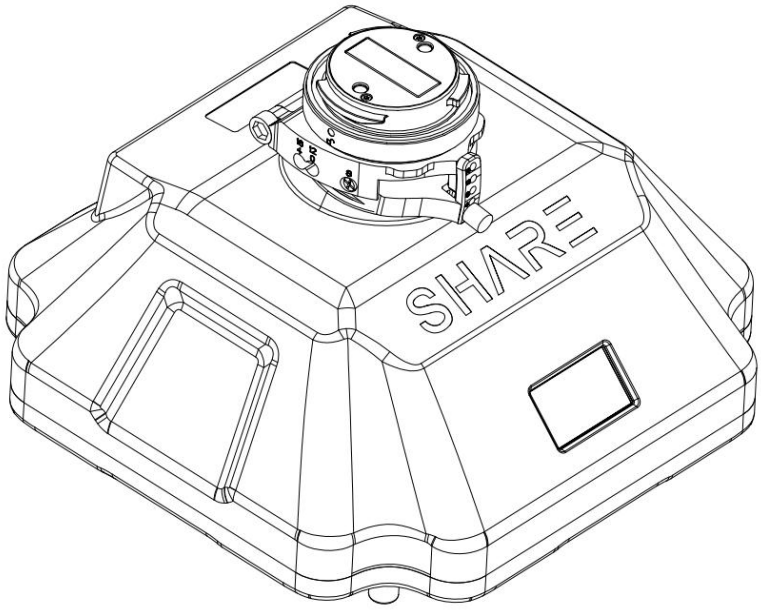
SHARE 102S PRO V2

User Manual V1.4

2022. 05



SHENZHEN SHAREUAV TECHNOLOGY Co., Ltd.

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1. Product Overview

The SHARE 102S PRO V2 aerial oblique camera is equipped with five individual 24.3-megapixel sensors, which can break through the limitations of single-angle images on traditional mapping camera.

By mounting multiple camera sensors on the same flying platform, it will acquire imagery with more spatial information from multiple angles, vertical and tilt providing more details and textures of captured features.

The 3D data of obtained from the SHARE 102S PRO V2 can realistically reflect the appearance, position, height and other attributes of ground features. Enhancing immersion and making up for the shortcoming of low artificial simulation of traditional modeling.

It can bring revolutionary efficiency improvements to the mapping field by using UAV and automatic modeling systems.

1.1 Introduction

Manufacturer	SHARE UAV	**Camera Type**	Oblique Camera
Model No.	SHARE 102S PRO V2	**Effective Pixels**	120 Megapixel
Size	150 x150 x 115mm	**N.W.**	≈880 g
Focal Length	Nadir: 25mm Oblique: 35mm	**Exposure Interval**	≥0.6s
Sensor Size	23.5*15.6mm	**Storage**	1280GB

The SHARE 102S PRO V2 features five professional mapping sensors with a total pixel count of 120 million. It uses an advanced and professional integrally-formed structure in this industry.

Through excellent shape 、structural design and manufacturing, it creates a professional 5 sensor oblique camera. The body of the camera uses both aluminium alloy and composite material, which is strong structurally while being light weight. The camera only 880 g and has an operating temperature range of -10 ~40℃.

The camera has the best performance in electromagnetic interference resistance, heat resistance and dissipation, water resistance, drop resistance, UV resistance and dust resistance.

Small and exquisite body, metal connector integrated with a variety of signal lines, and automatic identification of flight control signals, can be highly compliant to most high-performance UAVs, achieving multi-purpose user needs. Open mounting and fixing holes can meet the installation integration of different flight platforms.

Type-C interface for fast data transfer without requiring the camera to be powered on greatly improves workflow efficiency.

1.2 Features

* Mounting via DJI SkyPort 2.0 and common interface, compatible with DJI M300 RTK drones and other VTOL drones
* Automatically recognize photo signal, highly compatible with various flight control, support serial communication, can be deeply developed
* Support DJI Terra, achieving GCP free with high precision
* Camera firmware is automatically upgraded online through Share UAV Data Manager
* SHARE UAV Data Manager software provides flight data management of captured imagery
* 1.14 inch TFT screen showing working status instantly.
* Real-time image transmission display with higher definition
* Five fully closed-loop intelligent detection system
* 12-48V wide voltage can be compliant to more drones
* Type-C interface for fast data transfer of captured imagery
* Professional mapping system provides a high capture rate of imagery

1.3 In the box

Name	Camera	Interface Case	Protection Case	Camera	Lens Cover	Wipe Cloth	Damping Ball	User Manual	Phillips Screwdriver
Quantity	1 pc	1 pc	1 pc	1 pc	1 pc	2 pcs	4 pcs	1 pc	1 pc

1.4 Camera Parameters

SHARE 102S PRO V2 Camera Parameters		
Camera Parameters	Power Supply	DC 12 ~ 48 V
	Endurance	Power Supply By Drone
	Power On/Off	Auto On/Off
	Data Transfer	Type - C Cable
	Storage	1280 GB
	Effective Pixels	Single Lens :24 Million (Total 120 Million Pixels)
	Sensor Size	APS-C (23.5*15.6mm)
	Pixel Size	3.91 um
	Image Resolution	3:2 （6000 × 4000）
	Tilt Degree	45°
	Lens Qty	5 Pcs
	Focal Length	Nadir: 25 mm，Oblique: 35 mm
	Exposure Time	≥0.6 s
	Exposure Mode	Flight Control Trigger
	Operating Mode	Trigger by Flight Controller, Isometric photography, and Isochronous photography
Working Environment	Working Temperature	-10 ℃ ~ 40 ℃
	Humidity	≤95%
General Parameters	Size	150 × 150 × 115 mm
	Weight	≈880 g

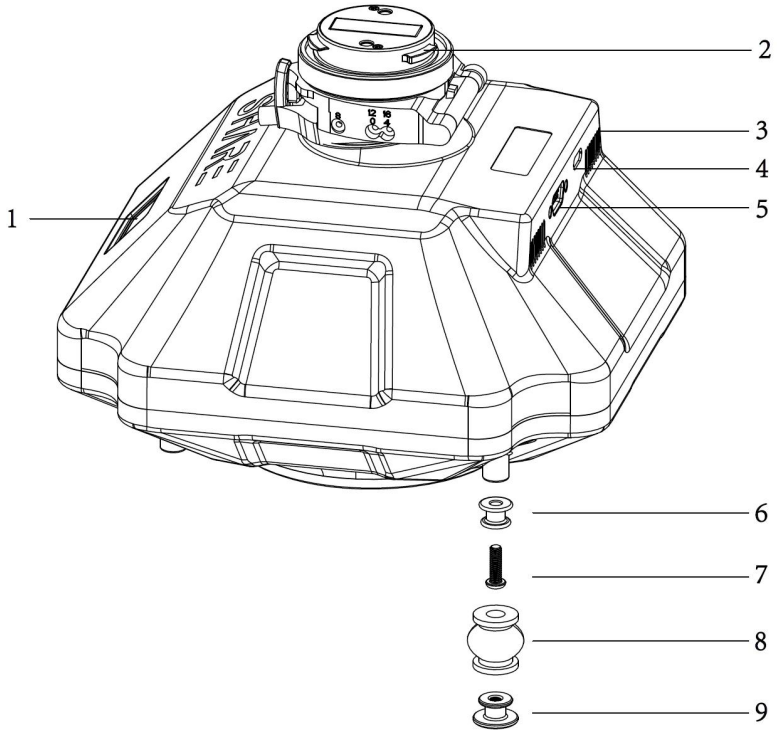
2. Installation

2.1Camera Introduction

The SHARE 102S PRO V2 has an TFT display on the front. When installing the camera, ensure that the display is aligned with the aircraft nose. The lens near the front of the camera is the back-view, and the drive letter is named after the lens Angle orientation, which is opposite to the lens mounting position.

The top of the camera is equipped with DJI SkyPort 2.0 interface, which is compatible with DJI M300 RTK. There are 4 M3 threaded holes at the bottom of the camera to connect the fixed mount between camera and drone.

The camera also has a 15 Pin Connector which integrates power supply, triggering, hot shoe , serial port and other functions.



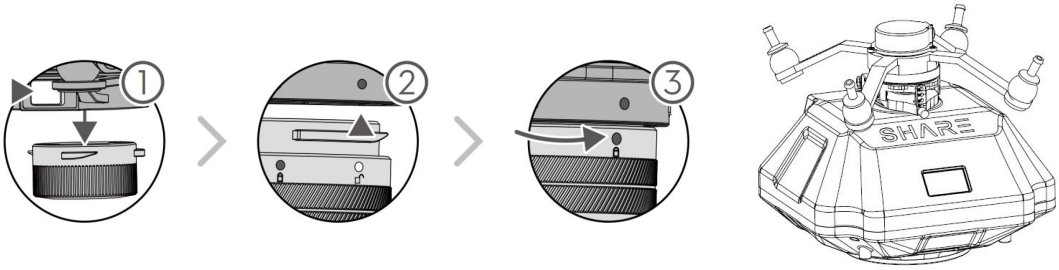
Pic 1 Camera interface

1. Display Screen
2. Skyport 2.0 Interface
3. The wind hole
4. Type-C Interface
5. Camera Cable Interface
6. Through-hole Damping Ball Connector× 4
7. Set Screws × 4
8. Rubber Damping Ball × 4
9. Threaded Hole Damping Ball Connector ×4

2.2 Installation

Installation Method 1：

(1) To remove SkyPort cover of the drone, press and hold the release button and turn the cover so it can be removed.
(2) Remove SkyPort cover of the camera, align the white point of the camera with the red point of the drone, and embed it in the installation position.
(3) Rotate the camera to the lock position, align the red dots, the camera is installed.



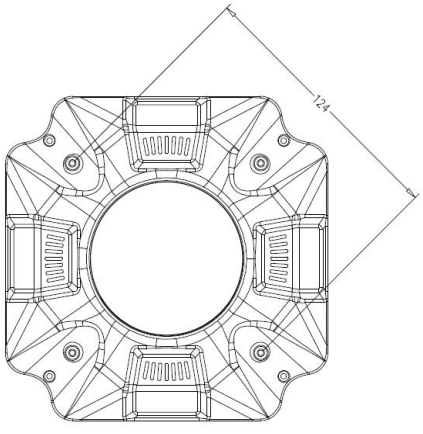
Pic 2 Skyport Installation

Removal steps:

(1) To remove camera, press and hold the release button, rotate the camera in the opposite direction until the red point is aligned with the white point, then remove the camera;
(2) Replace the SkyPort cover and lens cover.

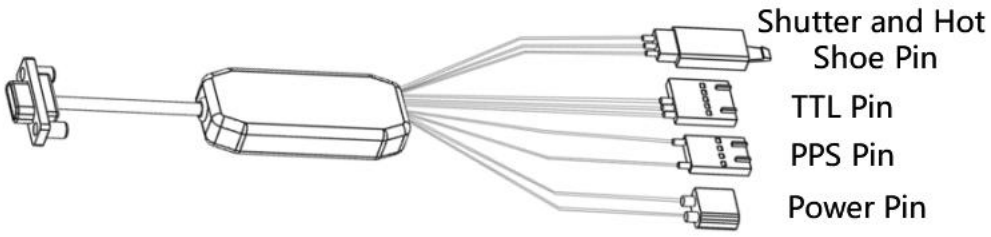
Installation Method 2：

(1) There are four M3 threaded holes at the bottom of the camera with 6 mm depth, and the threaded hole center is located on the outer circle with the diameter of 124 mm. The bottom of the mounting hole is equipped with 4 damping balls.
(2) Users can design installation structures according to flight platforms of different structures, and the installation methods are flexible and diverse.



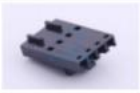
Pic 3 Camera Fixing Hole Position

2.3 Camera Connection



Pic 4 Camera Cable

J30J-15P Definition：

J30J-15 Connector Definition				
PIN	Definition	Connector Type	Picture	Cable Color
1	VCC(12-48V)	XT30 +		Red
2				
3				
4	GND	A2547H_4P_4PIN		Black
5	PPS	A2547H_4P_1PIN		Green
6	PHOTO_IN	A2510HM_3P_1PIN		White
7	HOT SHOE OUT(+)	A2510HM_3P_2PIN		Red
8	HOT SHOE GND(-)	A2510HM_3P_3PIN		Black
9	GND	XT30 -		Black
10				
11				
12	5V	A2547H-5P_1PIN		/
13	TXD	A2547H_5P_4PIN		Blue
14	RXD	A2547H_5P_5PIN		Green
15	GND	A2547H_5P_3PIN		Black

3. Camera Operation

3.1 Powering On

The camera is powered directly from the drone and is switched on and off automatically. The suggested power supply voltage is DC 12V-48V. When the camera is working, the instantaneous power of the power supply must reach more than 60 W to ensure the normal operation of the device.

Steps of power on:

(1) Mount the camera on the drone, and make sure the camera is secured；

(2) Turn on the drone, the camera will start automatically and enter the self-test. The total startup duration of the camera will be about 35s, the camera will beep once the startup is completed.

【During the startup process, the camera display successively displays: LOGO and firmware version → initialization → starting up → startup completed】

(3) After the camera is turned on, the TFT display interface is shown below：

Pic 5 Camera Display

Display	Meaning
M300	Display the UAV model when using Skyport interface to connect DJI drones, Display trigger signal when connect other drones.
	Camera temperature: ＜30℃blue；＜50℃yellow；＞50℃red
	RTK status: RTK has 3 display modes Red-No solution Yellow -Single point solution/ Floating point solution Green -Fixed solution
	The trigger commands that camera has received
	Actual front view shooting numbers of the camera , zero after power off

(4) The camera can be directly powered off after waiting at least 20 seconds for the last photo taking.

(5) It is recommended to finish the all the checking operation before connecting the camera to test the camera in order to avoid frequent camera restart caused by frequent on-off and off-on of the UAV.

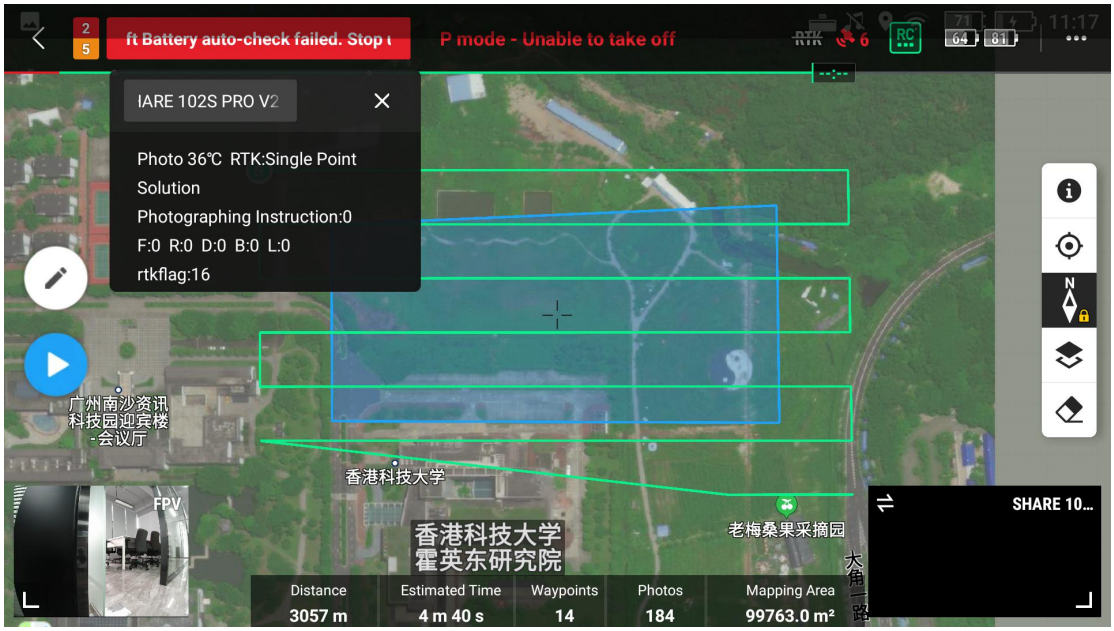
(6) The serial number in POS file corresponds to the Angle of view:

POS serial number	1	2	3	4	5
Display	F	R	D	B	L

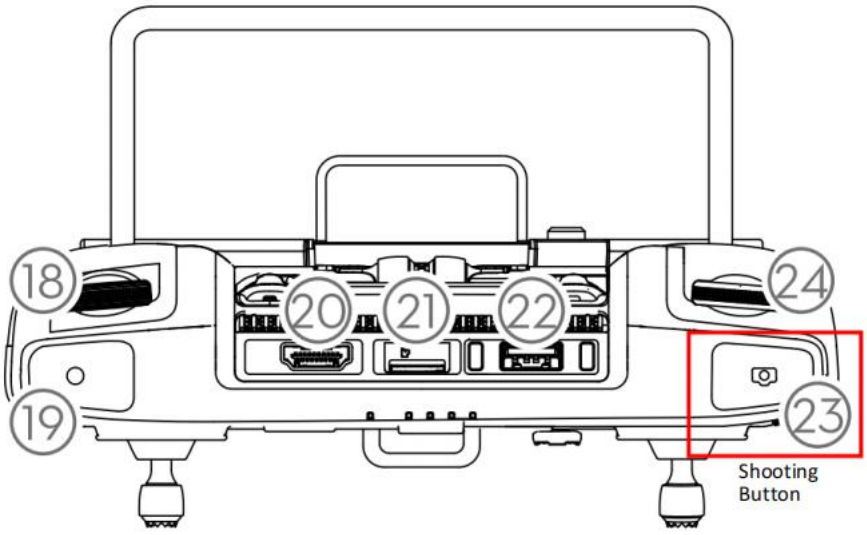
Screen					
Storage drive	F	R	D	B	L

3.2 Taking Photos

Take working with DJI M300 RTK for example:



Pic 6 Pilot screen（indoor）



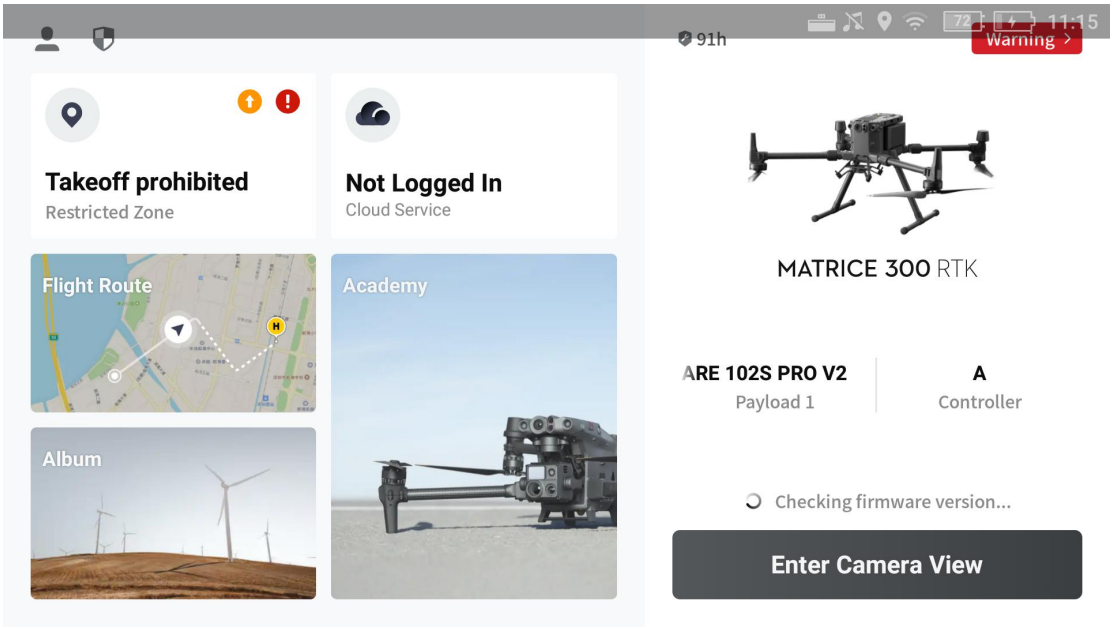
Pic 7 M300 RTK Remote Controller Side Channel Settings

When the camera is on, the camera can be used to shoot. The left bottom window in

picture 6 shows the real-time image of the down view lens. In this example the indoor light is insufficient and the left bottom image is black which is a normal phenomena. User could click the shooting button one right side of the remote controller (marked at picture 7) to shoot.

3.3 DJI Pilot Setting

Take working with DJI M300 RTK for example,using DJI Pilot for route planning and set flight parameters.



Pic 8 Pilot APP

（1）SHARE 102S PRO V2 Mission Planning：

Open DJI Pilot→Select Mission Flight→Create Routes→Mapping Mission→Plan flight Area→Select Camera→Input Mission Parameters

Click save after finishing setting

（2）Normal Parameter Setting：

Users could choose PSDK 102S in DJI Pilot app

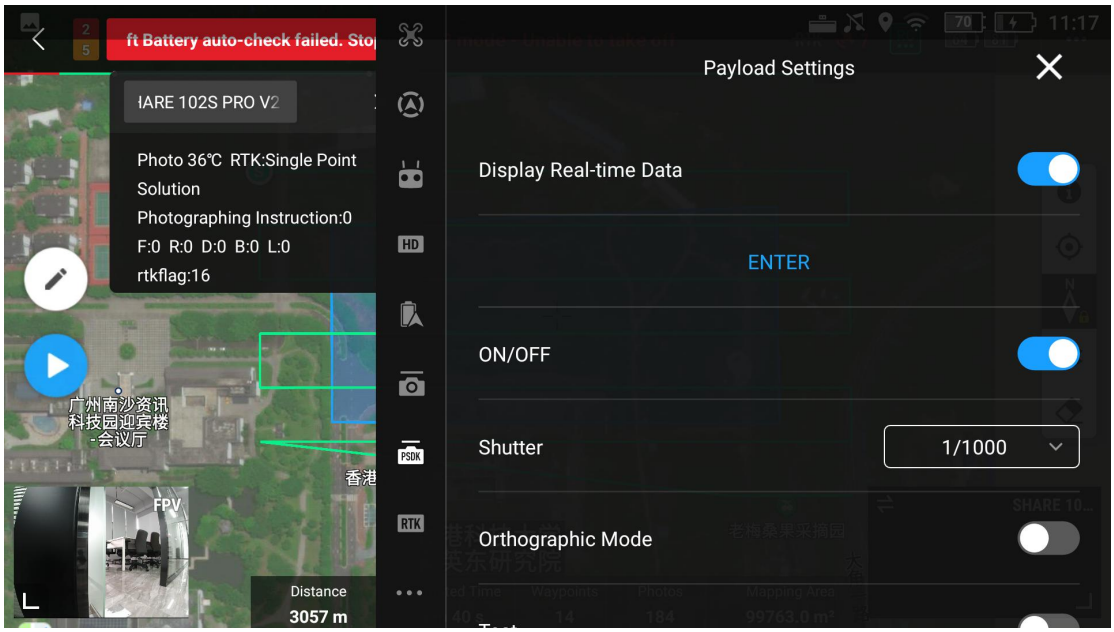
SHARE 102S PRO V2	Photo resolution (W)	Sensor size (W)	Focus
	6000px	23.5mm	25.0mm
	Photo resolution (H)	Sensor size (H)	Minimum interval
	4000px	15.6mm	1.0s

Pic 9 Create New Camera SHARE 102S PRO V2 ParameterS

（3）Payload Setting

Enter the payload setting menu, which has those functions:

Items	Functions
Display Real-time Data (ON/OFF)	Real-time data window hide/show 【default: OFF】
ENTER	Enter button, using when the camera reports an error
ON/OFF	Control camera on/off 【default: ON】
Shutter	Change shutter speed (640/800/1000/1250)【default: last set】 User could set the shutter speed according to different light condition
Orthographic Mode	When open the orthographic mode, the camera only open the nadir view lens to shoot



Pic 10 Payload Setting

3.4 Repair

1) **Common problems might happen when using oblique camera SHARE 102S PRO V2.**

A. Data written error due to the abnormal power supply

B. Camera does not take photos

2) When the above errors happen, there are two methods to repair or solve the issue.

A. Automatic repair: user can restart the device, and the camera will automatically initiate the repair.

B. If the problem can not be repaired by method A, users could use SHARE Data Manager to format the storage card then restart the camera again.

3.5 Data Copying and Deleting

Connect the camera to the USB 3.0 interface of the computer through the type-c cable to copy the data, the computer displays the drive letter of 5 angles and GPS drive letter respectively;

1. Open the Share Data Manager software, select the corresponding camera and drone model, and enter the sortie-copy interface;

2. Select the needed sortie and check the details to ensure that the photos match the POS correctly;

3. Select a copy path, modify the copy settings as required, and click copy. It is recommended to copy the data to computer local drive letter;
4. After the copy is completed, click view data to check whether the data is normal.
5. Delete the data: select the sorties which need to be deleted, click clear sorties, and wait for completed clearing ; Or select initialize camera to clear all user data;
6. Click disconnect, the drive letter pops up to disconnect the data line.

【 Precaution 】

1) Please delete the drive letter file by using Share Data Manager. Do not delete a drive letter file at will.

2) The data cannot be restored after being deleted or initialized, please operate carefully. Before performing this operation, ensure that data is correctly backed up on the computer.

4. Camera Maintenance

Do not disassemble or alter the camera without permission. Lens distortion check and debugging have been completed before delivery. Please do not alter or dismantle the camera by yourself. The consequences caused by users' unauthorized modification of the camera shall be borne by users. If you need to design or modify the camera to install and load, please contact SHARE technical support staff.

4.1 Precaution

1. Please store the camera in a dry and ventilated place at normal temperature to avoid lens fogging caused by excessive humidity. The recommended storage environment temperature is from 15℃ to 25℃, and the humidity less than 40%. If the lens fogs up, water vapor will dissipate automatically after the camera is turned on and heat up for a period of time.
2. Avoid storing the camera in a place of strong vibration and strong magnetic .
3. Avoid bringing the equipment directly from cold places to warm places to prevent moisture condensation.
4. Do not place the camera in strong light for a long time, strong light can easily stimulate the chip and reduce the working life of the sensor.

5. The working temperature of the equipment is about - 10 to 40 ℃. It is not recommended to work in extremely cold and hot environment beyond the working temperature range.

6. Avoid to scratch the lens or lens surface coating by hand or hard objects, otherwise the camera image will be blurred.

7. Keep the camera interface clean and dry, and install the protective cover in time;

8. When cleaning the lens, please use a soft and dry cleaning cloth to wipe. Please do not use a cleaner containing organic solvents such as thinner or gasoline to clean the UV lens.

9. Do not use unstable power supply or power supply that exceeds the voltage range of the camera.

10. Do not turn on or turn off the camera frequently. Please wait for more than 30 s at the interval of continuous power on or off, otherwise it will affect the life of the camera.

11. The camera shutter is a consumable item. Normally, the effective number of shutters is about 150,000 times, if the effective number of shutters is exceeded, the camera will have a high probability of not taking pictures, stuttering, responding slowly, and reporting errors. It is recommended to return the camera to the factory for a paid replacement of the shutter to avoid the impact of equipment failure on flight operations.

12. Please copy and delete data through Share Data Manager to reduce the debris of junk files. After using for a period of time, it is recommended to initialize and clean the camera for one time to increase the service life of the memory card.

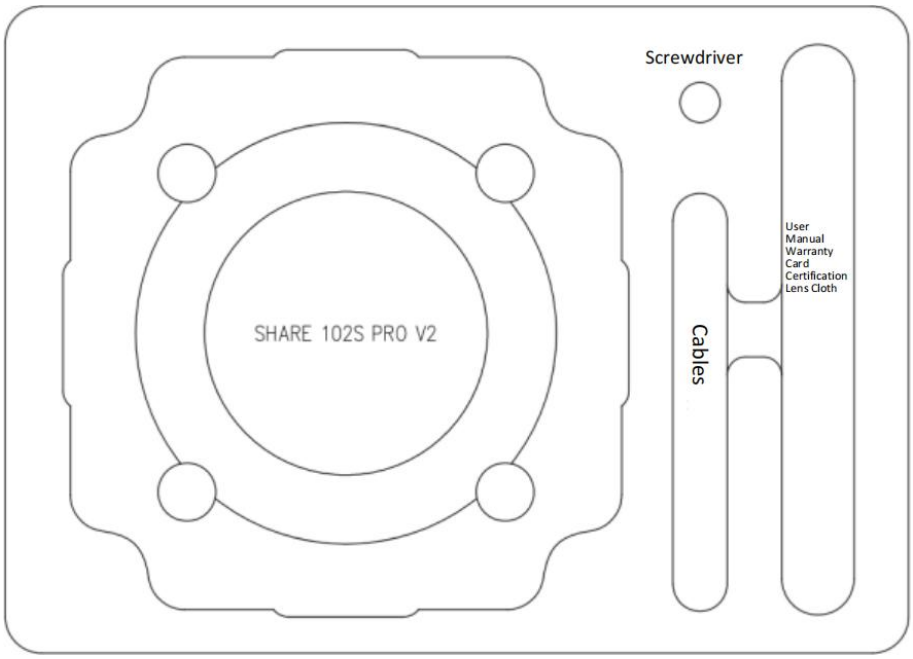
13. The camera is kind of a precision equipment, please keep it stored in the shipping box during transportation process.

5. After Sales

5.1 Delivery

(1) All equipment delivered by SHARE UAV shall be packed in accordance with the standard protective measures for packaging and transportation. Such packaging shall meet the requirements according to the specific properties of the equipment for long-distance transportation, moisture resistance, shock resistance, rust prevention, etc. to ensure that the equipment could be arrived safely at the place of delivery.

(2)Transport Case



Pic 11 Shipping box layout

The SHARE camera transport case, with a size of 275*220*167mm, adopts an industrial-grade box manufacturing process. The case uses an engineering plastic moisture-proof box. The structure is strong and durable. The case adopts folding buckle switch mode and convenient and durable handle design.

Keep the cover of the transport box upward, and do not place it upside down. Avoid severe vibration and turbulence during transportation.

5.2 After-sales Service

1) Hardware warranty terms: 1 year warranty since delivery. During the warranty period, Party B shall only undertake the delivery, maintenance and quality guarantee of Party A's goods within the territory of the People's Republic of China.

2) Warranty service: Regulations on after-sales service of Share UAV

Party A: Buyer of Products **Party B**: Shenzhen Share UAV Technology Co., LTD

The after-sales service content shall refer to the after-sales service regulations of Share UAV; During the warranty period, Party B will provide Party A with regular technical support free of charge, and bear the related costs of repair and replacement caused by product quality problems. Devices with below conditions will be out of warranty even if within warranty time: damaged, water damaged. For damage caused by non-quality problems, Party B will provide repairing service and charge to Party A. The warranty label shall not be opened, torn or destroyed privately, otherwise the warranty will be invalid.

If you have any questions, please contact Shenzhen Share UAV Technology Co., LTD
After-sales service and technical support tel: 0755-23216686 (working days 9:00-18:00 Beijing time)

SHARE 赛尔

Official Website **YouTube** **Facebook**

If you have any questions about the product
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