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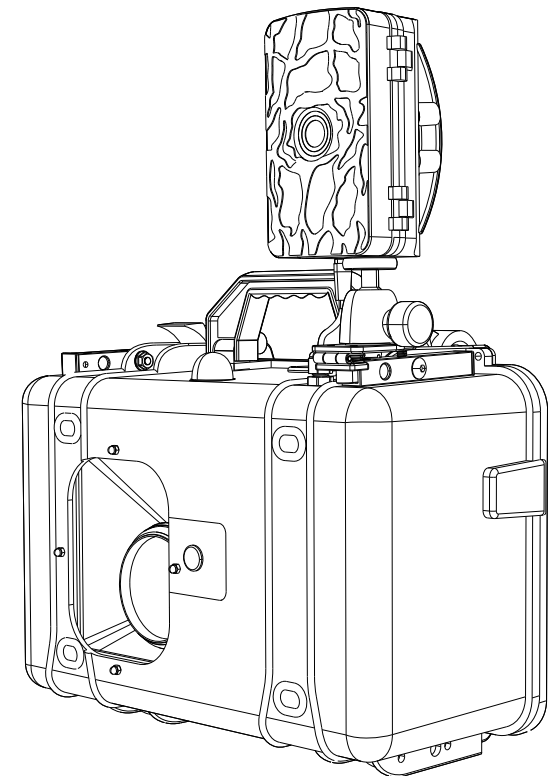


## Smart Camera Box Nikon version

Dedicated section for Nikon cameras



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# Content

Chapter 1 The setting of Nikon Digital camera	
1. Compatible models of Nikon camera.....	1
2. Instructions and schematic diagram of Nikon model data cable.....	1
3. Battery converter list of Nikon main models.....	1
4. Digital SLR camera setting requirements.....	2
5. Button setting of digital Camera video recording.....	2
6. Power saving settings and wake-up time after standby of Digital Camera.....	3
7. Standby time and continuous shooting time of Digital Camera.....	5
8. Focus setting of Digital Camera lens.....	5
9. Memory card requirements.....	6
Chapter 2 Shooting function and Use Requirements of the Smart Camera Box	6
Chapter 3 Setting the Shooting function of the Smart Camera Box	8
1. Connection method of the [Pai Pai Bao].....	8
2. How to use [Pai Pai Bao].....	8
3. [Pai Pai Bao] Interface Introduction.....	9
Chapter 4. Combined use of the Smart camera box and Z9 auto shooting function	12
Chapter 5. Special instructions for Nikon digital SLR cameras	12

## Chapter 1 The setting of Nikon Digital camera



### 1. Compatible models of Nikon camera

DSLR Cameras:

D6, D5, D4, D4S, D850, D810, D500, D780, D750, D7500 series, D5600 series

Mirrorless Cameras: Z9, Z8, Z7, Z7 II, Z6, Z6 II

### 2. Instructions and schematic diagram of Nikon model data cable

Camera model	Shutter release cable
Z9, Z8, D6, D5, D4, D4S, D850, D810, D500	 <p>N1</p>
Z6, Z6 II, Z7, Z7 II, D780, D750, D7500 series, D5600 series	 <p>N3</p>

### 3. Battery converter list of Nikon main models

Camera Model	The battery converter models
D6/D5/D4S/D4	U/EP-6
Z9	U/EP-9
Z8, Z7 series, Z6 series, D850, D810, D780, D750, D500, D7500 series	U/EP-5B
D5600 series	U/EN-EL14(In development)

Using the digital camera's own battery may not ensure a long-term power supply. Using the Smart camera box power supply can meet the endurance requirements. The digital camera battery converter standard with a U/EP-5B, and other models are available for purchase.

The user can choose the appropriate camera battery converter according to your digital camera model.

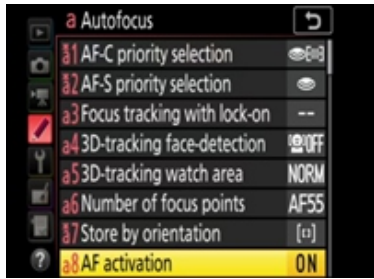
### 4. Nikon DSLR camera setting requirements

DSLR camera settings requirements for AF-ON function: The camera's focus function cannot be set to the AF-ON button. Settings as follow:

For D850 cameras:

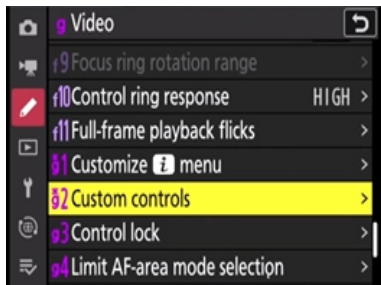
Step 1: Press[MENU],enter the AF function, click a8 to trigger the AF

Step 2: Select the shutter/AF-ON button



### 5.Button setting of digital camera video recording

To switch from the video button mode to the shutter button mode for video recording on the digital camera, please follow the steps below. Here we take the Z9 mirrorless camera as an example. Z8 is the same as Z9.



Example of setting up DSLR camera with D850



### 6. Power saving settings and wake-up time after standby of digital camera

(1). The digital camera can be set to either turn off the auto-hibernate mode or not .

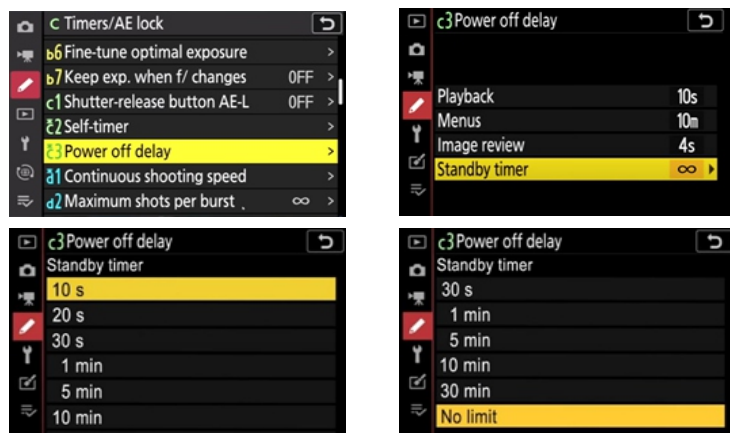
- a. The above two settings have a significant impact on the digital camera's power consumption, which directly affects the outdoor usage time of the Smart camera box.
- b. The above two models have different response times for the Smart camera box to control the digital camera to start shooting after being triggered by the trail camera. When the camera is in hibernate mode, it takes some time for the Smart camera box to wake up the digital camera and enter shooting mode.

Camera status	Wake-up time for mirrorless cameras		Wake-up time for DSLR cameras	
	Shooting mode	Recording mode	Shooting mode	Recording mode
Hibernate status	1s	4s	0	0.5s
Dis-hibernate status	0	0	0	0

The user can decide whether to turn off or keep the hibernate mode function of the digital camera according to the shooting situation.

(2) Setting method for mirrorless camera using Z9 as an example

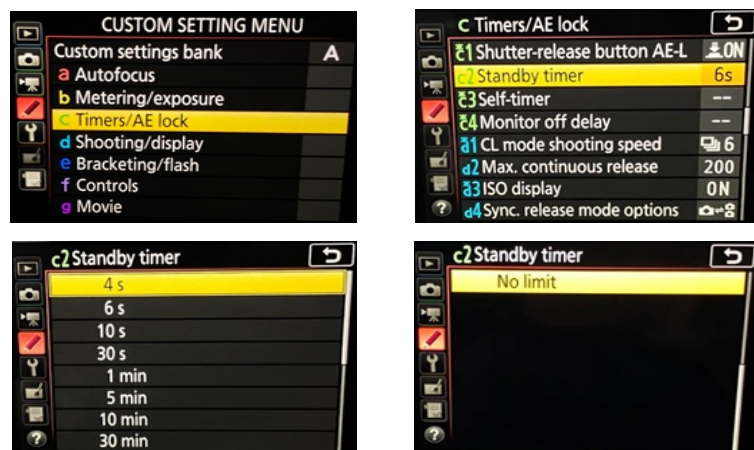
a. In the menu, set "Auto power off" to "Off" so that the digital camera will not enter sleep mode. Choosing other times will cause the camera to enter sleep mode.



Also, turning off the display and viewfinder will reduce power consumption of the digital camera. (refer to Figure 4)

Setting method for DSLR Camera taking D850 as an example

b. In the menu, set "Auto power off" to "Off" so that the digital camera will not enter hibernate mode. Choosing other times will cause the camera to enter hibernate mode.



c. Display off



7. Digital camera standby time and continuous shooting time

The duration of outdoor shooting with the Smart camera box and digital camera directly affects the user to capture the desired targets. The power consumption differs greatly between setting the camera to auto-hibernation or off-hibernation, as well as setting the LCD display to auto-off or not (always display the shooting screen).

The following table shows the calculation of digital camera standby time and continuous shooting time based on power consumption.

Camera Status		Camera Model	Mirrorless camera Z9		
		Battery Model	UB-01 372Wh	UB-04	
				82.88Wh	93Wh
		Time Unit	Hour(s)		
Hibernate status	Camera body automatically hibernate		982	224	251
Video Mode	Continuous recording (HD)		29	7	8

Notes:

- (1) The standby time of the digital camera is consistent with the usage time of the Smart camera box.
- (2) Taking a representative models as examples, Tested in indoor environment and room temperature 25 °C, the data may vary with different usage environments and conditions.
- (3) The power consumption of different camera models varies slightly. Generally, higher-end models tend to consume more power.
- (4) There is a light sensing system, according to 12 hours a day to calculate the standby days.

8. Digital camera lens focus setting

The Digital camera lens set to AF auto focus mode and MF manual focus mode., there may be slight differences in response speed. The camera lens for some camera models is set to AFmode, there may be a long response time or even inability to take pictures.

Camera Type	Model	Auto focus Setting for Lens	
		AF	MF
Mirrorless Camera	Z9/ Z8/ Z7 II/ Z7/ Z6/ Z6 II	Available	Available
DSLR Camera	D6/ D5/ D4S/ D4/ D850/ D810/ D500	Available	Available
	D780/ D750/ D7500 series/ D5600 series	Unavailable	Available

Notes: Most digital camera lenses have an AF/MF switch lever. Many newly released lenses do not have an AF and MF switch lever, and the lens focus mode can be set in the camera body menu.

## 9. Memory card requirements

- In shooting mode, the number of continuous shots will be affected during continuous shooting of the writing speed of the memory card is relatively low. You can continue to shoot until the camera has written all the pre-stored shots to the memory card.
- In video recording mode, It will affect that the camera cannot shoot video normally according to the shooting function if the writing speed of the memory card is relatively low. A memory card with an appropriate writing speed is required.
- Cameras that released too early are recommended to be used only for taking photos, not for videos. You must use a memory card with a fast writing speed for video recording.
- The video cannot be taken due to the memory card, which results in that when the trail camera detects animals, the Smart camera box cannot command the camera to start video recording.
  - For cameras with high pixels, the memory card cannot meet the shooting requirements when the video file has high pixels.
  - When the SD card inserted into slot 2, most cameras have specific file format and bitrate (Mbps) requirements. If the bitrate (Mbps) exceeds the specified requirements, it may result in the inability to capture video. For detailed information, please refer to the user manual of the camera model you are using.

## Chapter 2 Shooting function and use requirements of the Smart camera box

### 1. The Smart camera box uses a fixed shooting function.

The shooting function of the Smart camera box is fixed to control system and cannot be adjusted. With a dial switch, the switch can be set to single shooting, continuous shooting, or video recording, and execute the corresponding shooting function.

- At single shooting, the digital camera shooting mode must be set to single shot.  
Number of continuous single shots: 5  
Continuous shooting interval time: 1s

(2) At continuous shooting, the digital camera shooting mode must be set to continuous shooting, and the type of continuous shooting is not limited.

Every continuous shooting time: 2 s

Continuous shooting interval time: 1 s

Continuous shooting times: 3 time(s)

(3) At video recording, the digital camera shooting mode must be set to video recording.

Every recording time: 28 s

Interval time between sessions: 1 s

Recording times: 1 time(s)

The dial switch is set to the video shooting mode initially.

With an external shooting function setting box [Pai Pai Bao], the shooting function can be set or modified when using the Smart camera box. Please refer to Chapter 3 for details.

2. Requirements for turning off the hibernate setting of the digital camera when using the Smart camera box.

The use of the Smart camera box without the external shooting function setting box [Pai Pai Bao], have the following requirements:

- Setting the digital camera lens to AF/MF focusing mode, as outlined in Chapter 1, Article 8.
- The digital camera's power-saving settings should be used as required to ensure effective shooting.

See the table below for details

Digital Camera Power Saving Settings and Lens Focusing Settings					Mirrorless Camera Models	DSLR Camera Models
The camera will not enter hibernate mode when the auto-hibernate mode is turned off.	Shooting mode	Single shot	AF mode	Compatible models	All compatible camera models	All compatible camera models
			MF mode	Compatible models		
		Continuous shot	AF mode	Compatible models		
			MF mode	Compatible models		
	Recording mode	AF mode	Compatible models			
		MF mode	Compatible models			
The camera will automatically enter hibernate mode and power off when set to auto-hibernate mode.	Photo	Single shot	AF mode	Compatible models	All compatible camera models	All compatible camera models (**with explanation)
			MF mode	Compatible models		All compatible camera models
		Continuous shot	AF mode	Compatible models		
			MF mode	Compatible models		
	Video mode *	AF mode	Compatible models	All compatible camera models	D6, D5, D4, D4S D850, D500	
		MF mode	Compatible models	-	D780, D750, D7500series D5600series	
			MF mode	Compatible models	All compatible camera models	All compatible camera models

Note:

\* The DSLR model has a feature that even if it is set to hibernate automatically, it will not hibernate again after the first start of video recording because the reflector cannot land.

\*\* All compatible DSLR models support single shot mode, but the number of shots taken may be less than the number set in the shooting logic. For example, if 5 shots are set to be taken, only 3 or 4 shots may be taken.

This table also includes the AF/MF focus mode settings, so owner can have a clear understanding of the usage requirements.

### Chapter 3 Modifying the shooting functions of the Smart camera box

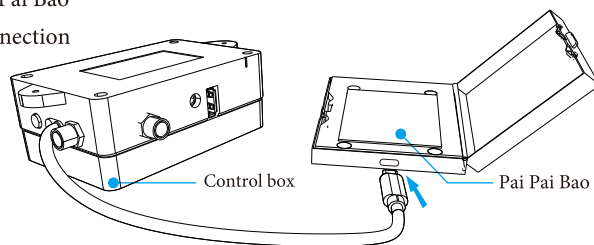
New shooting functions can be set and modified with the Smart camera box connected to the external shooting function setting box (Pai Pai Bao).

(1) The digital camera's power-saving setting can be set to either off-hibernate mode or hibernate mode to significantly extend standby time.

(2) The digital camera's power on/off time can be set by adjusting the new shooting functions when connected to the shooting functions setting box (Pai Pai Bao).

1. The connection method of Pai Pai Bao

It would work that insert the connection cable into the data interface of Pai Pai Bao.



2. How to use Pai Pai Bao

(1) Connect the [Pai Pai Bao] and it will display a fixed shooting function every time, regardless of whether it's in single shot, continuous shooting, or video mode. The display will show the fixed shooting function for the shooting mode the switch is set to.

(2) If it is not unplugged and connected to the Smart camera box all the time, it will show the modified shooting function. If pull and plug the [Pai Pai Bao], it will show the fixed shooting function. However, it is still executed according to the modified shooting function; if the connection is not unplugged, the power consumption will increase.

(3) It is only valid this time after modifying to OK of the shooting function of [Pai Pai Bao], Restart the Smart camera box, connect to [Pai Pai Bao], it will show the fixed shooting function, and it will be executed according to the fixed shooting function. If it is not restarted, it will be executed according to the modified shooting function.

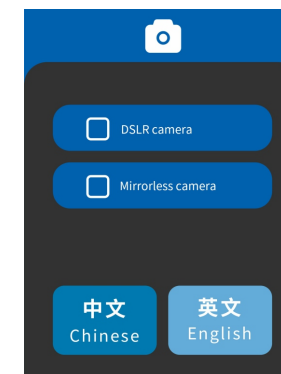
### 3. Pai Pai Bao Interface Introduction

Page 1: Cover - Smart Camera Box

Nikon Version

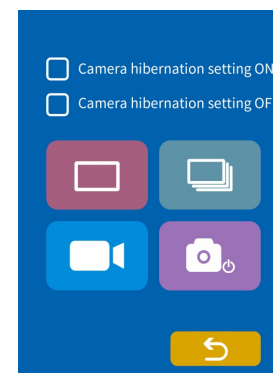


Page 2:




Enter the "Pai Pai Bao" page, first select the type of camera: DSLR or mirrorless camera. Depending on whether the digital camera can go into hibernate mode or if the LCD screen turns off, the functions of shooting will differ for DSLR and mirrorless cameras. Once selected, the Smart camera box will provide corresponding shooting instructions to meet the digital camera's different settings. Failure to follow these instructions may result in disorderly shots or failed shooting attempts.


Page 3:





The option "Enable camera hibernate" refers to the digital camera being set to hibernate. When the shooting ends after a certain amount of time, the digital camera's power-saving function will put the camera into hibernate mode.

The option "Disable Camera Hibernate" refers to the digital camera turned off the power-saving function, and the digital camera will not enter hibernate mode.

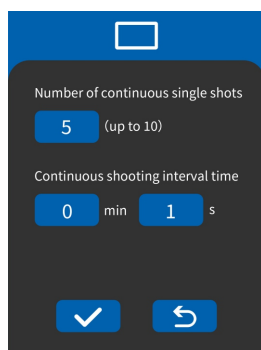
 Set your digital camera to single shot mode and click to enter the shooting logic settings page for single shot mode.

 Set your digital camera to continuous shot mode and click to enter the shooting function settings page for continuous shooting mode.

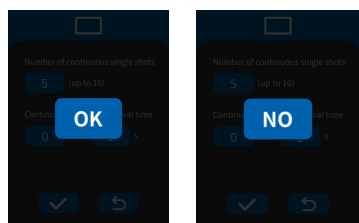
 Set your digital camera to recording mode and click to enter the shooting logic settings page for recording mode.

 Click to enter the digital camera shutdown and startup time settings page.

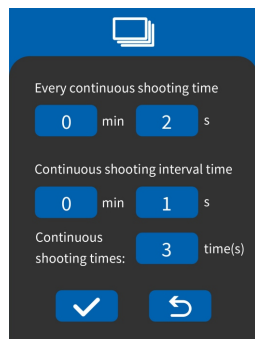
Page 4: Shooting function settings for single shot mode. Click on the blue box to pop up the number selection options.



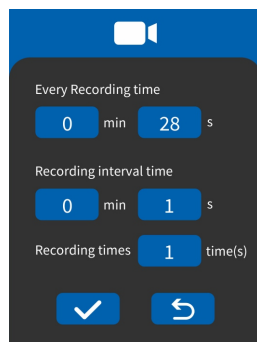
After confirming the settings, if the settings are successful, the OK page will pop up. If the settings are not successful, the NO page will pop up. The same process applies for subsequent pages.



Page 5: Click on the blue box to enter the number selection options for shooting function settings for continuous shooting mode.



Page 6: Click on the blue box to enter the number selection options for shooting function settings for recording mode.

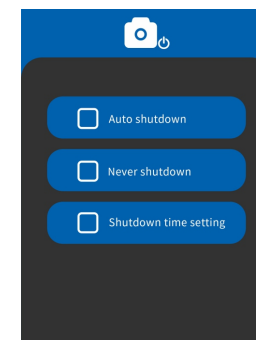


Page 7: Digital Camera shutdown options

(1). Digital camera [Power Off] is different from [Hibernate].

Turning off the digital camera means that the Smart camera box stops supplying power to the digital camera, and the digital camera stops working completely.

The digital camera into hibernate mode means that the power saving function of the digital camera itself makes the digital camera enter the hibernation mode, while the Smart camera box continues to supply power to the digital camera.



(2). Option " Auto shutdown "

When this option is selected, the Smart camera box will automatically stop supplying power to the digital camera and put it into a shutdown state when day and night change, the light sensor detects that ambient light intensity is insufficient for the digital camera to take pictures. The Smart camera box is in the lowest power consumption state in this mode.

When the light intensity reaches the required level for photography, the Smart camera box automatically supplies power to the digital camera, and the digital camera enters the power-on state.

(3). Option "Never shutdown"

When this option is selected, the Smart camera box will continuously supply power to the digital camera, even if the light sensor detects that the ambient light intensity changes, the Smart camera box will not issue an instruction to stop powering the digital camera, and the digital camera will be in continuous working mode.

This option is generally used when the user has connected a flash or lighting equipment, and the digital camera needs to take pictures at night.

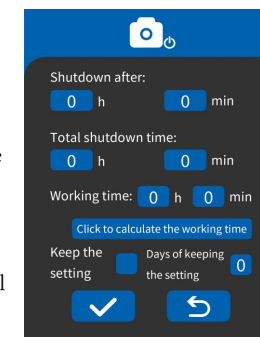
(4). Option " Shutdown time setting "

If the user does not want to use the ambient light sensor to automatically turn off the digital camera based on the brightness of the surroundings, thinks that the shooting conditions require a customized power-off or power-on time, then can select this option, and enter the page 7 to manually set the power off time and duration.

Page 8: Click to set the camera shutdown time and enter this page.

User can set how long will the digital camera take to shut down and the duration for which it will remain off. As there is no clock on the camera, it is not possible to set the power off time based on local time (such as Beijing time or London time). Instead, the power off time is set based on the working duration time.

Click on the blue box to pop up the number selection options. After confirming the settings, if the settings are successful, the OK page will pop up. If the settings are not successful, the NO page will pop up.



## Chapter 4. Combined use of the Smart camera box and Z9 auto shooting function

### 1. The Z9 camera does not use its own auto-capture function

Suitable for long-term outdoor use, use the trail camera sensor information to trigger the Z9 camera to shoot.

### 2. The Z9 camera use its own auto-capture function

- (1) For battery life, see point 7 on page P5 of the manual, digital camera standby time and continuous shooting time; one battery can last for 108 hours of standby time, another can last for 27 hours of standby time.
- (2) Use the Z9 camera battery converter, not use the shutter cable
- (3) Turn off the light sensor function through [Pai Pai Bao], and the Smart camera box will not stop supplying power to Z9 at night.

## Chapter 5. Special instructions for Nikon DSLR cameras

### 1. Use a Nikon DSLR digital camera to shoot video in a handheld mode, with the following characteristics

(1). After the [shooting mode lever] is turned to the video mode, you need to press the [LV button], the reflector will pop up, and the LCD screen will display the image, and then the camera will enter the video shooting preparation state. At this time, press the video recording red button or the shutter release button, and the camera will start recording video.

Note: 1, The shutter release button can shoot video, it needs to be set on the camera, and the video button is set as the shutter release button. With this setup, both the video recording red button and the shutter release button can command the camera to record video.

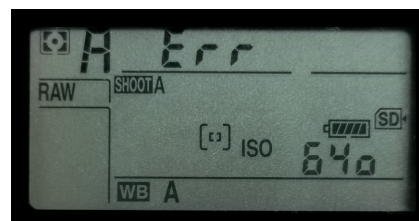
(2). When the camera enters hibernate mode, the reflector will fall down.

- a. At this moment, press the video recording red button, the camera will not start recording.
- b. Press the shutter release button, the reflector will lift up (without pressing the LV button), the camera will not start recording; press the shutter release button again, the camera will start recording video.
- c. Or, press the LV button, the reflector pops up, the LCD screen displays the image, then press the video recording red button or the shutter release button, the camera starts to record video.

Note 2: For D5 and D850 cameras, the shortest time to enter hibernate mode is 5 minutes.

(3). The camera is in the ready state for video shooting, and the reflector is up. Power off at this time, (Note: the way to power off is not to turn the switch lever of the camera to OFF, but to directly pull out the battery in the camera body), and then install the battery, the LCD screen on the top of the camera will show a jumping [Error ] words.

Press the shutter release button, hear a click, the mirror falls, and the camera returns to normal.



Pulling out the battery to power off the camera is an abnormal operation, which will prevent the camera's reflector from falling. Turn the switch lever of the camera to OFF, and the camera will be turned off, which is a normal operation. The reflector will fall with it.

### 2. Recording video with a Nikon DSLR on the Smart camera box

The camera is equipped with a battery converter, and the camera is powered by the general power supply of the Smart camera box. Can solve the problem of camera battery life. We know that the reflector is popped up when the camera is in a state of preparation for video recording.

Some problems may be caused by the following operation.

- (1) Turn the battery switch to off, and the camera will be powered off. At this moment, the reflector will not fall; the situation described in [1/(3)] will occur. If the photographer is still next to the camera, as long as the shutter release button is pressed, the camera will return to normal.
- (2) The light sensing system of the Smart camera box will stop powering the camera when the light is not bright enough.
  - a. If the camera has entered hibernate mode, the Smart camera box will stop powering the camera. When the light is bright enough, the power supply of the camera is restored and the camera starts. The trail camera senses the wildlife, and the Smart camera box commands the digital camera to start recording video, which is normal and there will be no problem.
  - b. If the camera does not enter hibernate mode and the reflector is still in the pop-up state, the Smart camera box stops supplying power to the camera, and the situation described in [1/(3)] will appear.

In this case, The photographer is not there, and the camera cannot be reset by pressing the shutter release button.

The trail camera senses the animals, and the Smart camera box sends a shooting command to the digital camera, the reflector will fall, and the LCD screen will appear, but the digital camera will not start recording video. When the 28-second recording time is up, the Smart camera box will send an instruction to the camera to end the recording according to the shooting logic, but the digital camera will start recording the video at this time. And the recording will not stop anymore, it will keep recording.

Recording will not stop until the following three situations: the camera gets hot, the memory card runs out, and the power supply battery runs out.



Therefore, when the brightness of the light is insufficient and the light sensor orders the Smart camera box to stop powering the camera, there is a possibility that the camera has not yet entered hibernation standby and the reflector is still in the pop-up state. As long as this situation occurs, the camera keeps recording, and the shooting is basically unsuccessful.

### 3. Solutions

The first option

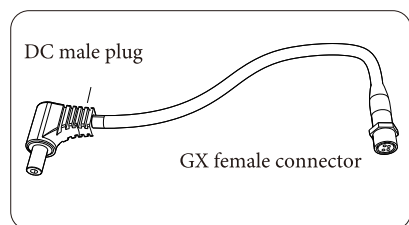
- (1). Use the 12V power port of the 82.88WH battery to power the digital camera.
- (2). The battery converter is not connected to the main controll box. it is inserted into the 12V power port of the battery through the power conversion interface , and the battery directly supplies power to the camera.
- (3). The control system of the Smart camera box does not change the working mode. When the light is insufficient, the light sensor instructs the control system not to supply power to the camera, and the battery life of the camera will not be affected.

When the digital camera is in a hibernate state, the power consumption will not be large. At night, the trail camera senses the animals, and the control system will not issue a shooting command to the camera.

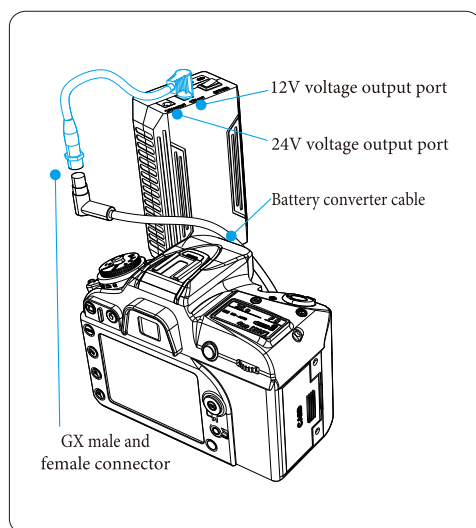
For this solution, the Smart camera box (Nikon version) is standard, and a power adapter cable for the battery converter needs to be added.

The power transfer cable and installation method of the battery converter:

a. The additional power adapter wiring is shown in the figure: one end of the line is a DC male plug (inserted into the 12V output port of the battery), and the other end is a GX female connector, which is plugged into the GX male plug of the battery converter.



b. The connection is as shown in the figure below:



Therefore, when using a Nikon DSLR camera to shoot with a Smart camera box, you need to use a battery adapter cable, connect the power cable of the battery converter, insert the battery, and the battery will directly supply power to the camera.

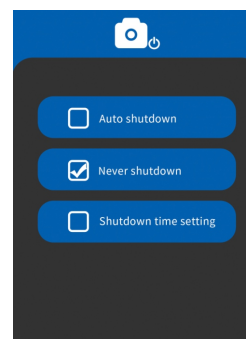
When using a mirrorless camera, the power cable of the battery converter is plugged into the control box, and there is no need to use a battery adapter cable.

**The second option**

- (1). Purchase a [Pai Pai Bao]; [Pai Pai Bao] is the standard component of the Nikon version of the Smart camera box.
- (2). [Pai Pai Bao] On the shooting logic setting page, there is an option of "never power off"; select this option, the light sensor will no longer work, and the power supply of the camera will not be stopped.

When the digital camera is in a hibernating state, the power consumption will not be large. At night, the trail camera senses the animals, and the control system will not command the camera.

For this solution, the Nikon version of the Smart camera box needs to have [Pai Pai Bao] as standard.



Disclaimer: As this product is an original patented product, there may be changes in its features or specifications in the future. In the event of any changes, please refer to the official website of our company. Yueguang Intelligent reserves the right to interpret any changes.