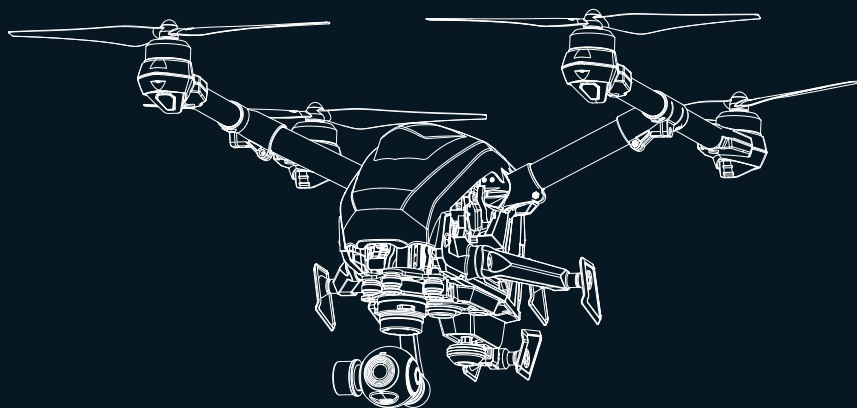


deUvention

VOYAGER 3

TRANSMUTABLE QUADCOPTER

Match with GCS Ground Station Software
Quick Start Guide and Systems Flowchart



www.walkera.com

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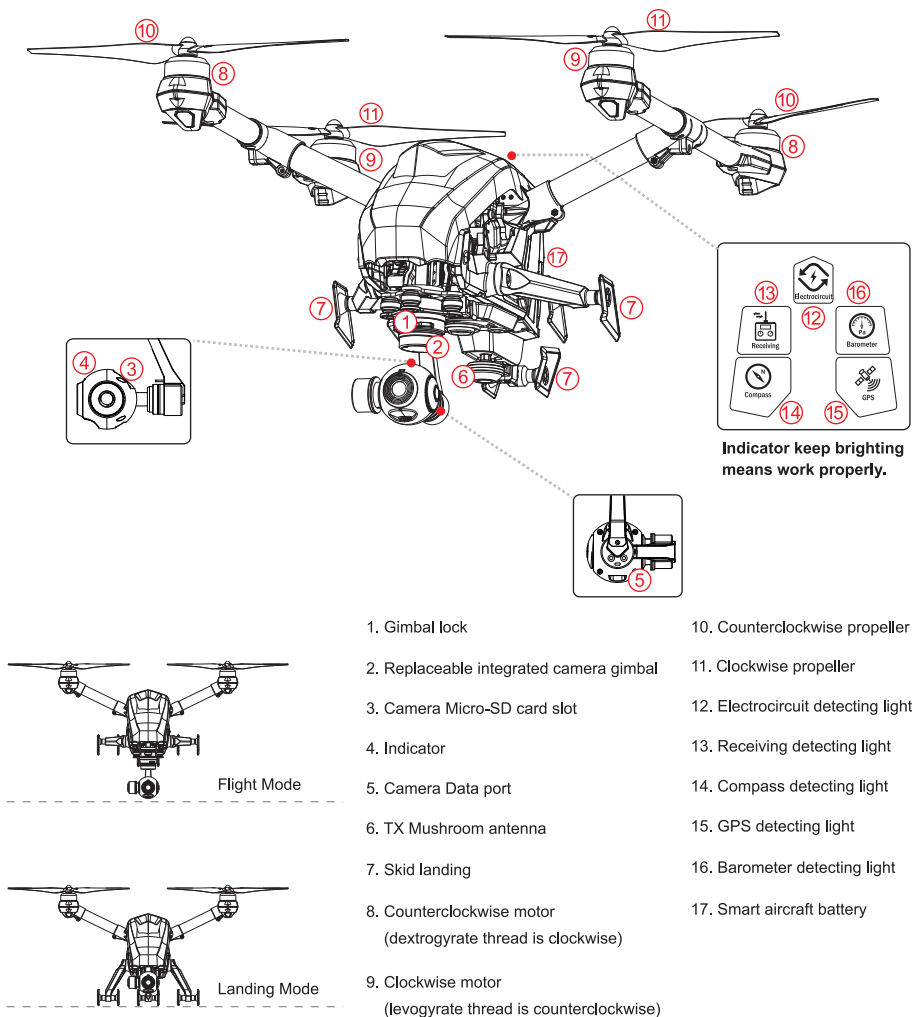
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1.0 Preparation before flying

1.1 Get to know your VOYAGER 3

- Electronic components adopting modular design, easy to connect and install.
- A new generation flight control system built-in, provide stable flight performance.
- Insert 5.8G image transmit system and OSD system, can get image and OSD information easily.
- Adopting indicator light on GPS, Compass, barometer and other parts, observation more intuitive.



VOYAGER 3

1.2 Download and software installation


● Devices that support Ground Station: Android and Apple phone / tablet

Android phone requirements:

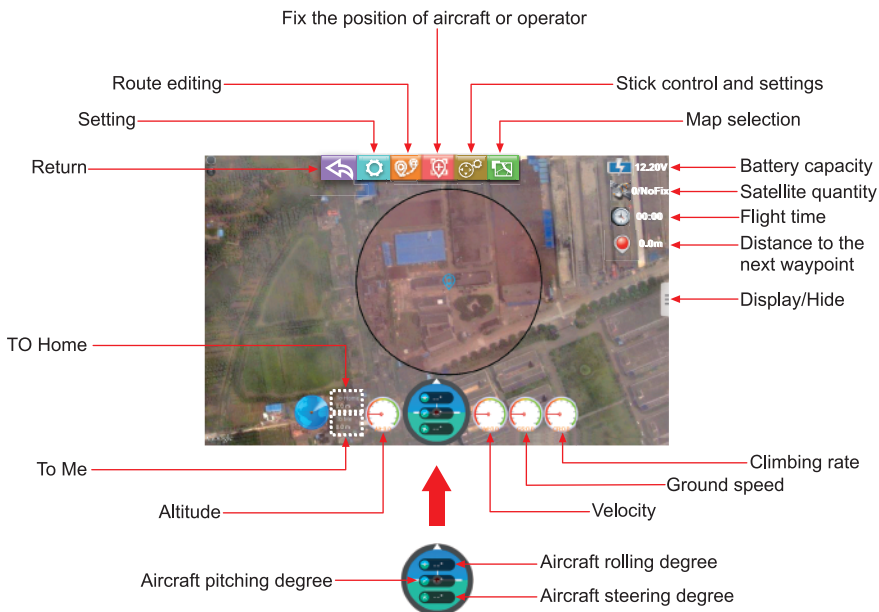
- (1) The Android version should be 4.0 or above, the screen resolution should be 480 x 800 pixels or above.
- (2) Google play services, google play store and TTS software should be preinstalled in the phone.

● Download and software installation

- (1) Download the "GCS Ground Station" software from official Walkera website(www.walkera.com) / Google for Android version 4.0 above.
- (2) Apple IOS system, download the "GCS Ground Station" software from APP Store.

 **Suggestion: set the phone to flight mode when you are using the GCS software to control the flight.**

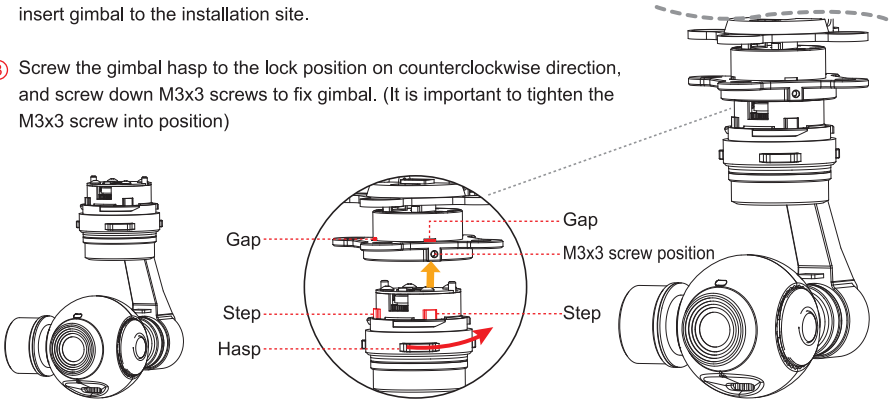
1.3 Get to know GCS ground station software interface



1.4 Assemble the VOYAGER 3

● Assemble gimbal and camera

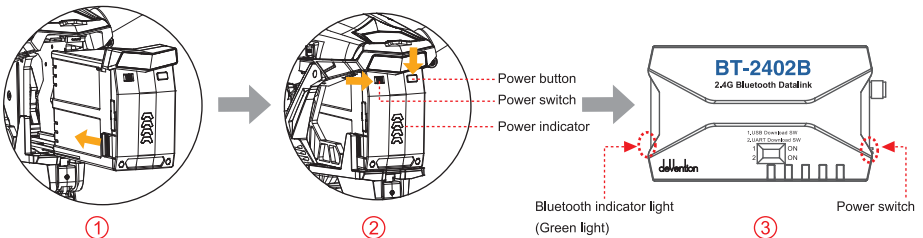
- ① Prepare gimbal and camera
- ② Aim two steps on the gimbal port to two upper gaps, insert gimbal to the installation site.
- ③ Screw the gimbal hasp to the lock position on counterclockwise direction, and screw down M3x3 screws to fix gimbal. (It is important to tighten the M3x3 screw into position)



● Skid landing reset


To save shipping space, the factory default of the drone skid landing is folded, please power on to reset before using, and do not use force to flip.

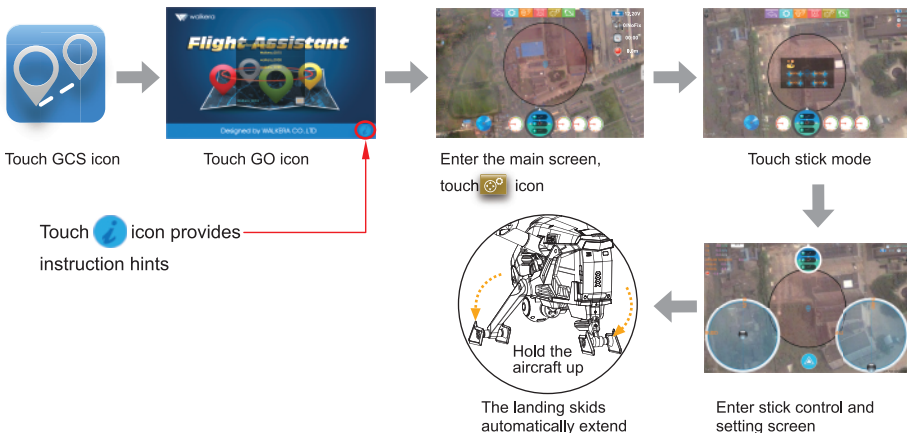
- ① Put the smart aircraft battery into the aircraft.
- ② Hold the aircraft up, turn the power switch to "ON", then press the power button for 3-5 seconds until the green power indicator lights up.
- ③ Turn on the power switch of the 2.4G Bluetooth Datalink. The green light will flash quickly waiting for the connection with the phone bluetooth.



- ④ Enter phone settings and open the bluetooth function. In the bluetooth search list find and touch "walkera-****", input password 1234 to connect. The connection is successful if it displays "connected". Exit the settings when finished.

VOYAGER 3

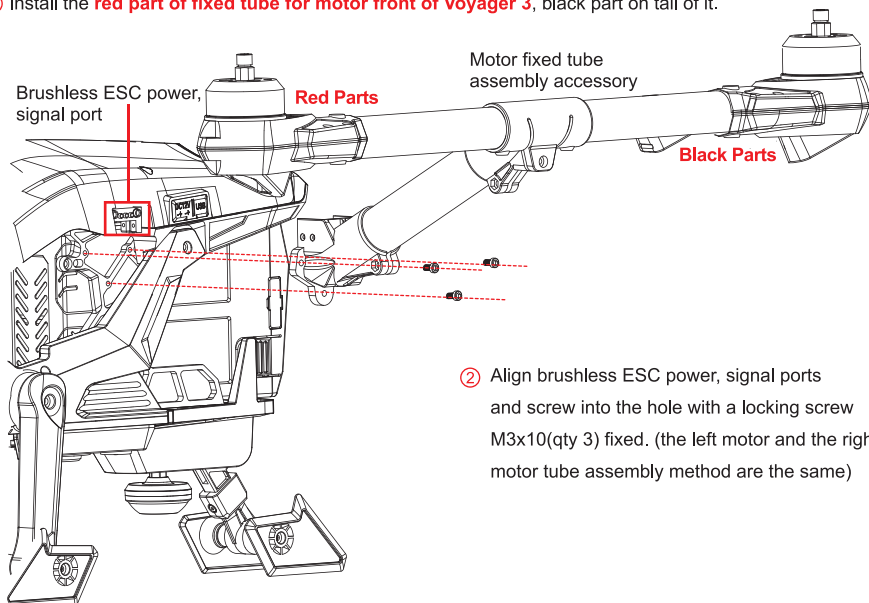
- ⑤ Touch GCS icon in the middle of the mobile screen, the GCS software will search automatically and display matched bluetooth, then select the matched bluetooth and touch the GO icon to enter the main screen. In the main screen, touch  icon then touch stick mode to enter the stick control and setting screen. (The landing skids automatically extend.)



- ⑥ In case of safety, after skid landing reset, please turn off the drone power first, and exist out of GCS software, and then do the assembling as below.

● Installing the motor fixed tube accessories

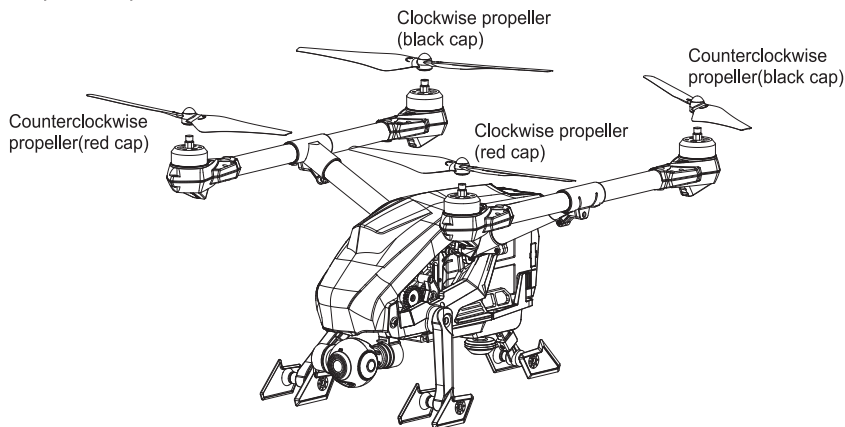
- ① Install the **red part of fixed tube for motor front of Voyager 3**, black part on tail of it.



- ② Align brushless ESC power, signal ports and screw into the hole with a locking screw M3x10(qty 3) fixed. (the left motor and the right motor tube assembly method are the same)

● Propeller installation

Install the clockwise propeller(red/black cap) on clockwise motor(levogyrate thread is counterclockwise) in counterclockwise direction, while install the counterclockwise propeller(red/black cap) on counterclockwise motor (dextrogyrate thread is clockwise) in clockwise direction, then Make sure the propellers are installed correctly and firmly.



1.5 Learn how to fly safely

- (1) This product is suitable for people who has flight experience of model plane and older than 14-year-old.
- (2) Do not fly in bad weather, such as windy, snowy, foggy weather, etc..
- (3) Select an open area, no-tall-buildings area. Extensive use of steel buildings will affect the compass work, blocking the GPS signal, causing worse on the aircraft positioning effect or even not able to locate.
- (4) Please stay away from high-speed revolving parts(such as propellers and motors) during flight.
- (5) When flying, please keep the drone in sight, away from obstacles, people, water and so on.
- (6) Do not fly it in where there is high-voltage lines, communication base stations or towers, in order to avoid interference by the remote control.
- (7) Please don't fly it in no-fly zone. Make sure the follow your local rules and regulations.
- (8) Flight performance will be effected when you fly it with above the altitude of 4500 meters, as the battery and gravity system will be influenced.

VOYAGER 3

1.6 Specifications

- Aircraft specifications

Main Rotor Dia.: 346mm

Overall (L x W x H): 473 x 463 x 300mm

Weight: 3650g (Battery included)

Transmitter: DEVO F12E(black version)

Receiver/Main Controller: FCS-RX701(FCC)/FCS-RX702(CE)

Brushless Motor: WK-WS-42-002

Brushless ESC: Voyager 3 (R/B)

2.4G Bluetooth Datalink: BT-2403A(FCC) & BT-2401B(FCC) / BT-2404A(CE) & BT-2402B(CE) - Android system

BT-2403A(FCC) & BT-2403B(FCC) / BT-2404A(CE) & BT-2404B(CE) - Apple IOS system

Battery: 29.6V 3000mAh 10C(8S) LiPo x2

Flight Time: Approximately 25 minutes

Working environment: -10℃ ~ +40℃

- Gimbal specifications

Control accuracy: 0.02°

Control range: Pitch rotation -120°~+60°; Horizontal ±360° continuous rotation

- Camera specifications

- a. Video

- Video Resolution: 3840 x 2160 15fps
- Micro High Speed SD card: Max 64G
- Video Format: MOV
- Photo: 4608x3456 Pixels

- b. 5.8G wireless

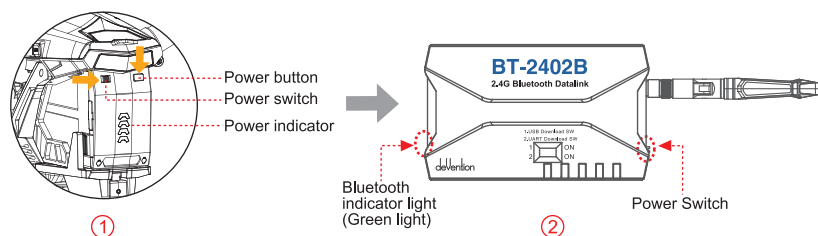
- 5.8G wireless image transmission
- FCC Bind B section: 4 channels
- CE Bind B section: 8 channels
- FCC Output Power≤200mW
- CE Output Power≤25mW


2.0 Ready for flight

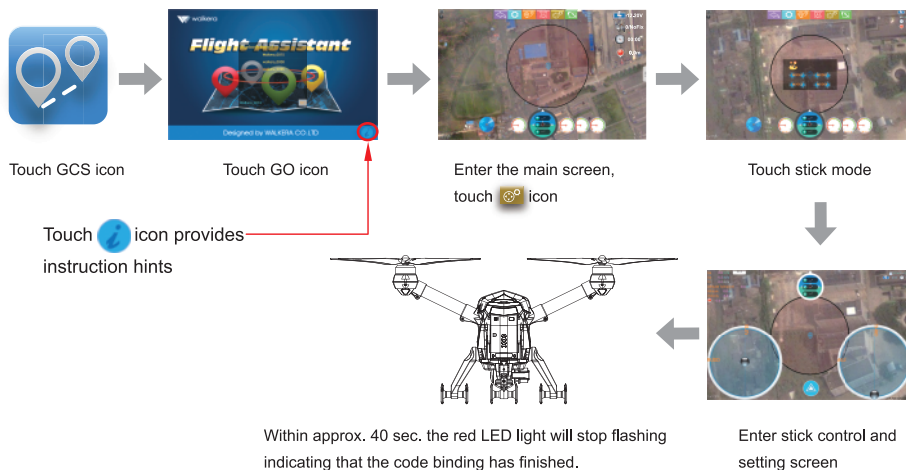
Put the model plane to outdoor an open area, and the user face tail of it.

2.1 Binding of the VOYAGER 3

- ① Turn the power switch to "ON", then press on the power button for 3-5sec. until the Green power indicator lights are solid.
- ② Turn on the 2.4G Bluetooth Datalink. The green light will flash quickly, waiting for the connection with the phone bluetooth.




- ③ Enter phone settings and open the bluetooth function. In the bluetooth search list find and touch "walkera-****", input password 1234 to connect. The connection is successful if it displays "connected". Exit the settings when finished.
- ④ Touch the GCS icon in the middle of the mobile screen, the GCS software will search automatically and display matched bluetooth, then select the matched bluetooth and touch the GO icon to enter into the main screen. In the main screen, touch  icon then touch stick mode to enter the stick control and setting screen.



VOYAGER 3

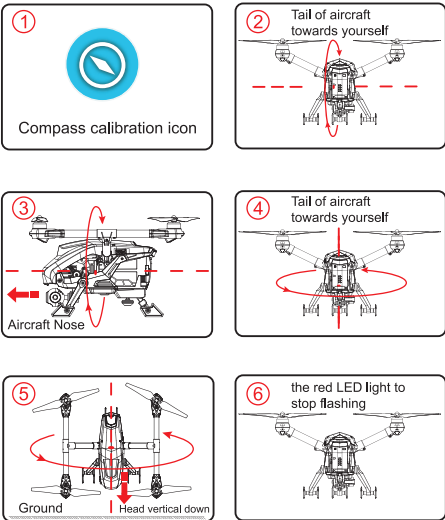
2.2 Compass Calibration

In the main screen, touch  icon then touch stick mode to enter stick control and setting screen.






IMPORTANT: Make sure the motors are locked before calibration (Aircraft red LED indicator is NOT flashing). Factory default setting, is for the motors to be locked after completing the ID binding process. (For details on locking and unlocking the motors see point 2.5.)

- 1 Touch the icon and enter compass calibration.
The red LED on the aircraft will flash rapidly.
- 2 FORWARD rotation. Smoothly rotate the aircraft forward in 90 degree increments, pausing for 1 second every 90 deg. (0 / 90 / 180 / 270 / 360)
- 3 CLOCKWISE rotation. Rotate the aircraft around the roll axis smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- 4 HORIZONTAL rotation. Rotate the aircraft around the YAW axis smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- 5 NOSE DOWN rotation. Rotate the aircraft facing the nose down. rotate smoothly in 90 deg increments. Pausing 1 second for each 90 deg. (0 / 90 / 180 / 270 / 360)
- 6 Put aircraft in the horizontal position.
Wait approx. 40 sec. for the red LED light to stop flashing indicating that the code binding has finished.



2.3 Route editing illustration

In the main screen, touch  icon and enter the route editing screen. When finished editing, touch  icon to upload the route into the aircraft.

- Position hold function: fix the position of the aircraft or operator
- Map selection
 - Route write into aircraft
 - Readout route from aircraft
 - Route recorded into phone
 - Readout route from mobile phone
 - Waypoint increase
 - Route editing
 - Delete waypoint, long press  icon to clean up all waypoints inside the aircraft



2.4 GPS indicator lights

GPS Satellites	<6	6	7	8	9	10	11	12	13
The blue LED status	No blinking	Blinking once	Blinking 2 times	Blinking 3 times	Blinking 4 times	Blinking 5 times	Blinking 6 times	Blinking 7 times	Blinking 8 times

IMPORTANT: For SAFE flight in GPS flight mode:


The BLUE indicator light should at least "double" blink, (two blinks at a time).

It is highly recommended that you wait for "triple blink" 8 satellites before starting the flight.

NEVER attempt to AUTO-START with less than "triple blinks"

2.5 Motor Unlock / Lock

● Motor Unlock


After successfully binding, push the throttle control ball to the lowest point under stable mode. Long press the stable mode icon , when **the red LED indicator turn solid red, the motor is unlocked**. In this condition, when you move the throttle control ball up, the motor will run.

Note: For safety, the motors will automatically lock after 10 seconds. If you do not start flying in 10 seconds, you will have to unlock the motors again.



Long press stable mode icon: Motor unlocked

● Motor Lock



After unlocking the motors, push the throttle control ball to the lowest point, then long press "AUTO TakeOff" icon , when **the Red LED indicator light goes out**, the motors are locked and won't start if you push the throttle control ball up.




Long press AUTO takeoff icon: motor locked

2.6 Function and stick control interface description



In the main screen, touch  icon then touch stick mode to enter stick control and setting screen. Long press stable mode icon  to unlock motor.



Touch AUTO take off icon  or push throttle control ball.



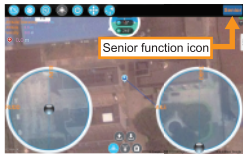
Touch display/hide icon








As shown in figure interface





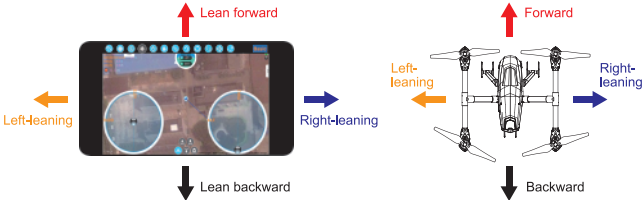




























Touch display icon




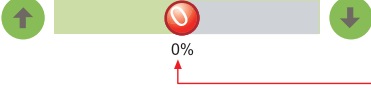
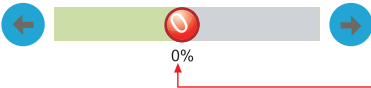


Touch senior function icon

Function	Icon	Instructions
Stable (normal) mode		Touch icon → Switch to common flight, using the control ball to control the Aircraft. Long press the icon to unlock the motor.
AUTO TakeOff		Place aircraft on level ground → Unlock Motors → Touch icon → The aircraft will automatically takeoff. Notes: You can use this function only when receiving a strong GPS signal.
Auto Landing		Touch icon → The aircraft will land automatically
Altitude hold mode		Touch icon → The aircraft will enter into Altitude hold mode automatically Notes: (1) You can use this function only when receiving a strong GPS signal. (2) If there is no GPS signal or the signal isn't in good condition, the aircraft will enter automatically altitude hold mode, instead of holding at one position.
One key Return To Home		Touch icon → The aircraft will automatically return to the point of origin. Notes: You can use this function only when receiving a strong GPS signal.

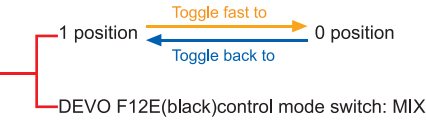
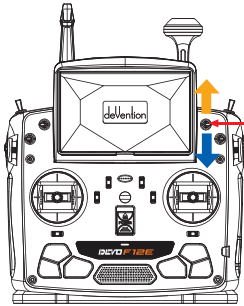
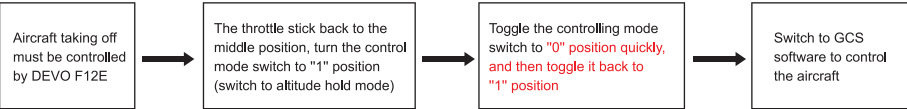
Function	Icon	Instructions
Map selection		Map selection
Stick mode selection		There are 4 types of stick modes.
Compass calibration		Compass calibration
Gravity Sensor		<p>The default setting is off, after turning on, the device is switched to gravity sensor control.</p> 
DATA Switch		Factory defaults are set to "open".
Hyper IOC mode		<p>IOC means that the aircraft's flight direction is related to the position of the first GPS signals, rather than the direction the aircraft is pointed.</p> <p>Notes:</p> <ol style="list-style-type: none"> (1) You can use this function only when you are receiving a strong GPS signal. (2) During flight, the drone will enter hyper IOC mode when the distance between the flight position of the drone and the initial position where the GPS signal was established is more than 10m. (3) In the IOC mode, regardless of which way the aircraft is pointing, you just need to press and hold back the control ball to make the aircraft fly back to the original takeoff position.
Waypoint record		<p>Touch icon  The aircraft will record the flight points automatically.</p> <p>Notes: You can use this function only when you are receiving a strong GPS signal.</p>
Follow me mode		<p>Touch icon  The aircraft could follow the location of mobile automatically</p>  under flight condition.'" data-bbox="340 765 875 865"/> <p>Touch the icon  under flight condition.</p> <p>In the automatically altitude setting box, according to environment choose "Normal" or "Fast" to set altitude.</p> <p>Notes: You can use this function only when you are receiving a strong GPS signal.</p>

Function	Icon	Instructions
Automatic Cruise		<p>Touch icon  → The aircraft will cruise automatically</p> <p>Touch icon , the aircraft will automatically cruise according to pre-set route.</p> <p>During flight, if you want to edit a new route, long press the Automatic Cruise Icon  .</p> <p>Touch icon  to upload to the aircraft the new route.</p>  <p>Notes: You can use this function only when receiving a strong GPS signal.</p>
Backtracking		<p>Touch icon  → The aircraft will automatically return to the point of origin.</p> <p>Under automatic cruise mode, touch the icon, and the aircraft will come back automatically according to the pre-set route.</p> <p>Notes:</p> <p>(1) You can use this function only when receiving a strong GPS signal.</p> <p>(2) You must touch the icon before the aircraft reaches the last waypoint in order to backtrack along the same path.</p>
Circle flight		<p>Touch icon  → The aircraft will automatically begin to circle.</p>  <p>Touch the icon  .</p> <p>In the automatic radius setting box, you can set radius according to environment and touch the Go icon to start.</p> <p>Notes: You can use this function only when receiving a strong GPS signal.</p>
Single Waypoint flight		<p>Touch icon  → The aircraft will enter a hover when arriving at the flight point.</p>  <p>Touch the icon  .</p> <p>In the automatic altitude setting box, you can set altitude according to environment and touch OK icon to start.</p> <p>Notes: You can use this function only when receiving a strong GPS signal.</p>
Fence flight		<p>Touch icon  → Automatically enter fence flight.</p> <p>After touching the icon, the aircraft will fly within the set area. The aircraft will return automatically when reaching the edge.</p> <p>Notes: You can use this function only when receiving a strong GPS signal.</p>

Function	Icon	Instructions
Skid landing folded		Touch the icon to make the landing skids retract/fold up.
Skid landing unfolded		Touch the icon to make the landing skids extend/unfold.
Return distance		Return distance
Control the gimbal Pitch		Controlled variable
Control the gimbal Horizontal		Controlled variable

2.7 Instruction for switching from DEVO F12E controlling to GCS controlling

Switching operation flow chart



- Make sure the transmitter and GCS connect to the aircraft well.
- The GCS will has voice remind when the switching done.
- Operate the control mode switch for one more time, the transmitter will gain the control right again.


3.0 End flight

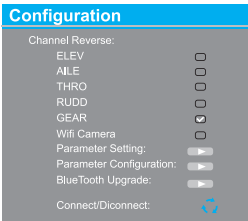
- ① Manual landing or back home function landing.
- ② First, power off aircraft battery, then exit GCS software.
- ③ Take the battery out of aircraft.

4.0 Additional remark

4.1 Ground station software settings

● Channel setting

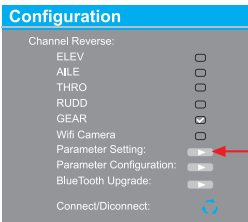
In the main screen, touch  icon to enter into the setting interface.



ELEV, AILE, THRO, RUDD default setting is "NORMAL".

Default setting of Gear Channel is "Reverse".

● Parameter Setting



(1) Gsensor Reverse

If the gravity sensor is activated and the aircraft acts differently from the corresponding tablet pc or phone's inputs (please refer to page 12 for Gravity Sensor explanation), please press "√" to reverse it.

(2) FollowMe Height Set

Default height=10m

You can change the height with new settings(5-200m).

(3) One Key Takeoff

Default height=10m

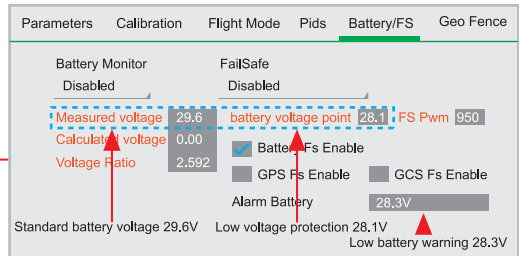
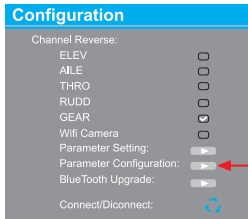
You can change the height with new settings(5-15m).

(4) Waypoint Default Altitude

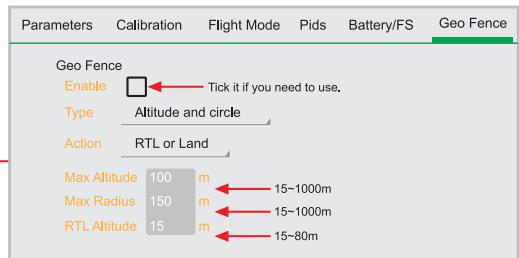
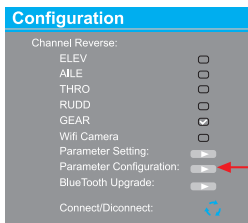
Default height=15m

You can change the height with new settings(5-400m).

● Battery voltage point

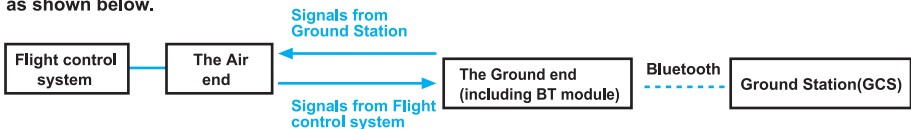


● Geo Fence



4.2 2.4G Bluetooth Datalink

The 2.4G Bluetooth Datalink consists of an Air end and Ground end, which provide reliable and stable long distance wireless transmission when Ground Station software is used. The signal flow is as shown below.

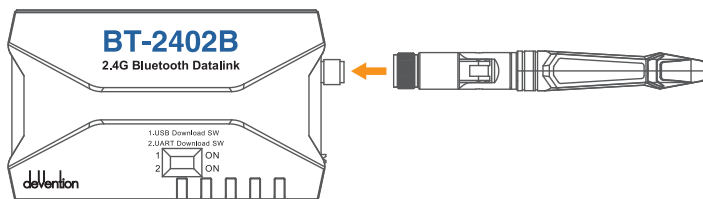


Air end: same usage as BT-2403A(FCC)/BT-2404A(CE), take BT-2404A(CE) as an example.

Ground end: BT-2401B(FCC)/BT-2402B(CE) - Android system;
BT-2403B(FCC)/BT-2404B(CE) - Apple IOS system.

Ground end: same usage as BT-2401B(FCC)/BT-2402B(CE)/BT-2403B(FCC)/BT-2404B(CE), take BT-2402B(CE) as an example.

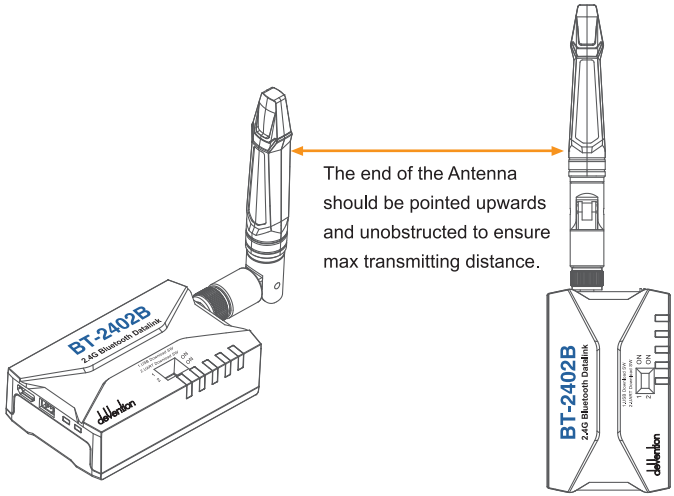
● Antenna Installation



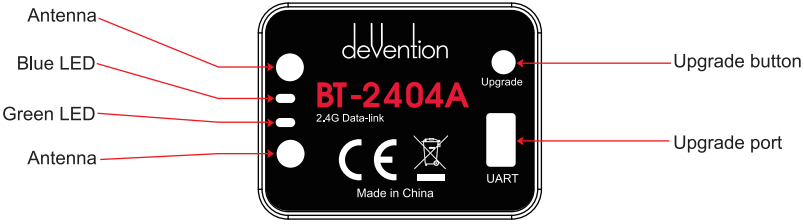
VOYAGER 3



- If there are obstacles between the ground and air ends then the radio signal between the 2.4G Bluetooth Datalink will be weak; make sure that the antennas are always visibly unobstructed during the flight. Human bodies, trees, buildings or hills will disconnect the link between the Air end and the Ground end.
- Make sure that the antenna of the Air end is pointing down, and the antenna of the Ground end is pointing up; it's best to put the Ground end at a high place to get further transmission distance.

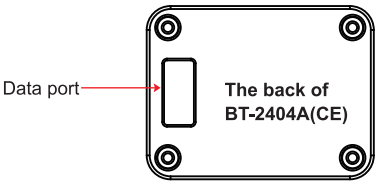


- The cognition of BT-2404A(CE) the Air end

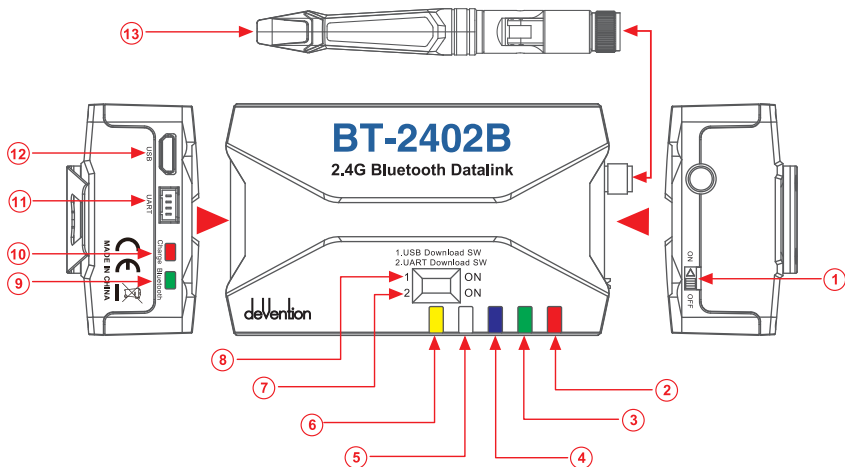


Green LED: Data receiving or transmitting indicator between the Air and Ground end.

Blue LED: Data receiving or transmitting indicator between the Air end and flight controller.

























● BT-2401B(FCC) Ground end instruction



①	ON-OFF: Power switch
②	Power LED: Power indicator(RED)
③	COM-TX LED: Indicator of data receiving from ground station to the ground end (Green).
④	COM-RX LED: Indicator of data transmitting from the ground end to the ground station (Blue).
⑤	RF-RX LED: Indicator of data receiving from the flight controller to the ground end (White).
⑥	RF-TX LED: Indicator of data transmitting from the ground end to the flight controller (Yellow) .
⑦	1 USB Download SW
⑧	2 UART Download SW
⑨	Bluetooth: Bluetooth indicator (Green)
⑩	Charge: Charging indicator (Red)
⑪	UART
⑫	USB: USB port
⑬	Antenna

● LED Indicator descriptions

	LED status	Status instructions
The Air end	 Green LED flashes quickly	The Air end and Ground end are receiving/transmitting data
	 Green LED keeps solid	The Air end and Ground end are not receive/transmit data
	 Blue LED flashes quickly	The Air end and Flight control end are receiving/transmitting data
	 Blue LED keeps solid	The Air end and Flight control end are not receive/transmit data
	 /  ... Green and Blue LED flashes slowly	The Air end and Ground end have lost signal
The Ground end	 Power LED keeps solid Red	Normal power voltage
	 Power LED flashes Red	Power voltage is less than 3.3V
	 COM-TX LED flashes Green quickly	The Ground end is receiving Ground Station data
	 COM-TX LED keeps solid Green	The Ground end is not receiving data from the ground station.
	 COM-RX LED flashes Blue quickly	The Ground end is transmitting data to the Ground Station
	 COM-RX LED keeps solid Blue	The Ground end is not transmitting data to the ground station.
	 RF-RX LED flashes White quickly	The Ground end is receiving Flight Control data
	 RF-RX LED keeps solid White	The Ground end is not receiving Flight Control data
	 RF-TX LED flashes Yellow quickly	The Ground end is transmitting data to the Flight Control
	 RF-TX LED keeps solid Yellow	The Ground end is not transmitting data to the Flight Control
	 /  ... RF White and Yellow LED flashes slowly	The Ground end lost contact with the Air end
	 Bluetooth LED flashes Green quickly	Bluebooth unconnected
	 Bluetooth LED flashes Green slowly	Bluebooth connected
	 Charge LED keeps solid Red	Charging
	 Charge LED lights out	Charging finished / normal situation

4.3 Program Upgrade

- Upgrade (UP02 and UPO2 adaptor requested)

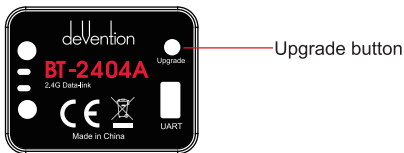
Both the Air end and the Ground end program can be upgraded at the Walkera website.

a. Air end Upgrading

- (1) Insert the red, yellow, blue and black flat cables into "UART" port.

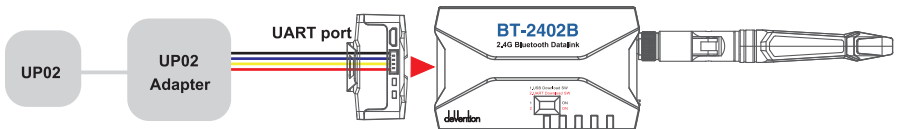


- (2) Press the "Upgrade" button to supply power and enter the upgrading state.

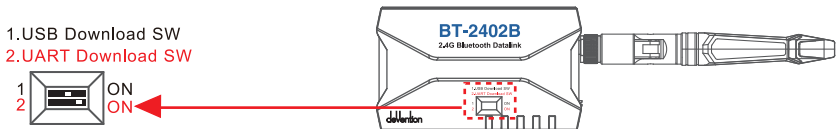


b. Ground end Upgrading

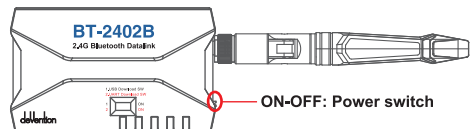
- (1) Insert the red, yellow, blue, black color flat cable into the UART port.



- (2) Turn the switch "UART Download SW" ("ON" position)



- (3) Turn on the power switch to enter into upgrading status ("on" position)

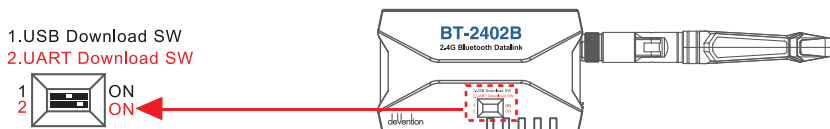


VOYAGER 3

● Upgrade (GCS Software requested)

a. Ground end upgrading

(1) Turn on the switch "2. UART Download SW" (position "ON")

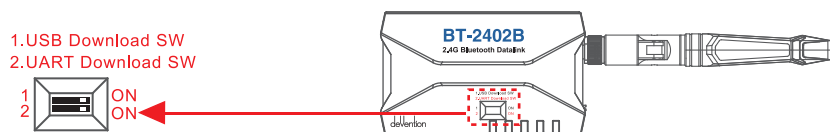


(2) Connect the Ground end to the Ground Station software GCS and enter into the upgrade interface.

(3) Choose the correct Ground end file to upgrade

b. Air end upgrading

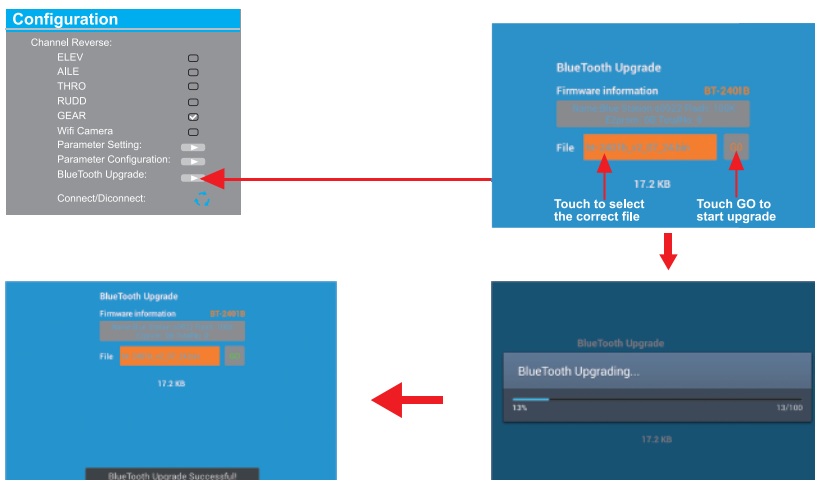
(1) Turn ON switches "1. USB Download SW" and "2. UART Download SW"



(2) Connect the Ground end to the Ground station software GCS and enter into the upgrade interface

(3) Connect the Air end to the Ground end.

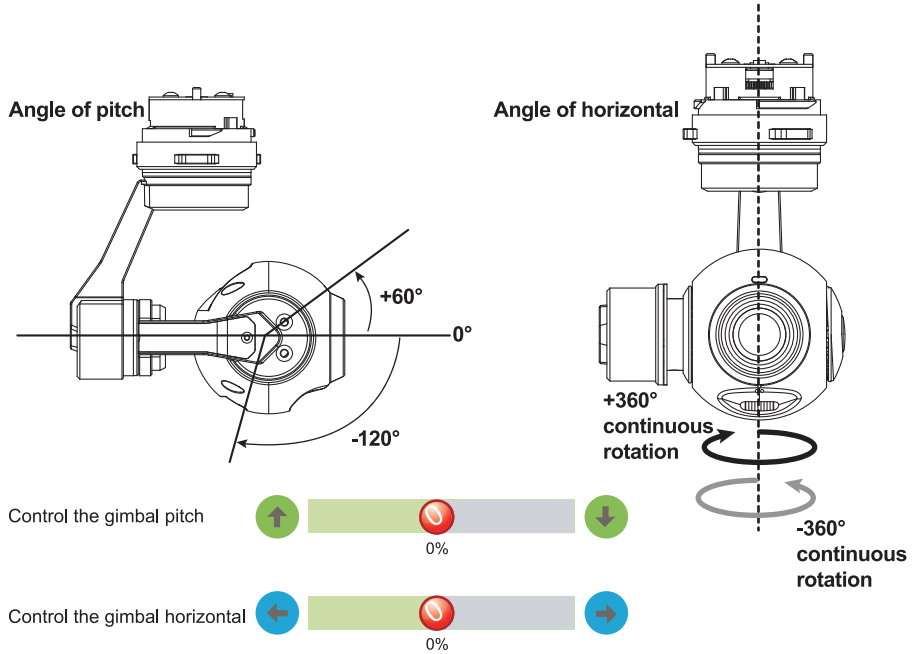
(4) Choose the correct air end file to upgrade



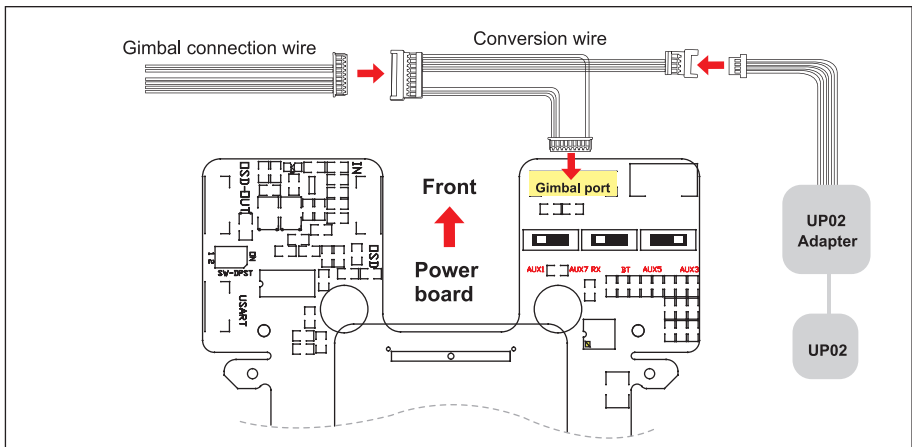
Tips: Please reconnect and upgrade again if the upgrading can't be finished successfully within one minute.

4.4 Instruction of Gimbal

Three-axis stabilization gimbal makes the camera steady so that it can shoot stable photos even fly with high altitude. And you can use GCS control strip to control pitch and horizontal angle of the gimbal.



● Gimbal upgrade connection diagram



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