



InfiRay Technologies Co., Ltd.

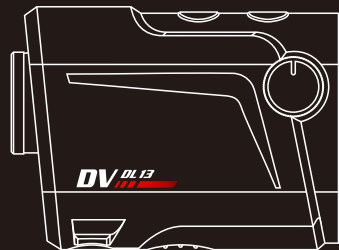
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DV Series

Thermal Imaging Camera



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Part 01: DV Series

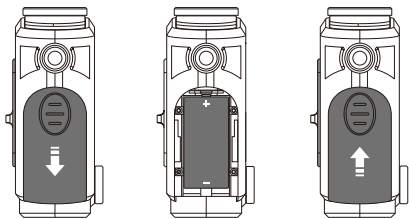
DESCRIPTION

The DV series is a small-sized thermal imaging camera. Connecting with the smart phone for photographing and video recording, this device features with infrared thermal imaging, small size and low power consumption.



BATTERY INSTALLATION

- ⦿ As show in the picture, push backward the battery compartment cap to remove it.
- ⦿ Then, insert a CR123 battery into the battery compartment as labelled in the picture, anode in the front and cathode in the back;
- ⦿ Push the cap forward until the cap closes.



Notice

- ★ This device only supports 3.7V batteries;
- ★ Connecting with smart phone will power the device, but the installed battery cannot be charged.

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OPERATION

1. Power On/Off

Press and hold down the **Power** button about 2 seconds until the splash screen appears, the device is turned on.

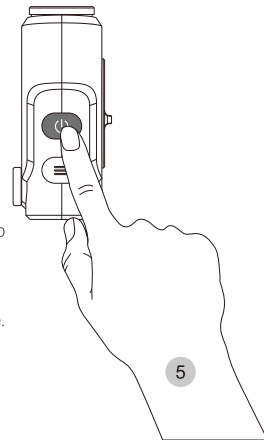
Turn the device off after use with a long press of the **Power** button about 2 seconds until the countdown on the screen disappears.



2. Standby Mode

In the home screen, short press the **Power** button to enter standby mode (screen turns off and chipset standby).

Press the **Power** button again to wake up the device.



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In the home screen, short press the **Power** button to enter standby mode (screen turns off and chipset standby).

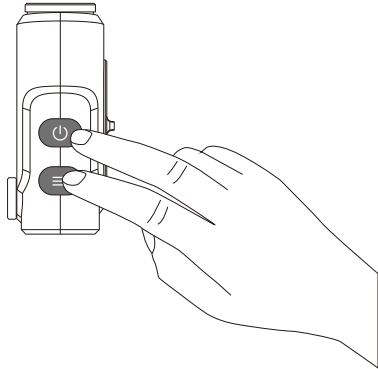
Press the **Power** button again to wake up the device.

3. Status Bar

Status bar is located at the top of home screen. Status including magnification, brightness etc. are on the top left and battery status on the top right.

4. Calibration

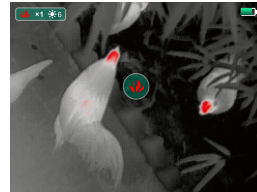
When the image is degraded or uneven, it can be improved by calibration. In the home screen, short press the **Power** and **Menu** button simultaneously to calibrate manually.



5. Shortcut Menu

In the home screen, short press the **Menu** button to switch among following modes: Shortcut 1 – Shortcut 2 – Shortcut 3 – Home screen. In the shortcut menu interface, the status information of the current menu is indicated as icons or numbers on the center of the screen. Short press the **Power** button to circle the current state.

Shortcut 1: Switch the Imaging Mode among: White Hot – Black Hot – Red Hot – Pseudo Colour



White Hot



Black Hot



Red Hot



Colour

Shortcut 2: Switch the E-zoom among x1 – x2 – x4.



x1

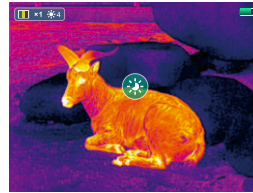


x2



x4

Shortcut 3: Switch the Screen Brightness among six levels.



B1



B2



B3



B4



B5



B6

SPECIFICATION

Model	DL13	DP09
Resolution	384×288	256×192
Pixel size, μm	17	12
Object lens, mm	13	9
Field of view, °	23.6×20.7	19.6×14.7
NETD, mk	≤60 @ 25°C, F#1.0	
Frame refresh, Hz	25	
Operating temp., °C	- 10 ~ + 50	
Temp. correction	Manual / Auto	
Battery type	RCR123×1	
Digital zoom, ×	1 / 2 / 4	1 / 2
Consumption, mW	800 ± 100	600 ± 100
Weight(without battery), g	< 90	< 85
Dimension, mm	77 × 56 × 36	
USB type	Type-C	

Part 02: APP



APP INSTRUCTIONS

1. Install APP

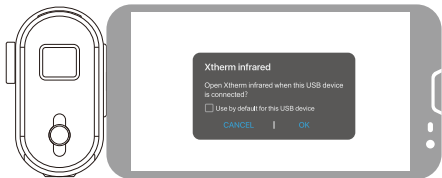
Search and Download Android Application: Xtherm in Google Play.



2. Connect to Device

Slide the cap to reveal Type C USB port, and insert the port to smart phone.

Once connected, the device turns on automatically. Meanwhile, there is a prompt appear on smart phone as shown in the picture below. Click "Ok" to operate the device via the screen of smart phone, meanwhile disabled buttons on your device.



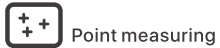
3. APP Operation

The interface of APP includes following functions: Pictures, Photographing, Video Recording, Temperature Measuring, Shutter and Settings.



- ◎ **Picture File:** Click this icon to view the saved photos and videos.
- ◎ **Photographing:** Click this icon to take photos, location of photos: internal storage/DCIM/Xtherm.
- ◎ **Video Recording:** Click this icon to record videos, location of videos: internal storage/DCIM/Xtherm.

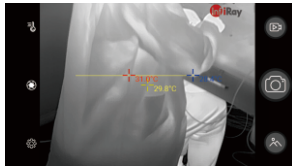
☉ **Temperature Measuring:** Click this icon will reveal following options:



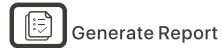
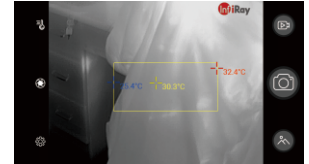
Click this icon, there will be three points appeared on the screen, labelled with temperature: center point, highest temperature and lowest temperature. Click screen will add customized points with measured temperature.



Drag on screen to 'draw' horizontal line. The highest and lowest temperature will reveal on the line.



Drag on the screen to "draw" rectangles. The highest and lowest temperature will reveal in the rectangle.

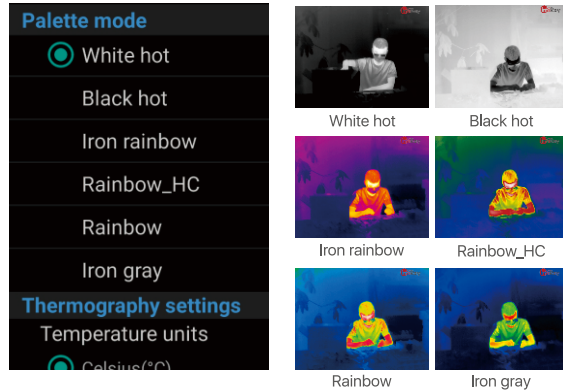


Click this icon to generate a report, saved in location: internal storage/DCIM/Xtherm.

☉ **Shutter Calibration:** Click this icon to calibrate when imaging quality degrades.

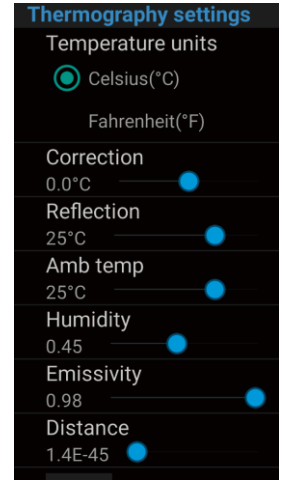
⊙ **Settings:** set palette mode and other relevant options

■ **Palette Mode:** switch among six palette modes by clicking the icons.



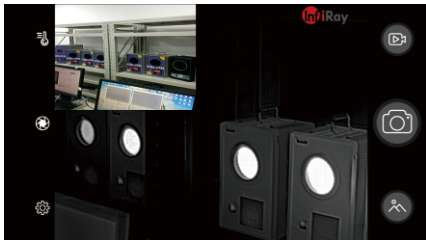
■ **Thermography settings:** Set relevant parameters for temperature measuring.

- **Temperature units:** switch between Celsius and Fahrenheit.
- **Correction:** correct measured temperature errors.
- **Reflection:** set the temperature (if known) that surroundings reflect on the object.
- **Amb Temp:** set the environment temperature (if known) of the object.
- **Humidity:** set the humidity (if known) of the object.
- **Emissivity:** set the emissivity (if known) of the object.
- **Distance:** set the distance (if known) between device and objects.
- **Save:** save all setting.



Others

- **System Camera:** Turn on the smart phone's camera, appear on the top left of the screen, as show in the picture below:

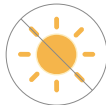


- **Language:**

Switch between "Simplified Chinese" and "English" interface



CAUTIONS



Avoid look directly at high radiation sources (such as solar).



Avoid collision with camera.



Don't touch the device and USB port with wet hands.



Don't bend or damage relevant cables.

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