Trail Cameras Australia

Infrared Digital Scouting Camera

User's Manual
Scout Guard SG560DF Series

For model: SG560DF

http://www.trailcameras.com.au

Content

1 Instruction

1.1 General Description

This camera is a surveillance device working automatically with dual light: infrared LEDs and incandescent flash.

It can be triggered by any movement of human (or animals) in a certain region of interested (ROI) monitored by a highly sensitive Passive Infra-Red motion sensor (PIR)，and then take high quality pictures (up to five mega pixels) or video clips.

It integrates infrared LEDs and incandescent flash. When using infrared LEDs at night, it takes clearly black and white pictures or video clips without any disturbing to animals. When using incandescent flash, it takes clearly color pictures at night.

The camera consumes very little power(μ A level) at surveillance mode. Powered by Eight new AA alkaline batteries, the camera stands-by about 6 months. Once a motion by human or animals is detected, the digital camera unit will be awoken up at once and then automatically take pictures or videos according to previously programmed settings.

The device is designed for outdoor use and is resistant against water and snow. Furthermore, the camera can be used as a portable digital camera. Pictures or videos can be taken manually by pressing on the operation panel.

1.2 Application

This camera can be used as automatic surveillance device for guarding and recording unexpected intrusion to homes, shops, schools, depots, offices, taxies, worksites etc. It can also be used as trail camera for hunting or monitoring animals by recording the traces of wild animals. It can be left alone for weeks and months and it will save event records automatically in digital format.

1.3 Camera Interface

1.3.1 Camera Body Interface

The camera has the following interfaces: a 2.0" TFT LCD display screen, operation panel, USB connector, SD-card slot, TV output and external DC power connector. Fig.1 shows the front view of the camera and its function parts. Fig.2 shows the operation panel and display screen. Fig.3 shows the bottom view of the camera and its I/O interface.

Take a few moments to familiarize with the camera controls and displays. It is helpful to bookmark this section and refer to it when read through the rest of the manual.

Incandescent Flash

IR Flash

Indication LED

PIR

Lens

Lock

Figure 1: Front view

Display Screen

Operation panel

Power Switch

MENU   DEL

OK

ON
SETUP
OFF

Battery Depot

Lock Hole
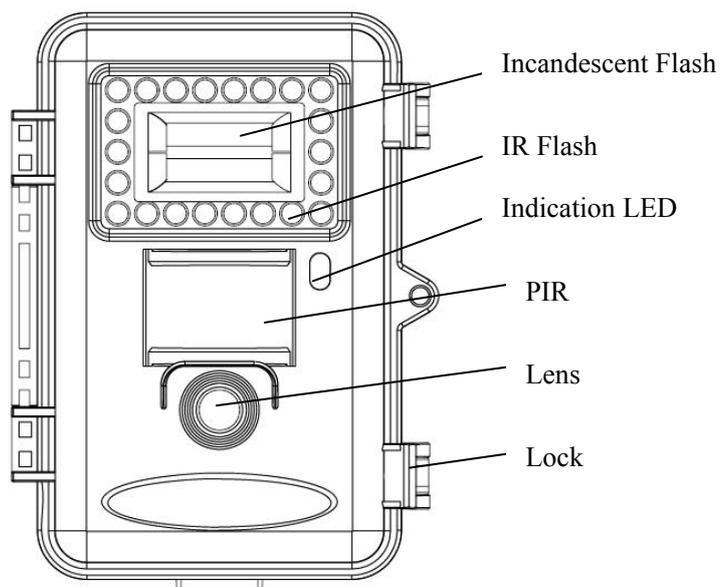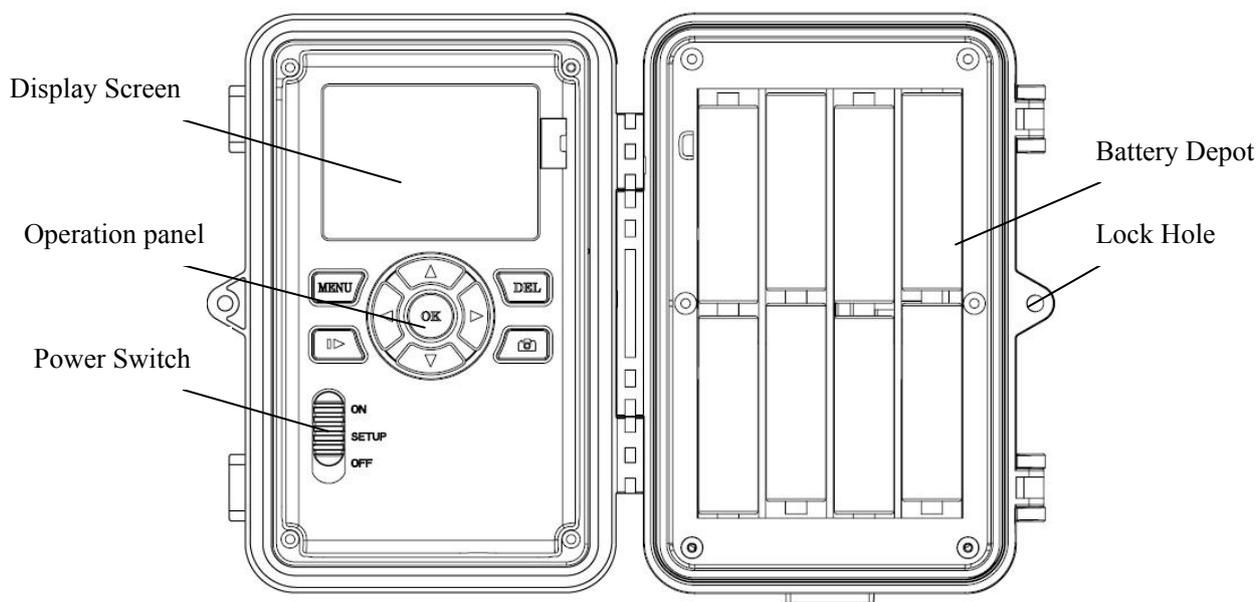
Figure 2: Operation interface

DC In   SD-card Slot   USB

TV Out

DC 6V   TVout   USB   SD

Bottom Screw   DC Hole and Stopper

DC 6V
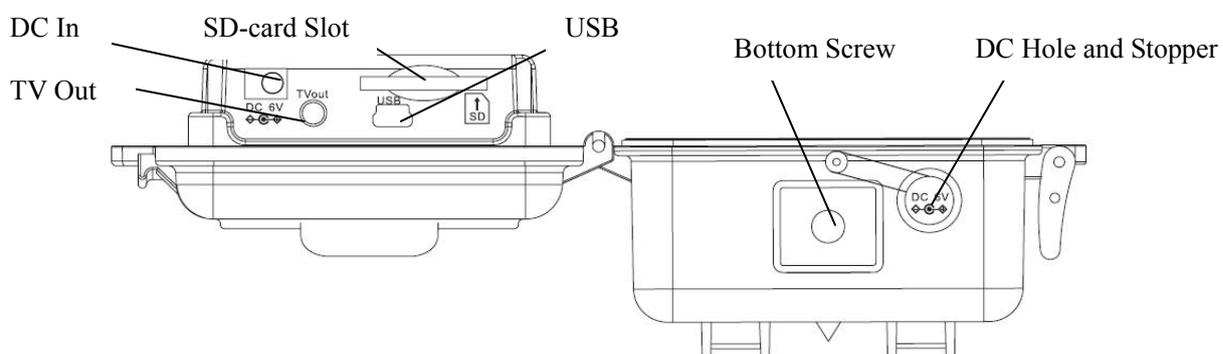
Figure 3: Bottom view

1.3.2   Key Notes

"**MENU**" : to enter the program menu in preview mode;

"▲""▼""◀""▶": for parameter settings as described in the user's manual.

"**OK**": to save parameter settings and play videos.

"▶": to exchange between playback mode and preview mode;

"**DEL**": to delete an image

"📷":   to capture a photo or record a video manually.

1.3.3   Shooting Information Display
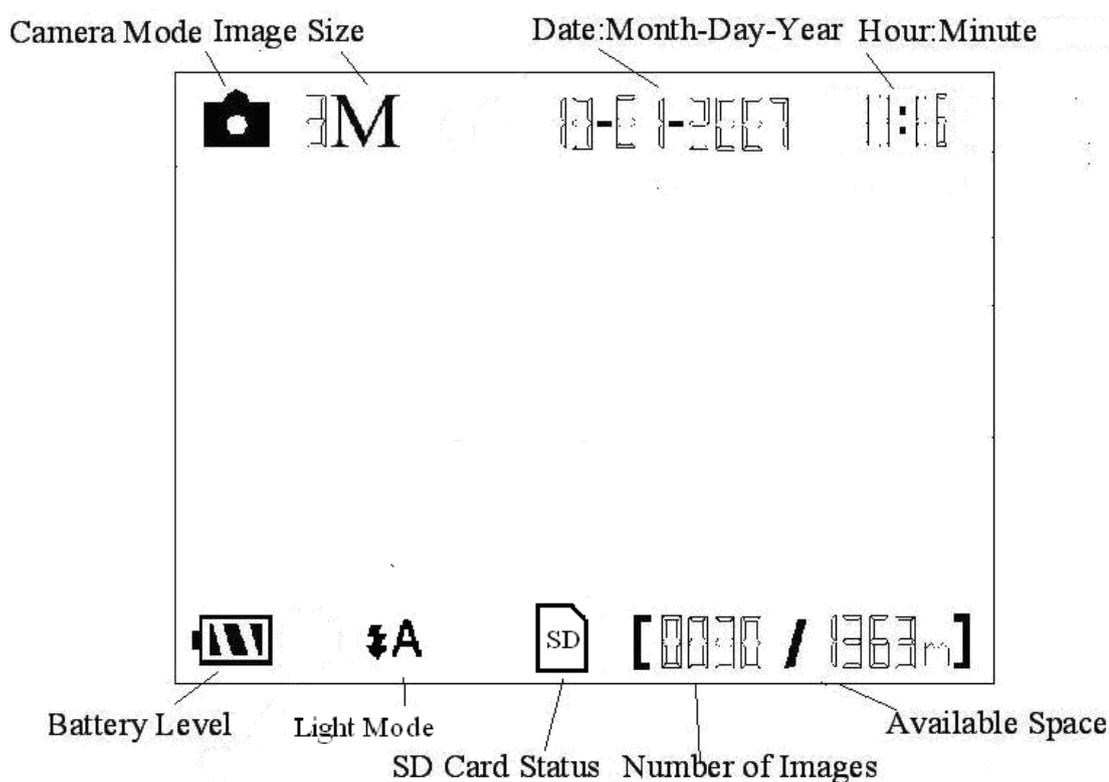
1.4 Saving Images or Videos

The Camera uses a SD-card to save images (in .jpg format) and videos (in .avi format). Before inserting the SD-card be sure that the SD card is unlocked. The camera is compatible with SD-card from 8MB to 8GB.

2 Cautions

★ The working voltage of the camera is 6V. The camera is supplied by four AA batteries.

★ Please install batteries according to shown polarity.

★ Please unlock the write-protect before inserting the SD-card.

★ Please insert the SD-card when the power switch is at **OFF** position before testing the camera. The camera has no internal memory for saving images or videos. If no SD-card is inserted, the camera will shut down automatically after a continuous indication sound.

★ Please do not insert or take out the SD-card when the power switch is at **ON** position.

★ It is recommended to format the SD-card by the camera when used at the first time.

★ In the **TEST** mode, the camera will shut down automatically after 3 minutes if no operation is done. Please turn on the power again if you want to continue to work with the control.

3   Easy Operations

3.1 Power Supply

Use 8 or 4 AA batteries or 6v external battery for power supply.

Install the fully charged batteries into the depot according the polarities sign shown. The following batteries with 1.5V output can be used:

1. High-density and high-performance alkaline batteries (Recommended)
2. Rechargeable alkaline batteries
3. Rechargeable NiMH batteries

When in low-battery state, camera will be automatically shut down after the indication LED do fast flashing for a while. Please change the batteries in time.

3.2 Insert the SD-card

The camera has no internal memory for saving images or videos. If no SD-card is inserted or SD-card is locked, the camera will shut down automatically after a continuous indication sound.

3.3 Power on and Entering into the ON Mode

The Camera has three basic operation modes:

1. **OFF mode**: to turn off the camera.
2. **TEST mode**: to set operational parameters, or to playback the photos or video clips via display screen or via TV.
3. **ON mode**: to work in surveillance state.

After switching the camera to ON position, the motion indication LED (red) will blink for about 10s. This time interval is for you to make the Camera ready for automatic surveillance operation, e.g., to close the bottom cover and to lock it, to fix the camera on a tree and to walk away. After entering into the ON mode, no manual controls are needed and possible. The Camera will take pictures or videos automatically according to the previous programmed settings, when human or animals enter into the monitoring region.

3.4 Enter into the TEST Mode

There are 3 states in TEST Mode: preview state (preview the scene in the front of the camera), setting state (make customer settings), and playback state (view Photos or videos via 2.0" TFT display).

3.4.1   Preview

After switching the camera to TEST Mode, it enters into the preview state.

Press ▶ to exchange between playback mode and preview mode;

3.4.2   Customer Settings

Press **MENU** to manually customizing the camera settings which displayed on the screen or external TV monitor. The detailed operations will be described in "Advanced Operations" chapter.

3.4.3   Manual Capturing

Press to manually capture photos or record videos. It is also to stop the manual capturing of the video.

3.4.4   View Images or Videos

There are two ways to view the captured images or videos:
1. LCD screen on the control
2. TV monitor which connect to camera with TV cable

Press to view images or videos, the latest image or video will be shown in the LCD screen on the control or TV monitor. Press "▲ " or "▼ " to view the previous or next image or video.

3.4.5   Delete Images or Videos

Press **DEL** to delete images or videos .Note the **DEL** button just work in Playback state. So if it's in Preview state, you should press to enter into Playback state.

3.5 Power Off

Switch the camera to **OFF** position to power off the camera. Please note that even in the **OFF** mode, the camera still consumes certain power at μA level. Therefore, please remove the battery if the camera will not be used for a long time.

4   Advanced Operations

After you're familiar with the basic operations of the Camera, you are now ready for advanced operations，and the options and parameters of the Camera are explained in more detail.

4.1 Settings Menu

To view the camera settings menu, press **MENU** in the **TEST** mode (Power switch is at **TEST** position). The settings menu will be shown on the LCD on the camera or the external TV monitor (only when the camera is connected to a TV).

4.1.1   Set the Camera Mode

There are two modes: Camera or Video. There are two ways to set the camera mode: 1. Via shortcut key; 2. Via setting menu.

1. Via shortcut key: You can set camera mode to "video" by pressing the"▲" key and set camera mode as "camera" by pressing the "▼"key in TEST mode.

2. Setting menu: The following shows how to set camera mode to **Video**, provided that the previous option is **Camera**:

a) Press **MENU** to display the setting menu.
b) Press "**▲** " or "**▼** " to select **Mode**.
c) Press "**►** " to select **Video**.
d) Press **OK** to save the current setting and the option will be un-highlighted.
Press **MENU** to cancel setting and return to info display.

4.1.2   Format SD-Card

The system will delete all images or videos stored in the SD-card after formatting, make sure that you have made a backup of important data.

a) Press **MENU** to display the setting menu.
b) Press "**▲** " or "**▼** " to select **Format**.
c) Press **OK** to choose **Enter** to enter into submenu.
d) Press "**►** " to select **Yes**. **Yes** will be highlighted.
e) Press **OK** to start formatting the SD-card. During formatting, the display screen will show a message "Formatting…" as below.
Press **MENU** to return to info display.

```
Formating...

please wait
for format end
```

4.1.3   Set Photo Size

This parameter has two values: 5 mega pixels (5M Pixel or 5MP) and 3 mega pixels (3M Pixel or 3MP). The default value is 5 mega pixels.

The following shows you how to set pixel size as "3M Pixel" provided that the

previous value is "5M Pixel" at MENU state:

a) Press **MENU** to display the setting menu.
b) Press "▲ " or "▼ " to select **Photo Size**.
c) Press "► " to select **3MP**.
d) Press **OK** to save the current setting and the option will be un-highlighted.
   Press **MENU** to return to info display.

4.1.4 Set Video Size

This parameter has two values: 5 mega pixels (5M Pixel or 5MP) and 3 mega pixels (3M Pixel or 3MP).   The default value is "640x480" (VGA).

The following shows how to set video size as **320×240** provided that the previous option is **640×480**:

e) Press **MENU** to display the setting menu.
f) Press "▲ " or "▼ " to select **Video Size**.
g) Press "► " to select **320×240**.
h) Press **OK** to save the current setting and the option will be un-highlighted.
   Press **MENU** to return to info display.

4.1.5 Set Date and Time

You can change the date and time of the device by setting this parameter when necessary, e.g., after every battery change. The date format is **month/day/year**, the time format is **hour**: **minute**: **second**. The valid value for year is between 2009 and 2050.

Provided that the date and time are needed to be set to November 15th, 2010 and half past ten, the steps are as following:

a) Press **MENU** to display the setting menu.
b) Press "▲ " or "▼ " to select **Set Clock**.
c) Press **OK** to **enter** into submenu.
d) Press "► " to select item, press "▲ " or "▼ " to change the value.
e) Press **OK** to save all current setting and return to info display.
   Press **MENU** to return to info display.

4.1.6 Set Photo Burst

This parameter affects the number of pictures taken for each triggering in the camera mode. It has three values: "1 Photo" "2 Photos" and "3 Photos". Its default value is "1 Photo". Note: When using the incandescent flash, the camera just can take 1 photo each time.

The following shows how to set continuous capture number to **3 Photos** provided that the previous option is **1 Photo**:

a) Press **MENU** to display the setting menu.
b) Press "▲ " or "▼ " to select **Capture Number**.
c) Press "► " to select **3 Photos**.
d) Press **OK** to save the current setting and the option will be un-highlighted.
   Press **MENU** to return to info display.

4.1.7   Set Video Length

This parameter is effective and can be adjusted only when the device in the video mode for the ON mode. Its value extends from 1 to 60 seconds with a step of one second. The default value is 10 seconds. Press "◄" and "►" to decreases or increases the value by 1 second.

The following shows how to set video length to **15 Seconds** provided that the previous value is **1 Seconds**:

a) Press **MENU** to display the setting menu.
b) Press "▲" or "▼" to select **Video Length**.
c) Press "►" to increase to **15 Seconds**.
d) Press **OK** to save the current setting and the option will be un-highlighted. Press **MENU** to exit.

4.1.8   Set PIR Sensitivity

This parameter defines the sensitivity of the PIR. There are three parameters: **High, Normal** and **Low**. The default value is "Normal". The higher degree indicates that the Camera is more easily to be triggered by motion, taking more pictures or recording more videos. It is recommended to use high sensitivity degree in room or environment with little interference, and to use lower sensitivity for outdoor or environment with lots of interference like hot wind, smoke, near window etc. Furthermore, the sensitivity of the PIR is strongly related to the temperature. Higher temperature leads to lower sensitivity. Therefore it is suggested to set a higher sensitivity for high temperature environment.

The following shows how to set PIR sensitivity as **Low** provided that the previous option is **Normal**.

a) Press **MENU** to display the setting menu.
b) Press "▲" or "▼" to select **Sensitivity**.
c) Press "►" to select **Low**.
d) Press **OK** to save the current setting and the option will be un-highlighted. Press **MENU** to return to info display.

4.1.9   Set PIR Triggering Interval

This parameter means that how long the PIR (Passive Infrared motion sensor) will be disabled after each triggering in ON mode. During this time the PIR of the device will not react to the motion of human (or animals). The minimum interval is 0 second, it means the PIR works all the time. The maximum interval is 1 hour. It means the PIR will be disabled for 1 hour after each triggering. The default value is 1 minute. Press "◄" and "►" to decreases or increases the value .

The following shows how to set triggering interval time to **5 Minutes** provided that the previous value is **1 Minute**.

a) Press **MENU** to display the setting menu.
b) Press "▲" or "▼" to select **PIR Interval**.
c) Press "►" to decrease or increase to **5 Minutes**.
d) Press **OK** to save the current setting and the option will be un-highlighted. Press **MENU** to cancel setting and return to info display.

4.1.10 Set Time Stamp

This parameter defines whether the date and time should be stamped in the pictures and video clips or not. The following shows you how to set time stamp as "Off" provided that the previous value is "On" in MENU state.

a) Press **MENU** to display the setting menu.
b) Press "▲ " or "▼ " to select **Time Stamp**.
c) Press "► " to select **Off**.
d) Press **OK** to save the current setting and the option will be un-highlighted.
    Press **MENU** to cancel setting and return to info display.

4.1.11 Set Timer Switch

This parameter defines a certain time lapse in a day when the camera can be triggered, while in the rest of the time lapse the device is shut off. The effective value ranges from 00:00:00 to 23:59:59.

Timer Switch OFF means the camera works all along; Timer switch ON means the camera works only during the time lapse according to the preset settings.

Please note that the Timer switch functions only when the timer is set as **On**. Provided that the camera works from 08:00 a.m. to 17:00 p.m., the steps are as following:

a) Press **MENU** to display the setting menu.
b) Press "▲ " or "▼ " to select **Timer Switch**.
c) Press "► " to select **On**.
d) Press **OK** to enter into submenu.
e) Press "► " to select item, press "▲ " or "▼ " to change the value until the start time changes to 8 and the stop time changes to 17.
f) Press **OK** to save all current setting and the option will be un-highlighted.
    Press **MENU** to return to previous menu.

4.1.12 Light Mode

This parameter defines the light mode of this dual light camera. There are two light modes: **Xenon, Infrared**.

In **Xenon** mode, the camera takes color pictures using incandescent flash when the lighting is insufficient. Note: If the camera is in **Video mode**, and the Light mode is **Xenon**, the camera will automatically turn to **Infrared** mode to take IR video clips. In **Infrared** mode, the camera will take photos or video clips with infrared LEDs. The default value is **Infrared**.

The following shows how to set light mode to **Xenon**, provided that the previous option is **Infrared**:

a) Press **MENU** to display the setting menu.
b) Press "▲ " or "▼ " to select **Light Mode**.
c) Press "► " to select **Xenon**.
d) Press **OK** to save the current setting and the option will be un-highlighted.
e) Press **MENU** to cancel setting and return to info display.

4.1.13 Reset to Default Settings

To reset the setting to the default values, the steps are as follows:

a) Press **MENU** to display the setting menu.
b) Press "**▲** " or "**▼** " to select **Reset**.
c) Press **OK** to reset to default settings and return to info display.
   Press **MENU** to cancel setting and return to info display.

4.2 Default Settings and Live Monitoring

When the Camera leaves the factory, most parameters are set as default. Please refer to table 1.

Parameter name	Default	Other settings
Camera Mode	Camera	Video
Image Size	5M Pixel	3M Pixel
Video Size	640×480	320x240
Capture Number	1 Photo	2 Photos, 3 Photos
Video Length	Avi 10 Second	1-60 seconds
Light Mode	Infrared	Xenon
Sense Level	Normal	High, Low
PIR Interval	1 Minute	0-59 seconds, 1-60 minutes
Timer Switch	Off	On (00:00 – 23:59)
Time Stamp	On	Off

Table 1: Default settings of the Camera

4.3 Firmware Upgrade

This camera is equipped with an automatic upgrade function for you. Upgrading is needed only when an improved firmware is available.

WARNING

Upgrade is risky, please be cautious!

⚠

5   Mounting the Camera

When use the camera in outdoor environment, such as hunting or monitoring the living habits of wild animals, you need to mount the device on a certain place properly. It is recommended to mount the camera on a tree with diameter about 15cm. To get the optimal picture quality, the recommended distance is 5m from the tree to the target monitoring area and recommended height from the ground is 1.5~2 meters. Adjust the viewing angel properly (view angle of this camera is 52°).

There are two ways to mount the camera: using a band shaped belt, bottom screw.

● **Using the belt:** To use the belt to fix the camera on a tree is illustrated in Fig. 4. Take the belt toes to go through the two back holes of the camera. At the end, tie the two toes to the tree to finish fixing.

● **Using bottom screw.**

Figure 4: Fixing the camera with belt

Appendix Ⅰ: Technical Specifications

Image Sensor	5MP Color CMOS
Lens	F/NO=3.1mm FOV(Field of View)=52°
Infrared/Xenon	10-12m
Display Screen	2.0" TFT
Memory Card	From 8 MB to 8 GB
Picture Resolution	5MP = 2560×1920 3MP = 2048×1536
Video Resolution	640×480 (16fps) 320×240 (20fps)
PIR Sensor	Multi Zone
PIR Sensitivity	Adjustable (High/Normal/Low)
Trigger Time	1.2s
Weight *	0.26kg
Operation/Storage Tem.	-20 - +60°C / -30 - +70°C
Interval	1s – 60 min.
Photo Burst	1–3
Video Length	1–60s
Power Supply	8× AA (recommend),4× AA(urgent)
Stand-by Current	< 0.3 mA (<7mAh/Day)
Power Consumption	150 mA(+450mA when IR-LED lighted)
Low Battery Alert	LED Indicator
Display Screen	LCD display
Mounting	Rope/Belt/Python lock
Dimensions**	140x 80x 50 mm
Operation Humidity	5% - 90%
Security authentication	FCC, CE, RoHS

*without battery

AppendixⅡ: Parts List

Part Name	Quantity
Digital Camera	One
Wired control	One
USB Cable	One
Belt	One
User Manual	One