



[Quickly deploy the ball]

User Manual V1.0

★Please read this manual carefully before use★

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一、 Safety Notice



Personnel responsible for the installation and routine maintenance of this equipment must possess basic skills in safe operation. Before operating this equipment, be sure to carefully read and implement the safety regulations specified in the product manual.

- This is a Class A product, which may cause radio interference in a living environment. In this case, the user may be required to take practical measures for the interference.
- Make the equipment work within the allowable temperature and humidity range, and avoid placing it in places such as extrusion, vibration, humidity, dust, extreme heat, extreme cold, and strong electromagnetic radiation.
- In general, the device is installed outdoors, and effective waterproof, moisture-proof, sand-dust-proof measures should be taken at the equipment connection (especially the screws at the equipment connection must be tightened to ensure the overall sealing). To prevent lightning strikes, please install lightning arresters.
- Do not aim the lens at a strong light object for a long time, especially do not aim it at the sun or other strong light

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sources, otherwise it may cause permanent damage to the imaging device of the device.

- Please use the power adapter provided by our company. Using a power adapter that does not meet the requirements may cause damage to the device.
- If the power cord between the power adapter and the device is too long, the voltage reaching the device will be low, which may cause the device to work abnormally. If you need to extend the power cord, please refer to "Power Cord Requirements".
- Disconnect the power before moving the device, be careful when moving, the device will power up once the power cord is plugged in. When moving the device, do not carry the weight by hand to prevent the cable interface of the device from loosening.
- Do not cut the tail wire for connection. The exposed tail wire may cause a short circuit and cause abnormal damage to the device.
- For external connection port, please use the existing cable terminal to connect. When connecting, please confirm that the cable terminals (lock/buckle) are good and fastened in place;
- During the installation process, do not pull the cable excessively, and keep a certain margin to prevent the port from being in poor contact or loose due to vibration and shaking.
- The tail wire should not be exposed. The area where the tail wire is located must be fully waterproof (waterproof junction box or sealed cavity); middle.

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- In the process of turnover and transportation, the front face needs special protection to avoid friction, scratches, pollution, etc. In order to keep the front face clean, please do not remove the transparent protective film on the front face during the installation process. After confirming that the installation is complete, remove the transparent protective film before starting the device.
- For product maintenance questions, please consult professionals, and do not open the cover for maintenance without authorization.
- It is strictly forbidden to use or place the product at high temperature (in the hot sun or in a very hot car), which may cause the battery to overheat, catch fire or fail to function, and shorten its life.
- It is strictly forbidden to disassemble, alter, directly weld the battery and pierce the battery with nails or other sharp objects.
- It is strictly forbidden to use it in places with strong static electricity and strong magnetic fields, otherwise it will easily damage the battery safety protection device and bring unsafe hidden dangers.
- It is strictly forbidden to cut the casing and remove the outer casing of the battery.
- Batteries cannot be used under extreme conditions, such as extreme temperatures, deep cycling, extreme overcharge and overdischarge.

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- Please store the battery in a cool and dry place. If a large number of batteries are stored or shipped, the batteries must be discharged first.
- If the internal battery emits peculiar smell, heat, discoloration, deformation, noise, liquid leakage, or any abnormality occurs during use, storage, or charging, it should be stopped immediately and safety measures should be taken.
- In general, the allowable range of battery charging ambient temperature is 0 to 45° C, and the allowable range of discharge ambient temperature is -20 to 60° C.

storage

- The storage environment should be in a clean, dry and ventilated room, avoid contact with corrosive substances, and keep away from fire and heat sources. Under normal circumstances, the allowable range of ambient temperature for storage not more than 3 months is -20 ~ 40 °C, the allowable range of ambient temperature for storage not more than 6 months is -20 ~ 35 °C, and the allowable range of ambient temperature for special products is The allowable range stated in the specification shall prevail. The best storage environment temperature recommended by our company is 20~25°C.
- In general, the allowable range of relative humidity in the storage environment is $65\pm 20\%$. The relative humidity of the best storage environment recommended by our company is 50-70%.
- Avoid storing the product at high temperature or high humidity, otherwise it will cause the battery to leak, rust, and reduce its capacity.

- Long-term storage may cause the battery pack to decrease in capacity and take 1-3 charge/discharge cycles to reach the maximum discharge capacity. After the battery has been placed for three months, it needs to be recharged or cycled to charge and discharge once. If the storage period exceeds 6 months, charge and discharge activation should be carried out to reduce performance loss.

Disclaimer

- The company is not responsible for any accidents caused by the use, storage, and transportation of batteries under conditions beyond the company's product specifications and other documents.
- The company has the right to revise the product specifications and other documents provided by the company, and the company will notify the customer after the revision of the product documents.

Sincerely hope that users can use, store and transport batteries in strict accordance with the product specifications and other documents provided by the company and the attached precautions. Improper use, storage and transportation of the battery, such as accident or fire, may cause the battery to heat up, catch fire or rupture.

二、Product parameters

4G wireless transmission	
frequency band	LTE-TDD/LTE-FDD/WCDMA/TD-SCDMA/EVDO/CDMA/GSM seven-mode full Netcom frequency band
SIM card type	Nano SIM
Wi-Fi wireless	
Protocol standard	IEEE 802.11b/IEEE 802.11g/IEEE 802.11n
wireless rate	300Mbps
channel selection	Bands 1 to 11
Band bandwidth	20/40MHz optional
wireless security	64/128-bit WEP encryption; WPA-PSK/WPA2-PSK, WPA-PSK, WPA2-PSK security mechanism.
position	
GPS	GPS/Beidou
lithium battery	
Battery Type	Large capacity polymer lithium battery

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battery capacity	7.2V 9600mAH
battery life	10.5 hours (in low power mode)
Camera (for reference only, subject to the actual optional camera)	
Image Sensor	1/2.8 inch CMOS
sensor total pixels	About 2.42 million pixels
horizontal resolution	$\geq 1000\text{TVL}$
maximum image size	1920×1080
Minimum illumination	Color: 0.001Lux@(F1.5, AGC) Black and white: 0.0005Lux@(F1.5, AGC)
Gain control	automatic / manual
3D noise reduction	support
2D noise reduction	support
signal to noise ratio	$\geq 55\text{dB}$

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white balance	automatic / manual
electronic shutter	1/25 ~ 1/100,000 second; supports slow shutter
Electronic image stabilizati on	support
Through fog function	support
BLC	support
wide dynamic	support
Strong light suppression	support
digital zoom	16 times
Day and night mode	Automatic ICR filter color to black
focus mode	automatic/semi-automatic/manual
focal length	5.5 ~ 180mm
Zoom speed	About 3.5 seconds (optical, wide-angle- telephoto)
field of view	60.5 ~ 2.3 degrees (Wide-Telephoto)

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close-up	100 ~ 1000mm (Wide-Telephoto)
Optical zoom	33 times
Aperture value	F1.5~F4.0
Function	
Main stream resolution and frame rate	50Hz: 25fps (1920 × 1080, 1280 × 960, 1280 × 720); 60Hz: 30fps (1920 × 1080, 1280 × 960, 1280 × 720)
Resolution and frame rate of the third stream	Independent of main stream settings, maximum support: 50Hz: 25fps (1920×1080); 60Hz: 30fps (1920 × 1080)
video compression	H. 265/H. 264
audio compression	G. 711a/G. 711u/G. 722. 1/G. 726/MP2L2/AAC/PCM
Network protocol	IPv4/IPv6, HTTP, HTTPS, 802. 1x, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE
ROI	support
SVC	support

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Area Exposure/Focus	support
OSD display	Title, date, PTZ coordinates, latitude and longitude, etc.
Interface Protocol	ONVIF ,GB28181-2016
browser	Support IE7 and above
Simultaneous preview users	Up to 6 channels
safe mode	Authorized username and password, and MAC address binding; HTTPS encryption; IEEE 802.1x network access control (whitelisting)
User Management	Multi-level user rights management
storage	
storage card	Support up to 256 GB Micro SD (TF) card, local storage , NAS
PTZ	
Horizontal range	360°
horizontal speed	0.1~12° /s
vertical range	-90~25°

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vertical speed	0.1~12 ° /s
Preset	255
cruise	6 strips, each strip up to 18 points
pattern scan	4
Power-down recovery	support
Infrared function	
Infrared distance	30 meters
conventional	
powered by	DC12~15V
Power consumption	MAX 36W
interface	Power interface DC5.5*2.1, network port RJ45, optional audio interface 4 sections 3.5mm, optional alarm interface 3.81*4, optional RS 485 interface 3.81 *2
Operating temperature	-20~60° C
weight	2.5Kg
Protection class	IP65

三、 Factory default parameters

1. camera

Camera IP address: 192.168.1.68

Camera username: admin

Camera password: system123

2. router

Router IP address: 192.168.1.1

Router username: admin

Router password: admin

WiFi wireless name (SSID) is: PTZ-CAM ERA -XXXXX

Password: 12345678

四、 Button, Display Description

1. button:

- **Power** on: When the device is powered on, it is in the off state. In the off state, press and hold the button (more than 3 seconds) to turn on the device.
- **Shutdown** : When the device is turned on, long press the button (more than 3 seconds), release the button, the device will shut down.
- **Router reset** : When the device is powered on, remove the TF card cover , press the button with a needle (more than 5 seconds), execute the built-in router reset operation, wait for more than 60 seconds, the router reset is completed, and the device is still powered on.

2. Display Description:



- **Network type :**

There are four network type statuses: 2G, 3G, 4G and not acquired

Among them, 2G, 3G, and 4G are displayed in characters, and the

unobtained icons are ?

- **Signal Strength:**

There are 5 types of signal strength status indications:

<20%	<40%	<60%	<80%	<100%	未获取

Note: No valid SIM card is inserted and the router has not been started and completed, and the display has not been obtained.

- **GPS indication:**

There are three states of GPS indication: no display (no GPS function or GPS abnormality), display but flashing (unsuccessful positioning), display and no flashing (successful positioning)

- **4G acquisition time :**

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4G acquisition time has two states: NOTGET (not acquired), time indication (successfully acquired 4G time)

Note: The time can only be obtained after inserting a valid SIMcard and successfully connecting to the Internet

- **Battery level indicator:**

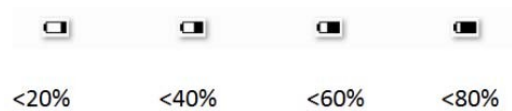
The battery level indicator has two states: battery power and charging state.

Indication on battery power :



Indication while the battery is charging:

When the device is connected to a power supply with a voltage of DC 12 to 15 V and a power of not less than 36 W, and the ambient temperature is lower than 60° C, the device will enter the charging state. In the power-on state, the display battery indicator will switch back and forth between the icon of <20% and the next state icon of the current state at a frequency of 1Hz. If the current battery is less than 60%, the battery indicator area will switch in sequence among the following 4 icons



- **PTZ indication**

As shown in the figure: P: represents the horizontal angle,

ranging from 0 to 360° ; T: represents the vertical angle, ranging from -90 ° to 25 ° ; Z: represents the zoom value, for example, 3 is displayed as 3 times.

五、Special preset function

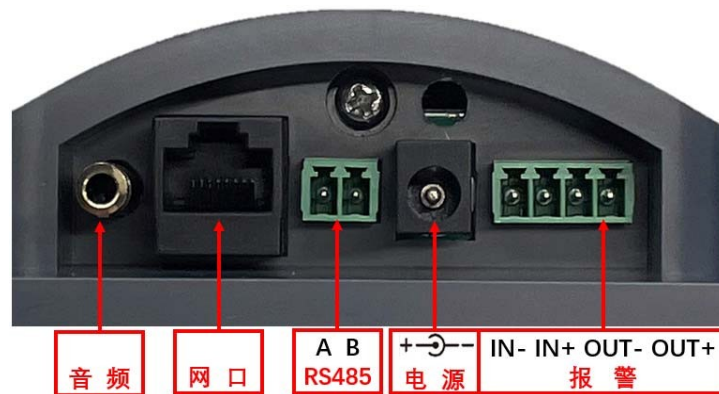
action	Tag number	Function
call preset	77	Ultra-low power consumption mode, the motor is stopped and the locking torque is small (default)
call preset	78	Low power consumption mode, the motor is stopped and the locking torque is small
call preset	79	Medium power consumption mode, the motor stops and locks the torque
call preset	80	High power consumption mode, the motor stops rotating and the locking torque is large
 Auxiliary switch	4	Turning the window glass heating on and off

六、Installation Notes

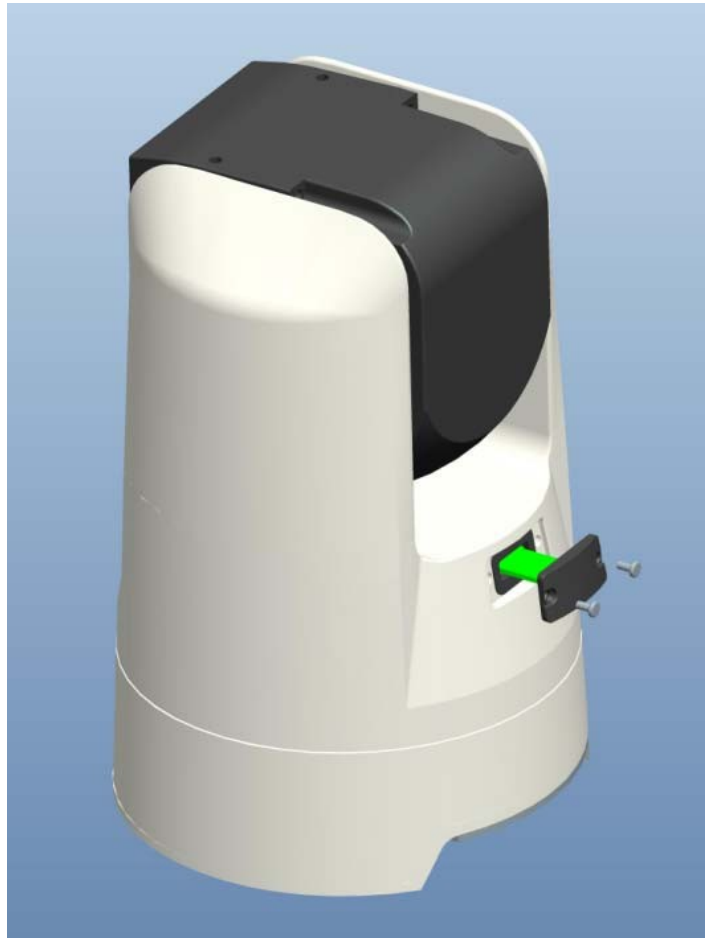
1. Power Line Interface Definition

- Power cord : DC12V5A power input.
- Audio interface: audio input and output, 3.5 mm, 4-segment headphone plug.
- Network interface: RJ45 socket.
- Alarm interface: 3.81*4P
- R S485 interface: 3.81 * 2P

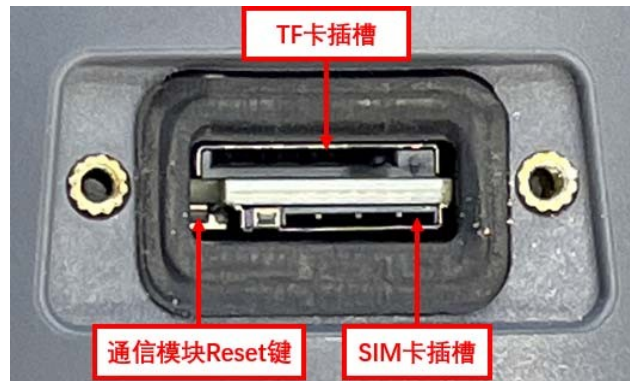
2. Interface connection diagram



3. Rear Panel Interface Definition



The rear panel interface includes Nano SIM card interface, Micro SD (TF) card interface, and router reset (Reset) button.



Notice:

- The insertion positions of the SIM card and the TF card are shown in the figure: **The SIM card and the TF card must be inserted or pulled out in the power-off state, and it is strictly prohibited to pull out or insert in the working state** . The SIM card chip is facing up, and the notch is facing inwards into the card slot; the TF card gold finger side is facing down, and the notch is facing inwards and inserting the card slot.
- When the router configuration problem makes it impossible to enter IE to access the router, you can restore the router to default by pressing and holding the router reset button for 5 s in the power-on state.



- When the interface cover is opened and re-installed, care must be taken that the sealing ring is installed in place, and the fixing screws must be tightened to prevent water leakage.

4. Tripod installation method (tripod is optional)

- Please refer to the manual of the tripod for detailed instructions on the use of the tripod;



- Remove the tripod quick release plate TY-50E;

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- Remove the original camera screws of the quick release plate;

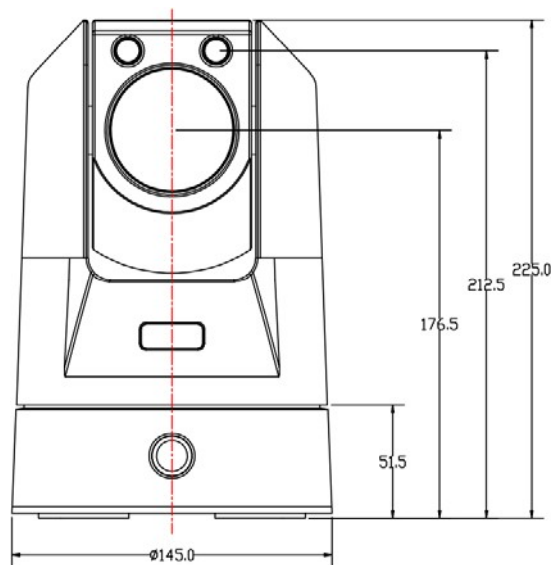


- Use 2 M4*8 stainless steel screws and M4 flat pads to fix the quick release plate to the support plate on the back of the quick release plate;



- Reinstall the quick release plate on the tripod, then attach the arming ball to the support plate.

5. Ball size



七、WiFi Instructions

The product has a built-in Wi-Fi hotspot, which can be directly connected to the Wi-Fi hotspot of the dome through a mobile phone (tablet or computer) to preview images and control the PTZ.

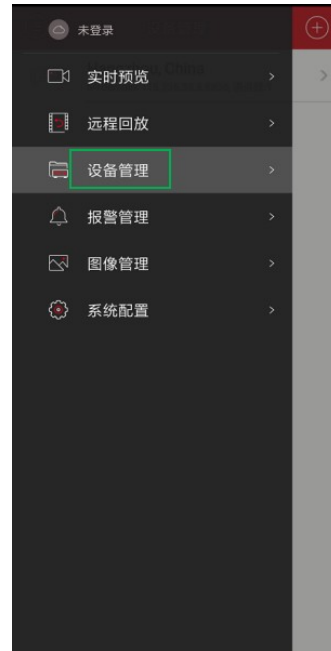
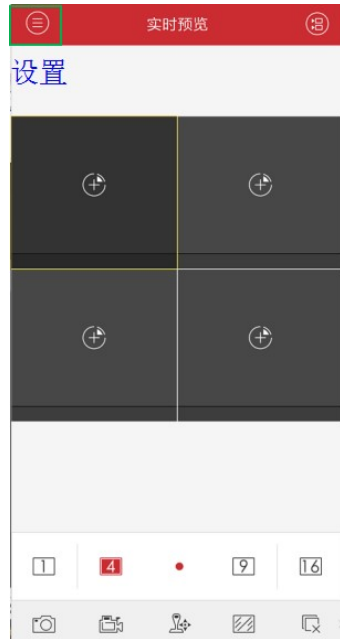
The mobile phone or tablet needs to download the APP client to use, enter the application store and search for "iVMS-4500", download and install. The computer can be operated directly through the WEB.

Wi-Fi search on your mobile phone (tablet or computer), the default wireless signal name (SSID) "PTZ- CAMERA - XXXX XX", password "12345678", connect to the Wi-Fi hot spot.

The following introduces the quick use method of iVMS-4500 for

Android mobile phone:

1. After entering the app, it is located in the "Live Preview" menu item and enter the "Settings" menu
2. Then go to the "Device Management" menu



3. Enter "+" to add device, select "Online Device"
4. Automatically retrieve online devices in the local area network, click to select the device to be added

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5. Select "Add"

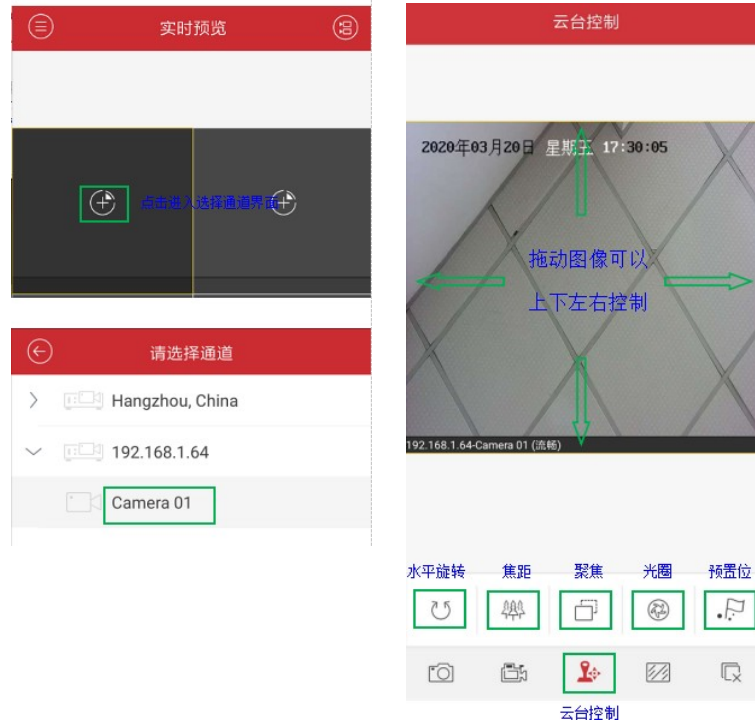


6. Enter username, password and "save "



7. Return to live preview and 8. PTZ control

select live preview channel



八、Common problems and solutions

common problem		Solution
Can not boot	battery drained	Connect the power adapter to charge and then turn it on
	The key is pressed for too short a time	Please press and hold for at least 3 seconds
Can't shut down	The key is pressed for too short a time	Please press and hold for at least 3 seconds
3G/4G Can't connect to the Internet	No SIM card inserted	Please insert a valid SIM card
	SIM card arrears	Please recharge or replace SIM card
	SIM card is not activated	Please contact the operator to activate
	Current location 3G/4G signal is not covered or weak	Change the ball position
WIFI unable to connect	Incorrect SSID selected	Select the corresponding SSID
	WIFI password error	Enter the correct encryption type and password
	Weak WIFI signal	Appropriately close to the ball machine position
	Strong WIFI signal but unstable connection	The current channel interference is serious,

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		replace the relatively idle wireless channel
Unable to locate	The ball can not be positioned successfully	Satellite signals need to be received outdoors where the sky is visible, but cannot be received indoors; there may also be a problem of inability to locate under a viaduct.

九、Appendix: Instructions for using the built-in router

1. Setup ready

1.1 Connecting the device

You can connect your computer and router by following steps.

1.1.1 Set the IP address of the computer

Before accessing the Web setting page, it is recommended that you set the computer to "Obtain an IP address automatically" and "Obtain a DNS server address automatically", and the router will automatically assign an IP address. If you need to assign a static IP address to the computer, you need to set the IP address of the computer and the IP address of the router's LAN port in the same subnet (the default IP address of the router's LAN port is: 192.168.1.1, and the subnet mask is 255.255). .255.0).

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1.1.2 Connect via WiFi

Check the wireless network connection of the wireless router, and then click the 'connect' button to establish the connection, the wireless password is: 12345678.



1.1.3 Confirm that the computer is connected to the router

When your computer shows that the IP has been successfully obtained, please use the Ping command to confirm whether the connection between the computer and the router is successful.

For example, in Windows XP environment, execute the Ping command: Ping 192.168.1.1. If the screen displays as follows, it means that the computer has successfully established a connection with the router.

```
C:\Users\Andy>ping 192.168.1.1 -t

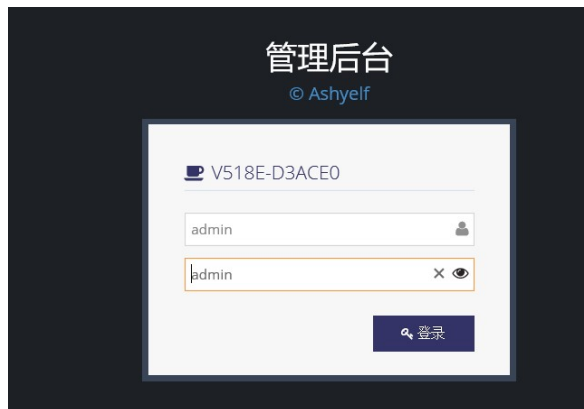
正在 Ping 192.168.1.1 具有 32 字节的数据:
来自 192.168.1.1 的回复: 字节=32 时间=3ms TTL=64
来自 192.168.1.1 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.1.1 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.1.1 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.1.1 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.1.1 的回复: 字节=32 时间<1ms TTL=64
```

1.2 Log in to the router

Next you will land on the router web settings page.

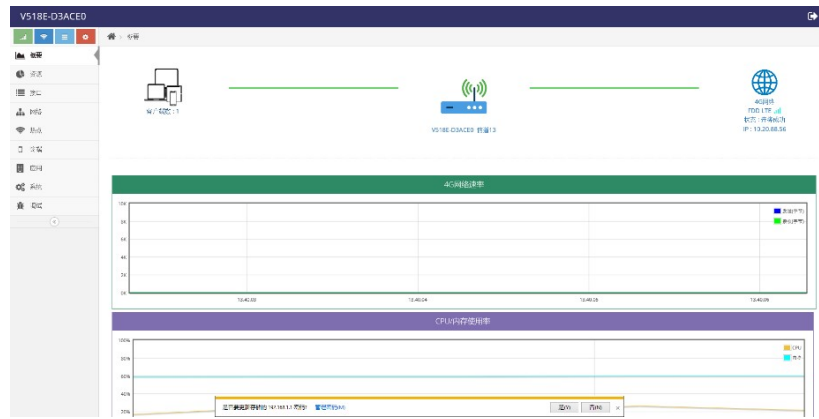
Enter "http://192.168.1.1" in the address bar of the web browser, and enter the login user name and password in the pop-up box.

When you log in for the first time, please enter the default username: admin, password: admin.



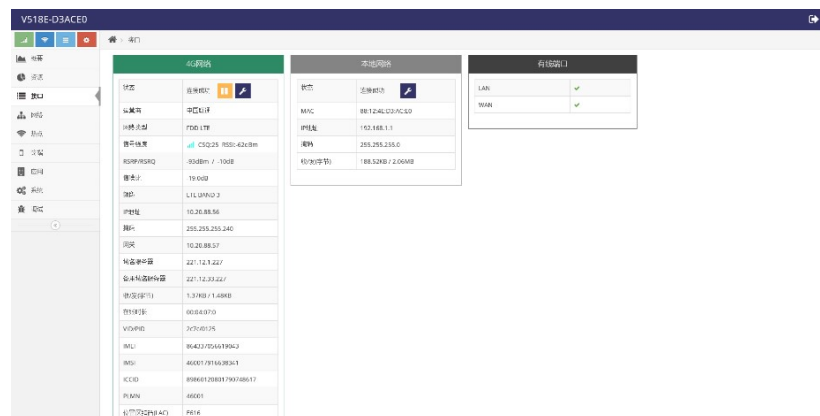
1.3 Enter the router web settings page

After successful login, enter the Web setting page, then you can set and manage the router.



2. interface

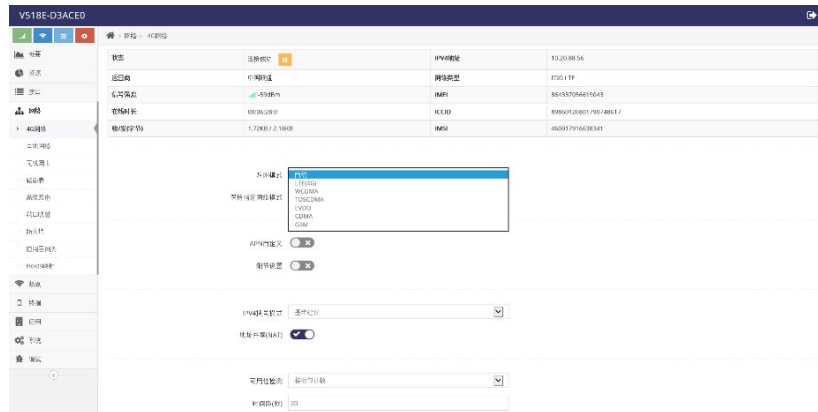
You can view the running status of the current router's "4G network", "local network" and "wired port" through the interface interface



2.1 3G/4G wireless routing mode.

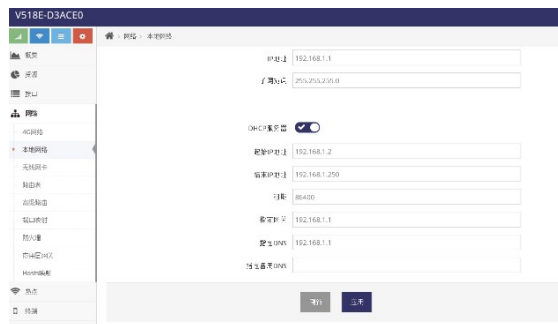
The default of the dome router is the automatic network mode, insert the 3G/4G tariff card, the router will automatically identify the 3G/4G network. You can also define the network operator you need

to choose.



2.2 Modify the router IP

In the "Local Network" tab, you can modify the IP address of the local router. It should be noted that the router address is best to keep the same network segment as the visible light core address. Otherwise, when connecting wirelessly, the WEB interface of the visible light core cannot be accessed. .



3. hot spot

Enter the "Hotspot" tab, you can modify the WIFI name, password, channel, encryption type, etc.:

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V518E-D3ACE0

热点 > SSID

2.4G热点 ☒

SSID V518E-D3ACE0

安全模式 WPA-PSK混合个人

WPA加密 AES

密码 *****

隐藏SSID ☐

隐藏客户端 ☐

取消 应用

4. system

Go to the "System" tab. The device name, time, working mode, software version, etc. can be modified.

V518E-D3ACE0

系统 > 设备管理

设备名称 V518E-D3ACE0 保存

型号 D218P

MAC地址 88:12:4E:D3:ACE0

当前时间 14:13:45 (12/30/2021) 同步时间

时间来源 NTP服务器

运行时长 00:36:00 系统重启

工作模式 4G路由

语言 中文 恢复出厂设置不能更改其设置

时区 UTC+8:00 (中国标准时间(GMT))

NTP自动对时 ☒ 立即对时

NTP服务器 ntp1.aliyun.com

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The distance between user and products should be no less than 20cm.