

SJY Telescopic CCTV camera

Operation Manual



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-
- Please read carefully before use.
 - Please keep it for future reference.

Table

Fundamental Performance	1
Construction and Principle	2
1— Main Components (Subject to actual configuration)	2
2— Display Buttons	3
3— Display Interface	1
4— Digital Audio Module	2
5— Gooseneck Tube Assembly	2
Installation and Debugging	3
Battery Replacement	4
Operating Methods	4
Menu Operation	5
Technical Specifications	18
WIFI connection (some device N/A)	20
Maintenance and Care Methods	23
Precautions	23
Trouble Shooting	24
Storage Requirements	24

Fundamental Performance



The SJY Telescopic CCTV camera (as shown above) is a HD professional audio/video search and rescue product. It integrates HD image processing, voice duplex communication and thermal imaging technology, which can control all functions and components through the dual operating systems of the main unit.

○ Portable

According to actual detection needs, it can be co-mounted with the detection modules such as monitor, probe, sound-pickup module, telescopic pole, cable, gooseneck tube, meeting various working conditions. The modularization of batteries, cameras and the monitor also facilitates daily maintenance.

○ Application

Mainly used to search for the trapped in post-disaster search and rescue operations such as earthquakes, tunnel collapses and high-rise building collapses. It has various functional probes that can detect the narrow spaces inside and communicate with trapped personnel, thereby helping to more quickly and effectively determine the location and condition of the survivors.

Construction and Principle

1— Main Components (Subject to actual configuration)

Mainly consists of a HD display monitor (including a battery), a 41mm color rotating camera, a 35mm infrared thermal imaging intercom probe, a 35mm electric rotating audio/video waterproof intercom probe, a digital full-duplex voice communication module, a telescopic rod (rigid material, with a soft tube connected to the camera interface), detection cables, headphones, spare batteries, a gooseneck tube, a charger, a packaging box and carrying equipment.



Monitor



Cable



Digital Full-duplex Voice
Communication Module



41mm Color rotating camera



35mm Electric Rotating Audio/Video
Waterproof Intercom Probe



35mm Infrared Imaging Intercom Probe

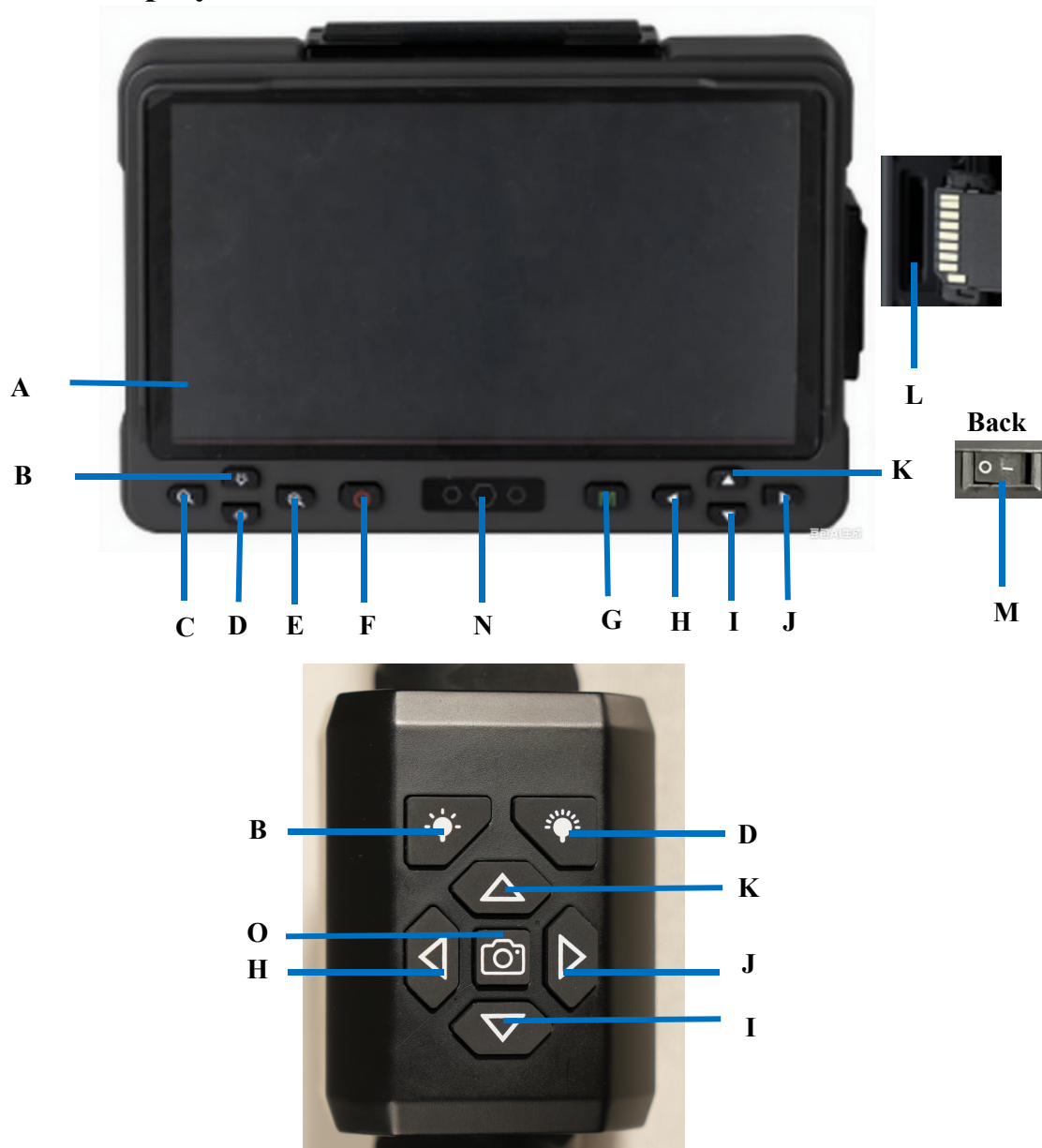


Telescopic Rod



Gooseneck tube

2— Display Buttons



A- Display

B- LED Darken Button

C- Zoom Out Button

D- LED Brighten Button

E- Zoom In Button

F- Power Button (with Back function)

G- Menu Button

H- Left Rotation Button

I- Right Rotation Button

J- Upward Flip Button

K- Downward Flip Button

L- SD Card Slot

M- WIFI Button

O- Capture (**click**) / Record Button (**press**)

Zoom Out Button: Adjust camera to make focus far.

Zoom In Button: Adjust camera to make focus near.

LED Brighten Button: Long press to brighten the camera.

LED Darken Button: Long press to darken the camera.

Power Button: Long press to turn on. Then click or tap the screen to exit menu mode, with back function. Long press for 3-5 seconds to turn off.

Menu Button: Press to bring up the menu.

Upward Flip Button: Press to flip up the camera in the image mode. Press to move the cursor bar upward in the menu mode.

Downward Flip Button: Press to flip down the camera in the image mode. Press to move the cursor bar downward in the menu mode.

Left Rotation Button: Press to rotate the camera counterclockwise in the image mode. Press to move the cursor bar to the left.

Right Rotation Button: Press to rotate the camera clockwise in the image mode. Press to move the cursor bar to the right. Support switching between image parameter sub-menu and system parameter sub-menu.

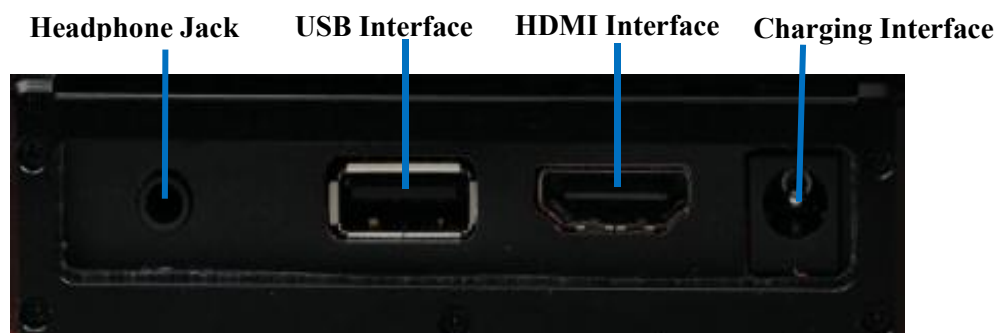
SD Card Slot: Insert the SD card. (Format before first use of >64G to avoid card error.)

WIFI Button: Press “-” to turn on WIFI. (Custom)

WIFI Indicator: The light turns red 4~5 seconds after turning on the WIFI switch, showing the WIFI is connected.

Capture/ Record Button: Click to capture, press to record.

3— Display Interface



Headphone Jack: Customized extension feature, through which can monitor the voice collected by the detection probe.

USB Interface: Can be used to connect the controller and the computer, through which can output the information inside the controller to the outer computer

HDMI Interface: HD video output interface. (The main unit screen will go black when connecting the external display, touch screen functions still be available.)

Charging Interface: Charge the internal battery or power the device directly.

4— Digital Audio Module



The audio module is mounted between telescopic pole and camera.

Note: Install the audio module and turn on the device before using audio function.

5— Gooseneck Tube Assembly



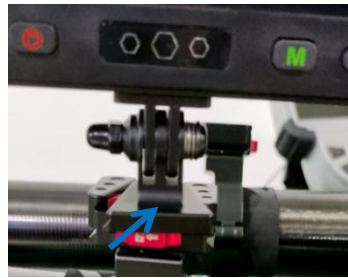
a. When connecting the gooseneck tube, attach the probe-end interface to the thin end of the telescopic rod, and the threaded-end interface to the threaded end of the audio module.

b. When the audio module is not in use, the threaded-end interface of the gooseneck tube can be directly connected to the probe.

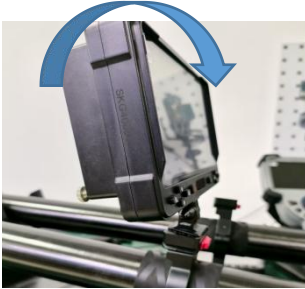
Installation and Debugging



1. Push the red button.



2. Push the base into corresponding slot on the pole.

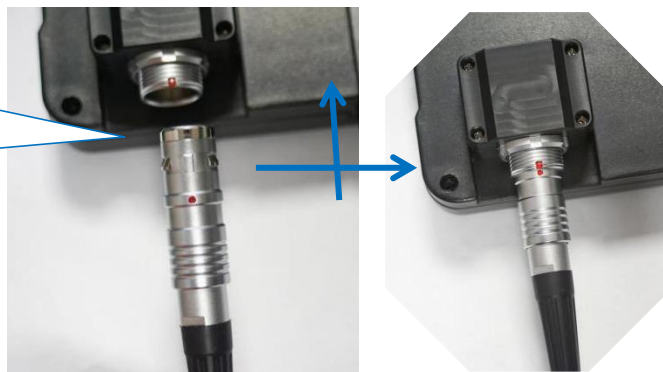


3. Support 180° flip.



4. Support 360° rotation.

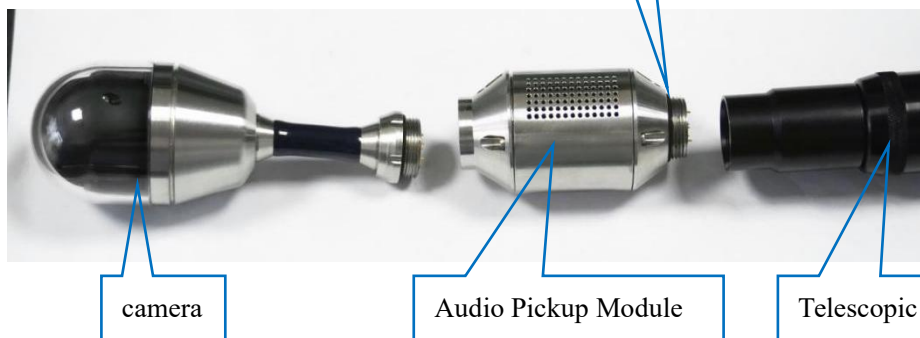
5. Align the red dot on the 14-pin plug of the telescopic pole with the one on the 14-pin socket, push it vertically to



The connection sequence is in the following order: probe(camera) + audio module + telescopic pole/ cable. Note that the audio pickup module connects to the probe end. It can be directly connected to the telescopic probe without equipping audio pickup module.



Audio Pickup Module Probe end



camera

Audio Pickup Module

Telescopic Pole

Battery Replacement



a. Loosen the 5 screws shown on the back of the monitor.



b. Remove the battery vertically.



c. Align the new battery female base with the monitor and merge them downwards vertically.



d. Retighten the 5 screws.

Operating Methods

1. According to working needs, install corresponding camera before using.
2. Ensure mounted battery and SD card, press the power button to turn on.
3. Observe.
 - a. Press the LED brightness adjustment button to turn on the LED light source.
 - b. According to working needs, protective cage and guide ball can be installed for safer and more convenient observation effect.
 - c. Insert the camera into the interior to reach the observation position.
 - d. Control the rotation/ flip/ fluctuation of the camera and adjust the brightness to reach the best real-time image effect.
 - e. After adjusting the observation position, it's able to take photos/ record and store the detection results through function buttons.
4. Safely exit and turn off the power supply after observation.
5. Store the instrument.

Menu Operation

After turning on, it automatically enters the video displayed in full screen. The camera light brightness level are displayed in the lower right corner.




Click anywhere to bring up on-screen touch button interface which would automatically hide without operation after 8 seconds.




Negative: click the icon  to enter the negative mode.



Grid: When the menu is set to “Grid 1”, click the icon  to turn on or turn off XY cross ruler for comparative measurement.




XY Cross Ruler display

When the menu is set to “Grid 2”, click the icon  to turn on or turn off circular ruler. (The menu settings will be subsequently explained.)




Circular Ruler display


Split-screen Switching:  (not available in certain specifications)

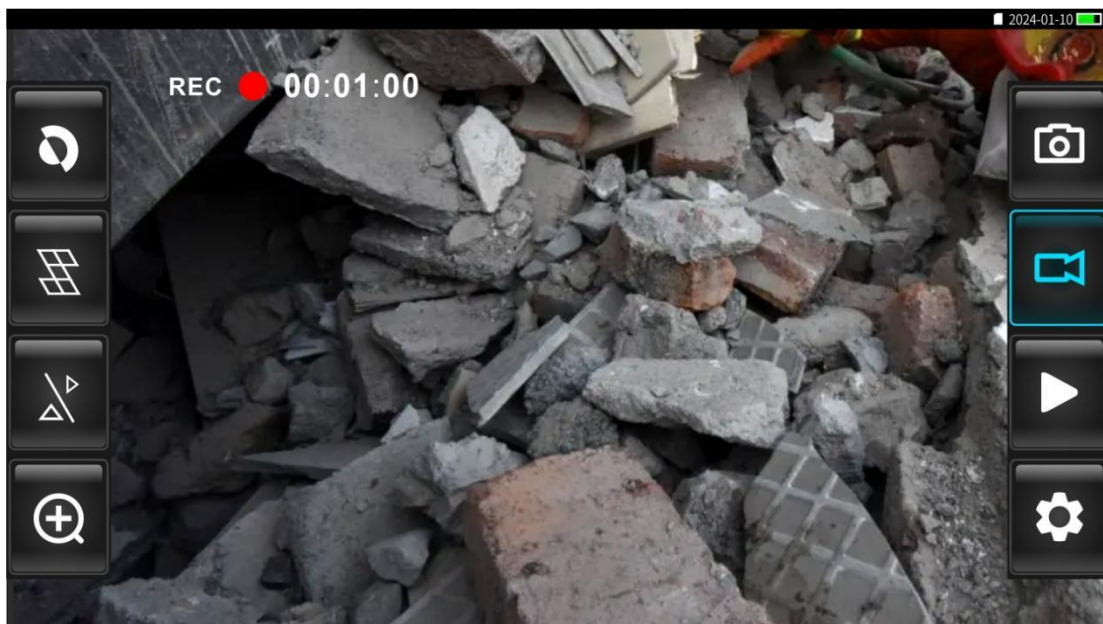
Image Magnification: Click the icon  to zoom in on the image, with a maximum real-time magnification of 8 level.






Capture: Click icon  or the photo button take a photo, take a photo successfully, display the instructions for taking a photo, as figure.



Record: click icon  or video button to take video with one key, when recording, the video indication flashes, and at the same time displays the duration of the video, touch the screen or press the icon or the video key again to exit the video state.









Play back: click icon  enter to the playback screen, click icon  or  can switch between picture preview interface and video preview interface. Click up or down on the vertical blue scroll bar on the right side or press up or down button to turn pages in the interface. Directly click on the pictures and videos or press the left or right button to jump left or right to select files.



Picture Files



Video Files


Double-click on the picture/video or press the confirm button for single file browsing, click on  or  icon or up and down buttons to switch between front and back files; click on  icon can zoom in and zoom out of the picture; clicking on the video automatically enters the video play, click on  icon, The icon changes to , Video pause; Fast forward and rewind by clicking on the play progress bar below the video; click on  icon or short press the on and off button, video exit.

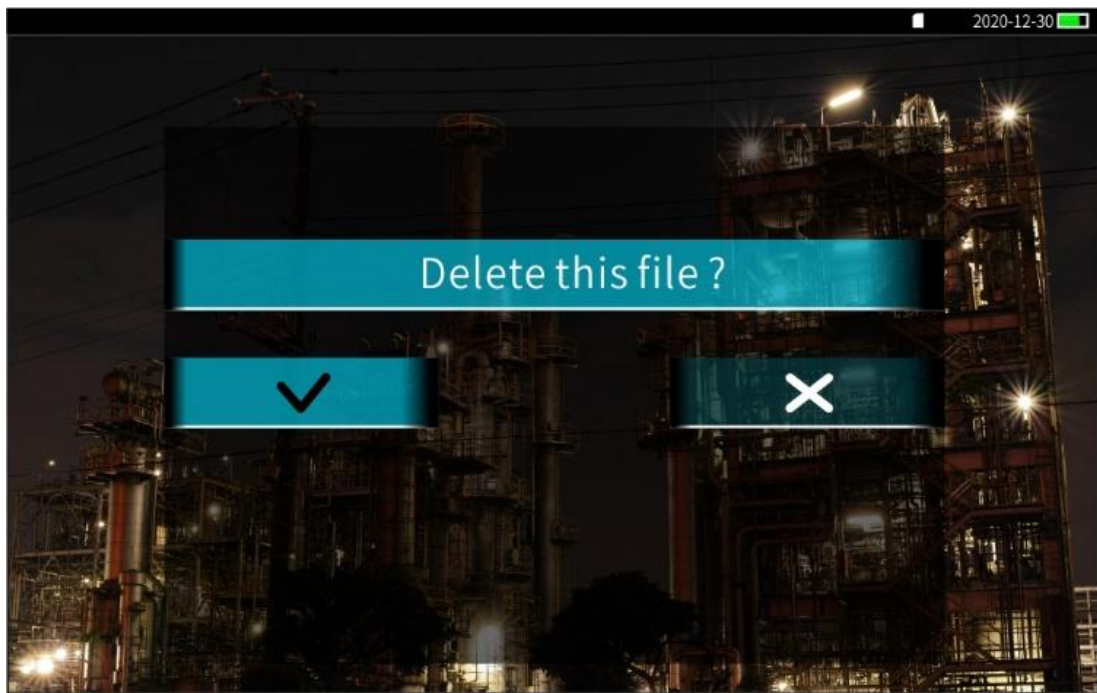



Picture preview interface

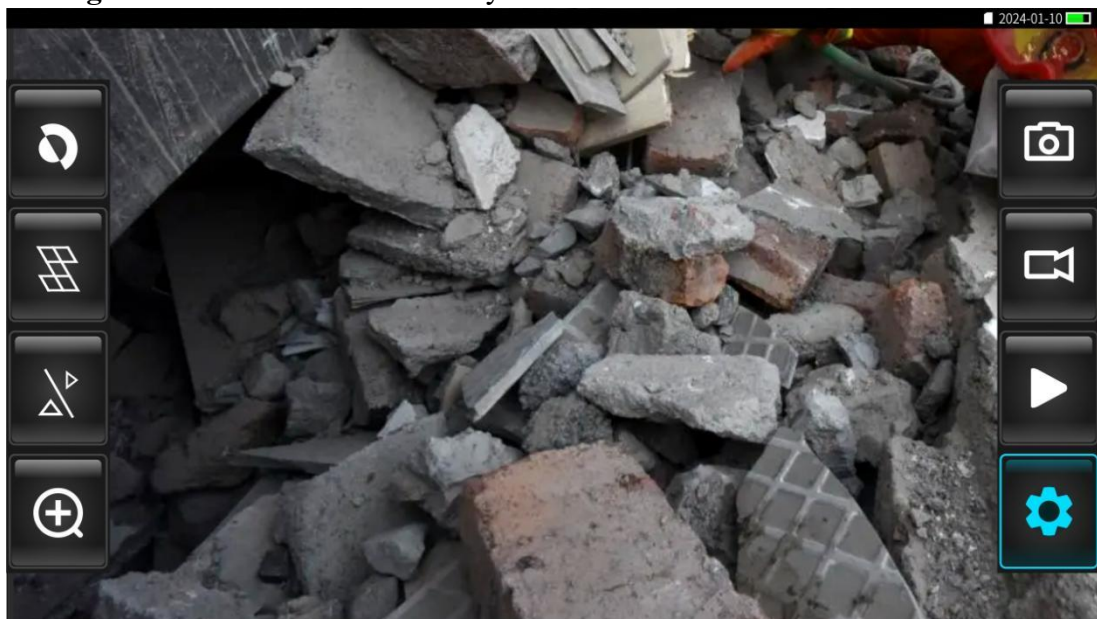


Video preview interface

When previewing image files and video files, click on  icon can enter the Delete interface to choose whether to delete the file or not.



Setting: click  icon or menu key to enter the menu interface.



Video Settings

After entering the menu interface, click the corresponding icon at the top of the screen

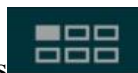
to enter the video settings respectively.



/Screen settings




/Application settings



/System settings



White balance: the camera image can accurately reflect the colour condition of the subject, there are automatic, cloudy, incandescent light, daylight and other ways. Click the "White Balance" light bar to enter the sub-menu, double-click the parameter you want to select or click the  icon to return to previous menu.



Contrast: Click the bar cursor shown in the picture or press the left or right button to adjust the contrast, users can choose according to the actual needs, the setting method is the same as above.



Display tone: Drag the icon cursor or press the left or right button to adjust the display tone, users can choose according to the actual needs, the setting method is the same as above.

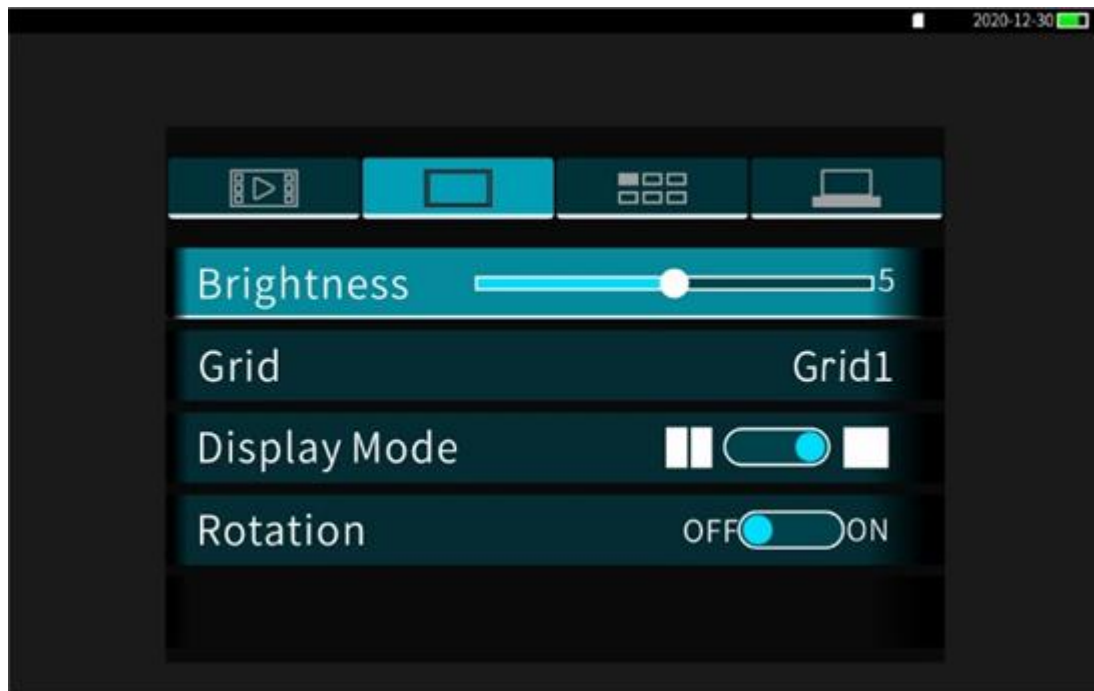


Negative: click "on" or "off", open or close the negative state, users can choose according to the actual needs, the setting method is the same as above.



Screen Settings

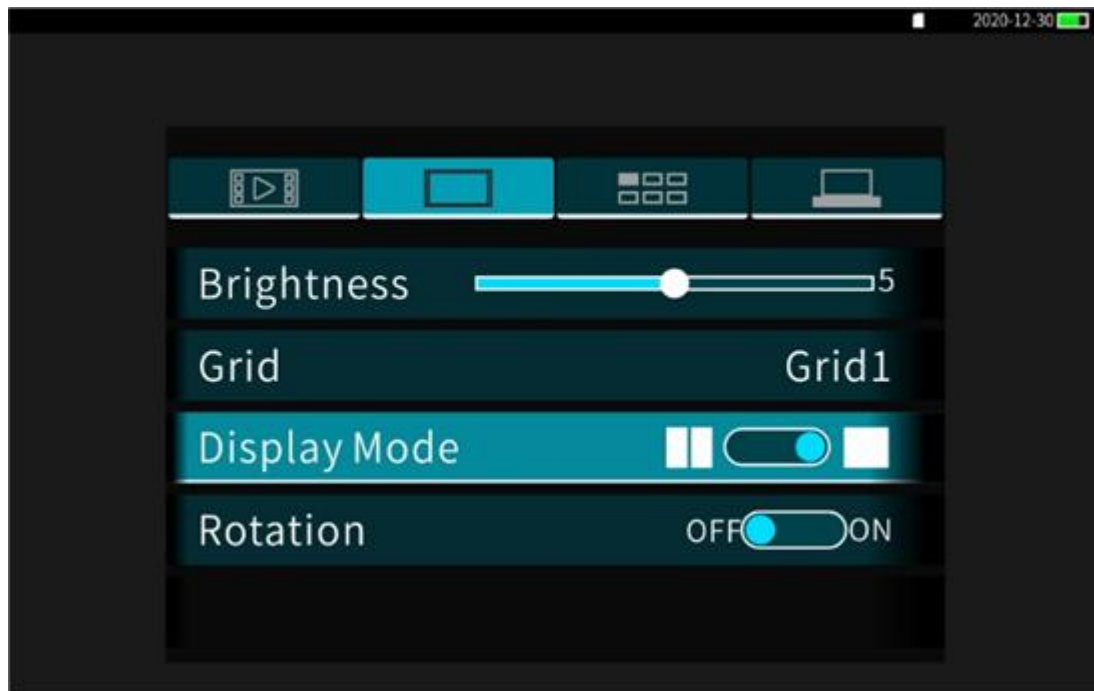
Brightness: Drag the icon cursor or press the left or right button to adjust the screen brightness, users can choose according to the actual needs, the setting method is the same as above.



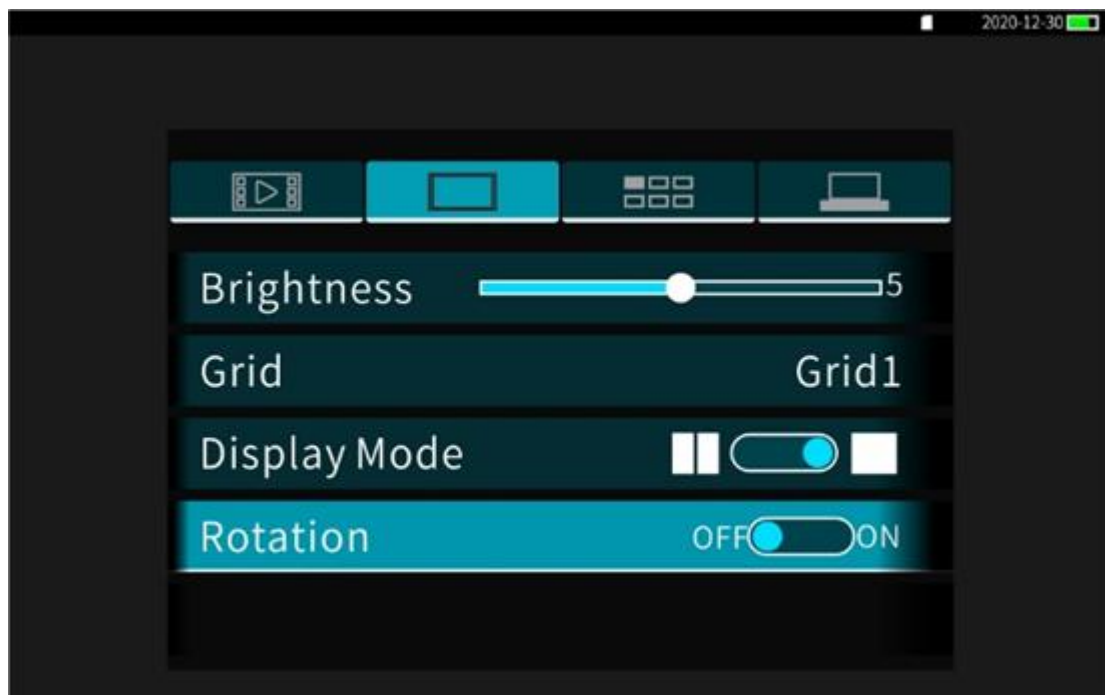
Grid: Click this cursor or confirm button to enter the sub-menu to choose to open or close the grid. Grid 1 is XY cross scale, scale 2 is circular scale, users can choose according to the actual needs, the setting method is the same as above.



Display Mode: Click the left or right side of the ○-type icon in the picture to select the display mode, users can choose according to the actual needs, the setting method is the same as above.





Rotation: Click the ○-type icon in the picture left and right can be 0 ° and 180 ° rotation of the screen, users can choose according to the actual needs, the setting method is the same as above.



Application Setting

Date and time setting: Click the date setting cursor bar to enter the date and time sub-menu, you can adjust the year/month/day/hour/minute selection, when the cursor

selects the parameter, click the  or  icon or up and down keys can be used for parameter adjustment, click the return icon to complete the adjustment of date and time. users can choose according to the actual needs, the setting method is the same as above.



Language setting: This product supports Simplified Chinese, English and other multi-language options, users can choose according to the actual needs, the setting method is the same as above.



Sounds: Users can choose whether to switch on or not according to the actual needs, the method is the same as above.



Icon display: After turning on the icon display status, the SD card logo, date and

battery level are displayed on the screen under the real-time image status. Users can choose according to the actual needs, the setting method is the same as above.

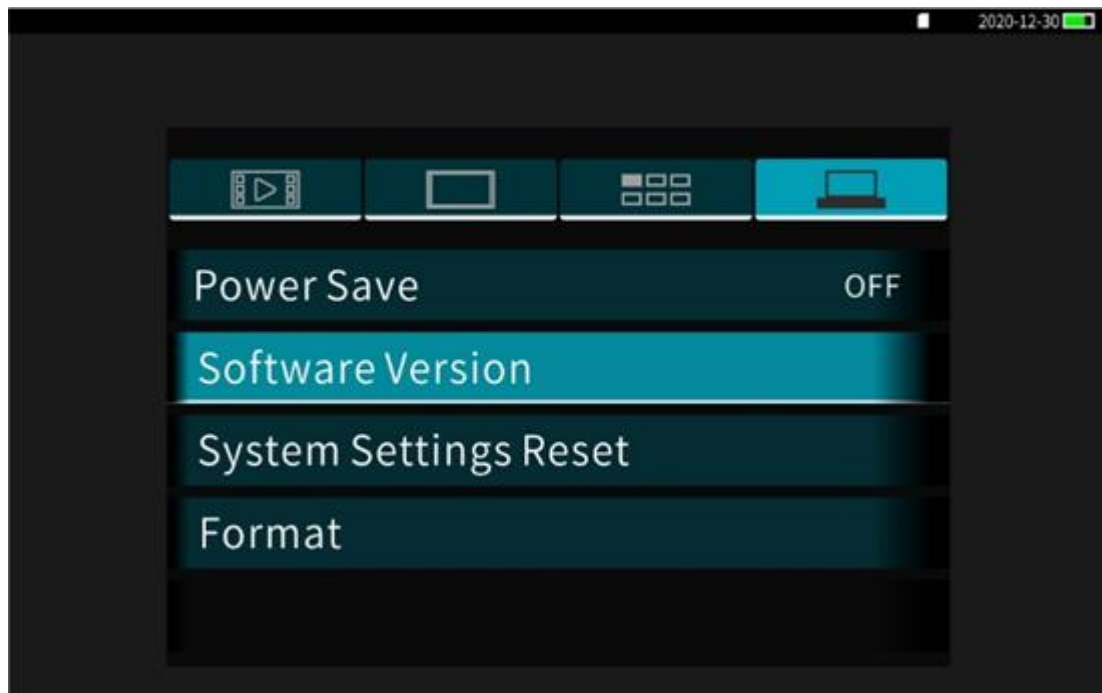


System Settings

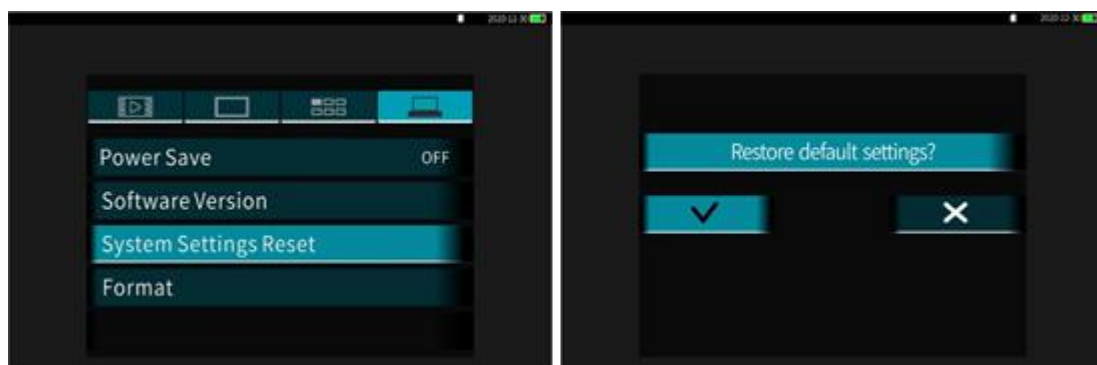
Automatic shutdown: Users can set the length of the automatic shutdown time according to the actual needs, when the equipment in the set time, without any operation, the equipment will automatically shut down.



Software version: The software version is fixed and is used to display the software version status. The device can upgrade the software via SD.



System settings reset: Users can choose whether to restore the device to default settings as needed, the method is the same as above.



Format: Users can choose whether to format the memory card according to their needs, the method is the same as above.



Technical Specifications

Monitor	LCD monitor	7-inch LCD
	Resolution	1920*1080
	Display frame rate	25 fps
	Brightness Control	Manual stepless adjustment
	Video output	Manual, NTSC/PAL output
	Video input	Automatic identification of NTSC/PAL S-terminal (analogue signal)
	Storage card	Standard 64G, support MAX 256G
	Power adapter	100-240~50/60HZ 12.6V/3A
	Image format	JPG 1920*1080
	Image magnification	3 levels
	Video format	AVI 1920*1080
	Language	Chinese/English/German etc. 16 languages
	Operating temperature	-10°C~50°C
	Standby time	Single battery ≥5h, dual battery ≥10h
	Waterproof level	IP65

41mm color rotating camera	Diameter	41mm
	Length	60mm
	Pixels	1080P
	Illumination	12 high brightness LED lights
	Housing material	Stainless steel
	Radial flip	180°
	Axial rotation	360°
	Manual focus	Yes
	Image sensor	CMOS 1/4
	Waterproof level	IP67
	Waterproof depth	1m

Telescopic pole	Material	Carbon fiber
	Expanded length	0.95~4meters


35mm electric rotating audio and video waterproof intercom probe	Diameter	35mm
	Length	107mm
	Pixels	2 million
	Illumination	8 high brightness LED white lights
	Housing material	Aluminum alloy
	Resolution	1920×1080
	Radial flip	220°
	Storage temperature	-25°C ~55°C
	Waterproof level	IP68

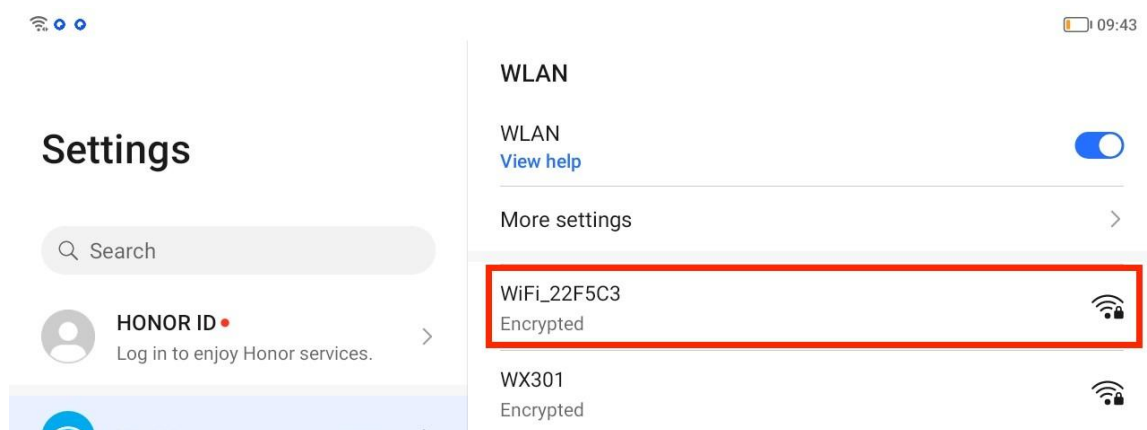
35mm infrared thermal imaging intercom probe	Diameter	35mm
	Length	124mm
	Pixels	256×192/384×288
	Housing material	Aluminum alloy
	FOV	45×45
	Observation distance	55/90 m
	Frame rate	25HZ
	Wavelength range	8~14um
	Temperature measurement function	Maximum, minimum, center point temperature measurement
	Temperature measurement accuracy	±2°C, high temperature accuracy ±3°C
	Image mode	White hot, black hot, iron red, etc. 8 types
	Temperature measurement range	-20°C ~ +550°C
	Image detector type	Non-refrigerated vanadium oxide
	Operating temperature	-40°C ~ +80°C
	Radial flip	220°
	Axial rotation	360°
	Waterproof level	IP65

WIFI connection (some device N/A)

- a. Locate the Wi-Fi installation package on the SD card included with the controller, then install the WiFi Smart Control app on the phone or tablet. The app icon will appear on the home screen.



Turn on the controller's Wi-Fi on the back , then connect to the corresponding network name, such as “WiFi_XX” (SSID) on your phone or tablet via WLAN and enter the password: 12345678. Open the app to view the image displaying. **If already open, close it completely before relaunching.**



b. Function



Capture



Brightness+: Single-click or press to add.



Left Rotation: Single-click or press to rotate.



Brightness-: Single-click or press to decrease.



Right Rotation: Single-click or press to rotate.



Record



Flip Down: Single-click or press to flip down.



Focal Length-: Single-click or press to decrease focal length.



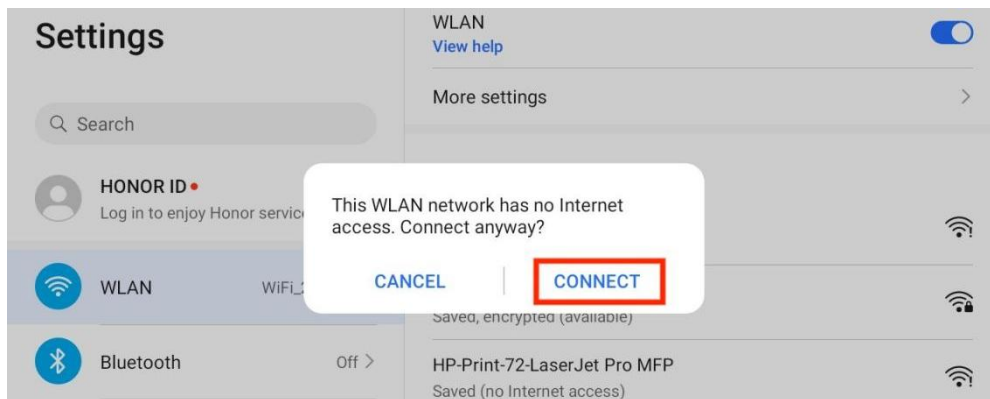
Flip Up: Single-click or press to flip up.



Focal Length+: Single-click or press to increase focal length

c. Note

Since this is a no-internet connection, Android may warn that the network is unavailable—simply tap CNNECT.



If the icons appear incomplete due to a small screen, swipe the icon area to access the desired function.



Maintenance and Care Methods

1. When using the system for the first time, please set the current date and time. This is because the storage files for video and photographs are named after the current time of the device.
2. Please check the instrument before going to the testing site to confirm whether the instrument can record data correctly to avoid losses such as duplication of efforts or invalid data. **Note: Neither the company nor the distributor will be liable for any loss caused by this.**
3. If you are using a rotating lens, gently shaking, the lens image will be slightly shaky feeling, this is normal.
4. Try to avoid strong impacts on the lens and monitor in daily use.

Precautions

1. Do not use at temperatures outside the range of -25°C~55°C.
2. Do not use or leave the equipment in a corrosive environment.
3. Do not expose the device to rain, and do not leave the lens in liquid for long time, except for waterproof lens.
4. Do not place the device near objects with strong magnetic.
5. Do not use in an environment with excessive smoke and dust.
6. Please keep the controller clean and do not scratch the screen.
7. Do not attempt to dismantle the device by yourself. Repair work should only be carried out by factory authorized personnel.
8. When taking photos and videos, make sure that the LEDs are appropriately bright and that the probe end is stable and not shaking.
9. Please check that the instrument has charged batteries installed before use.
10. During use, users should not look directly at the lens light to avoid burning eyes.
11. Turn off the power when the test work is finished.
12. Always use the charger provided with the device when charging, voltage 12V, current not higher than 2000MA.

Trouble Shooting

Description	Possible causes	Solutions
Cannot turn on the instrument	Battery is out	Charge the battery or connect directly to an external power supply
Monitor blue or blinking	Camera is not installed properly	Re-install the camera
Abnormal video Abnormal lines	Error in parameter adjustment on screen display	Adjusting the hue, contrast and other parameters of the screen
Image blurry	Lens come off/ stained	Switch off and wipe the lens
The instrument does not shut down properly	The equipment is subject to strong magnetic interference, causing system errors	Remove the battery and reinstall it

Storage Requirements

1. After using the equipment, do not soak and rinse the equipment, use a soft cloth to clean the lens and the integrated instrument case, and then put it into the equipment box; do not let the lens and the monitor be squeezed, collision or impact, resulting in unnecessary damage; the equipment is not used for a long time, it is recommended to take out the batteries, so as to avoid damage to the batteries.
2. Protect against shocks, severe vibrations and humidity during transport and avoid splashing water droplets on the machine.
3. Storage environment: Temperature -25°C~55°C; Relative humidity not more than 85%; No corrosive gas, well ventilated. (Failure to do so may result in battery leakage, overheating or explosion, causing fire, burns or other injuries.)
4. When the battery is not used for a long period of time, it is recommended to charge it once a month in case of emergency.