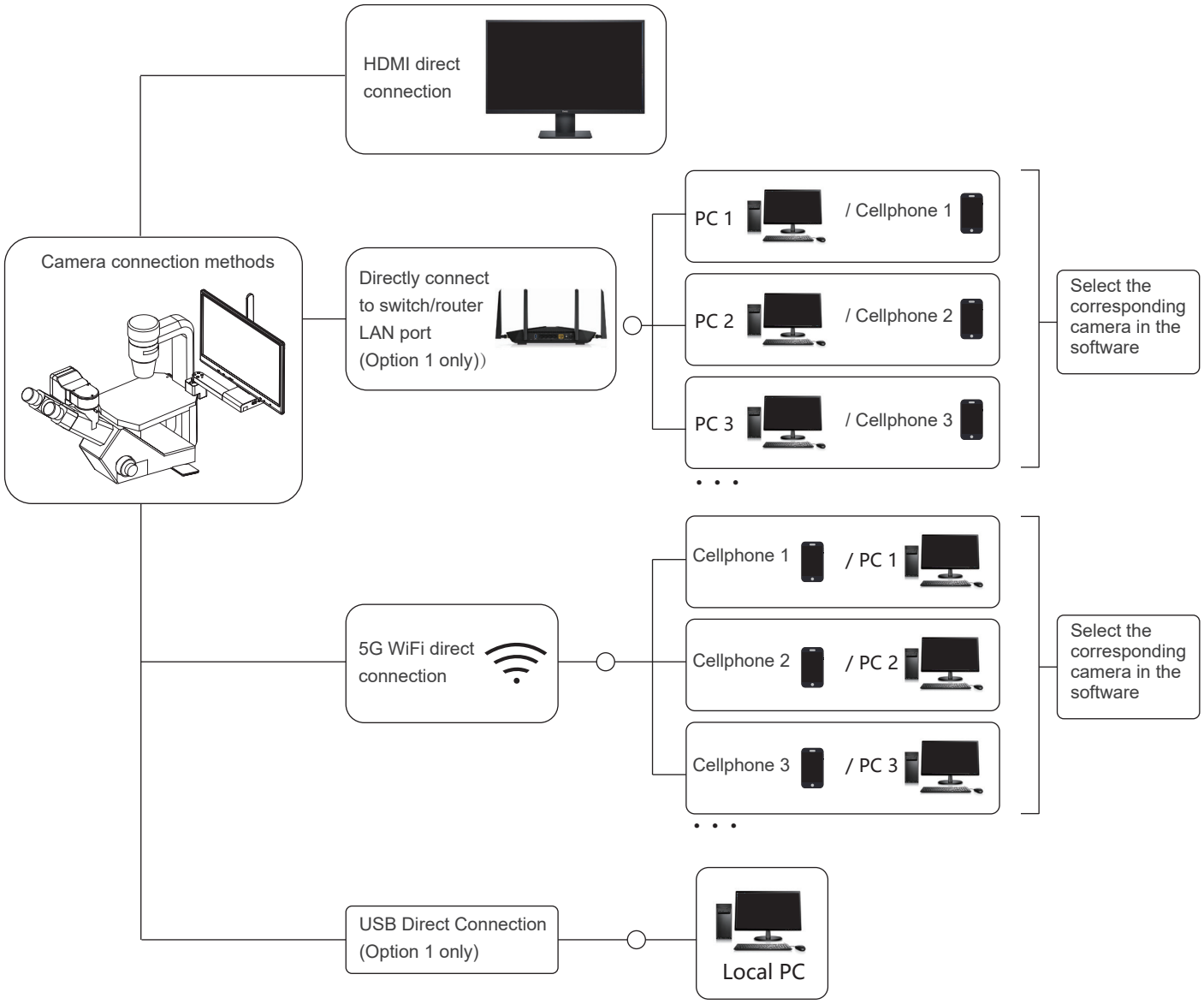
4.3 Par-focal

(1)Place a specimen under microscope, adjust diopter of the eyepiece to the minimum value, and use the 10X objective lens, recommend to focus on any black spot / or the darkest spot on the specimen, until the visualization is the clearest;

(2)Adjust the easy focus hole in clockwise or counterclockwise direction with the Allen key until the image from software is clear to achieve par-focal;

(3) Once par-focal under 10X objective is completed, the other objectives are basically free of adjustment and achieve par-focal as well.

Chapter 5 Connection Methods



5.1 HDMI Connection Method

Solution 1: Supports connecting the monitor to the camera via HDMI. The monitor only transmits images without any control software or menus. To adjust image parameters, use the Windows software KoPa Capture Pro or the mobile app KoPa WiFi Lab. HDMI and 5G WiFi output simultaneously. When connecting via HDMI, select the appropriate HDMI output resolution ratio in the KoPa Capture Pro software settings based on the monitor's aspect ratio. Failure to do so will result in stretched or distorted image display.

Solution 2: Supports connecting the monitor to the display via HDMI. The monitor functions identically to the local 15.6-inch display, featuring the built-in KoPa WiFi Lab AO software.

5.2 Ethernet cable connection

Solution 1: After powering on the camera, switch to WiFi mode. Plug one end of the Ethernet cable into the camera's WAN port and the other end into the LAN port of your local LAN router.

Notes:

1) Your local LAN must support the 5GHz WiFi IEEE802.11ac protocol; otherwise, it will not appear in the list.

2) If your LAN allows internet access, the camera can also connect to the internet.

Solution 2: Connect the camera to a 15.6-inch display using an Ethernet cable. Use the built-in KoPa WiFi Lab AO software. For operation instructions, refer to the KoPa WiFi Lab AO software manual.

5.3 5G WiFi connection

Desktop computers, cell phones, tablets, and laptops can be connected to the camera via 5G WiFi , supports multiple desktop computers, cell phones, tablets and laptops can realize microscopic view on the same microscope screen.

5.3.1 Windows PC software KoPa Capture Pro download link

https://cn.ostec.com.cn/downloads/.

Please refer to the "KoPa Capture Pro Software User Manual" for details.

Windows System Requirements

Microsoft Windows 10 (64 bit) or later version operating systems.

CPU: i5 8th generation or later version.

Hard drive: 512GB or more.

Memory: 16GB or more.

Graphics card: Core graphics.

Network card: 10/100/1000M adaptive.Wireless NIC supports 5G WiFi IEEE802.11ac.

5.3.2 Connection method for cell phones or tablets

Android System Requirements

Android System 7.0 or later version.

CPU dual-core 1.7Ghz or later version.

Memory RAM 3GB or more.

Storage ROM 32GB or more.

Support wireless protocol 5G WiFi IEEE802.11ac.

iOS System Requirements

IOS System 11.0 or later version.

CPU dual-core 1.8Ghz or later version.

Memory RAM 2GB or more.

Storage ROM 32GB or more.

Support wireless protocol 5G WiFi IEEE802.11ac.

(1)Download and install the APP:

1)Click "KoPa WiFi Lab AO" software top left corner " " settings icon, the bottom left corner will appear double QR codes.

2)The QR code on the left is used to download APP, WeChat code sweeping function does not support downloading APP, please use a browser or QR code of your cell phone or tablet to scan the QR to link to official website.

3)Official website link: https://cn.ostec.com.cn/downloads/.

4)Choose KoPa WiFi Lab for Android or KoPa WiFi Lab for iOS to download and install according to your phone and tablet system.

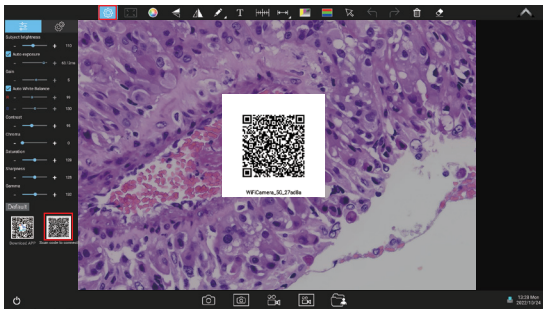
5)You can search and download KoPa WiFi Lab from Google Play app store.

6)You can search and download KoPa WiFi Lab from Apple App Store.

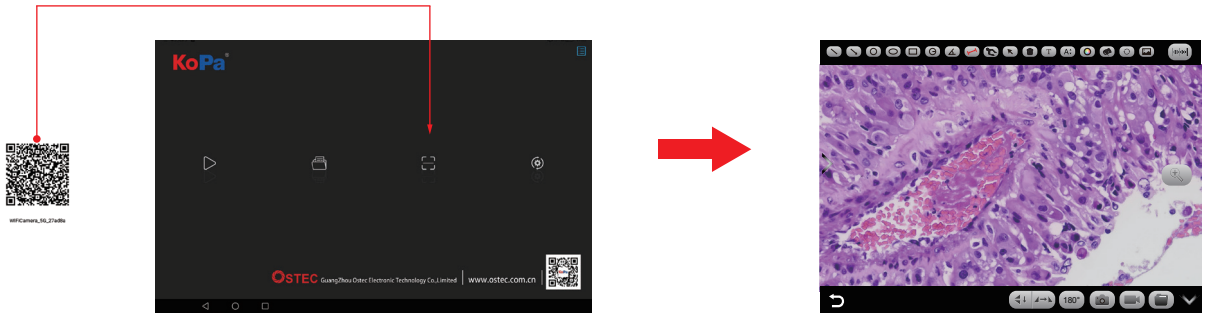
(2)Scan QR code to live stream image automatically:

1)Run the built-in App KoPa WiFi Lab AO.

2)Click the QR code on the right to enlarge.



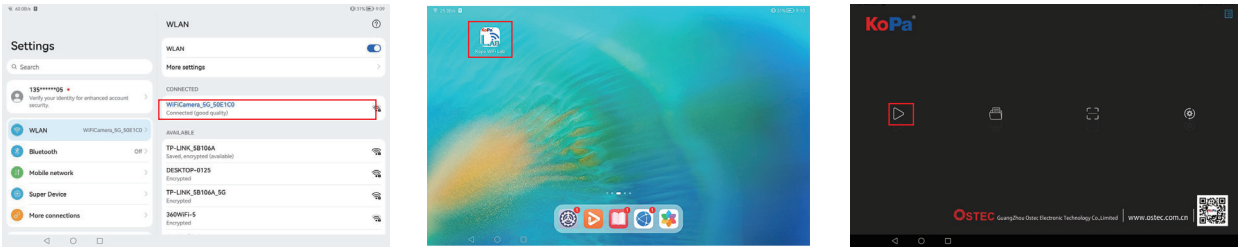
3)Click the " " button on the navigation interface, scan the QR code on the camera body to connect to the microscope, no need to enter password, realize the same screen view.



(3)Manual connection method:

1)Search for the camera's WiFi SSID: WiFi5Camera_xxxxxx in the WLAN of phone or tablet; default connection password: 12345678.

2)Run the App KoPa WiFi Lab, enter the App KoPa WiFi Lab navigation interface, and click the button to connect to the microscope manually.



5.4 USB Connection Method (Option 1 Only)

Solution 1:

(1) Connect the camera's USB cable to a USB port on your Windows computer;

(2) Slide the camera switch to the USB position;

(3) Install and run the KoPa Capture Pro software.

1) Download link for KoPa Capture Pro software for Windows computers: https://cn.ostec.com.cn/downloads/.

2) For specific software operation instructions, please refer to the KoPa Capture Pro User Manual.

Chapter 7 Troubleshooting And Frequently Asked Questions

7.1 Abnormal power-on status problems

7.1.1 Unable to turn on the power (the power indicator light is not on)

(1) Ensure that both ends of the power cord are plugged into the power socket and the power jack of the camera;
(2) Ensure that the power on button has been long pressed for ≥4 seconds to turn on the camera. If the power indicator light still does not light up and the camera still cannot be turned on, please contact our customer service.

7.1.2 Unable to power on (the power indicator light is on)

(1) Keep press the power switch for 4 seconds to turn off the camera, and keep press the power switch for 4 seconds to turn on the camera;
(2) If the power still cannot be turned on, please contact our customer service.

7.1.3 Software abnormal or stay on boot up

(1) Keep press the power switch for 4 seconds to turn off the camera, and keep press the power switch for 4 seconds to turn on the camera;
(2) If the fault cannot be eliminated after restarting the camera, please contact our customer service.

7.2 Image problem

7.2.1 Image capture failure

(1) For the camera with 3840x2160 or lower resolution sensor:
1) Ensure that the microscope has turned on the light and the image is visible to the eyepiece;
2) Ensure that the camera icon in the lower right corner shows that the camera is online, if the camera icon shows a red "X" , it means that the camera is offline and the camera needs to be turned off. (Some models also need to re-plug the network cable connected between the display and the camera, please ensure that the camera is in the shutdown state for network cable plugging);
3) After re-plugging and turn on, the camera is still offline, please contact our customer service .
(2) For the camera with 3840x2160 or higher resolution sensor:
1) Ensure that the microscope has turned on the light and the image is visible to the eyepiece;
2) Keep press the power switch for 4 seconds to turn off the camera, and keep press the power switch for 4 seconds to turn on the camera;
3) If the fault cannot be eliminated after restarting the camera, please contact our customer service.

7.2.2 The display appears light spot, flicker and other display abnormal problems

Please contact our customer service.

7.3 Interface problems

7.3.1 the USB socket is not working

(1) Ensure that the mouse and keyboard are working properly;
(2) Confirm that the USB socket is still not working after replacing mouse and keyboard, please contact our customer service.

7.3.2 External HDMI monitor does not display

(1) Ensure the HDMI cable can be used normally;

(2) Ensure that the external HDMI monitor can support 1920x1080 60Hz;

(3) If faulty cannot be eliminated, please contact our customer service.

7.3.3 No sound from headphone jack

(1) Ensure the headset currently in use can be used normally;

(2) Confirm that the headphone jack is still not working after replacing the headphones, please contact our customer service.

Customer service E-mail: sales@ostec.com.cn

Chapter 8 Disclaimer

(1)In order to protect the legitimate rights and interests of users, please carefully read the instructions, disclaimers and safety instructions provided with this product before using it. The company reserves the right to update the above documents. Please operate the product according to the instructions and safety instructions.

(2)Once you begin to use the product, you shall be deemed to have read, understood, recognized and accepted all terms and contents of the product's instructions, disclaimers and safety instructions. Users undertake to be responsible for their actions and all consequences. User undertakes to use the product only for legitimate purposes and agrees to these terms and any relevant policies or guidelines that the company may establish.

(3)In the process of using this product, please strictly abide by and execute the requirements including but not limited to the instructions and safety instructions. All personal injuries, accidents, property losses, legal disputes and other adverse events that cause conflicts of interest caused by violation of the safety instructions or irresistible factors shall be borne by users themselves, and the company shall not assume any responsibility.

(4) Safety instructions:

1) Please do not use wet hands to plug and unplug the power supply of the equipment.

2) Please be sure to use a regular brand power socket, and make sure the grounding is well grounded to prevent electric shock.

3) Please be sure to make regular safety checks on sockets and plugs to avoid potential electrical safety hazards caused by aging and short circuit.

4) Please be sure not to use the product in a humid or hot environment to ensure the safety of the product.

5) Please be sure to loosen bundle cords of the power cable before using, to avoid electromagnetic induction and heating, thus increasing the heat dissipation speed.

6) Please be sure not to use the product equipment or socket or other places in high or easy to fall, so as to avoid damage.

7) Before opening the socket power supply, please be sure to turn off the load power switch of the product equipment.

8) The company reserves the rights to improve product, upgrade technology and change parameters without prior notice.

GUANGZHOU OSTEC ELECTRONIC TECHNOLOGY CO.,LTD.

http://www.ostec.com.cn