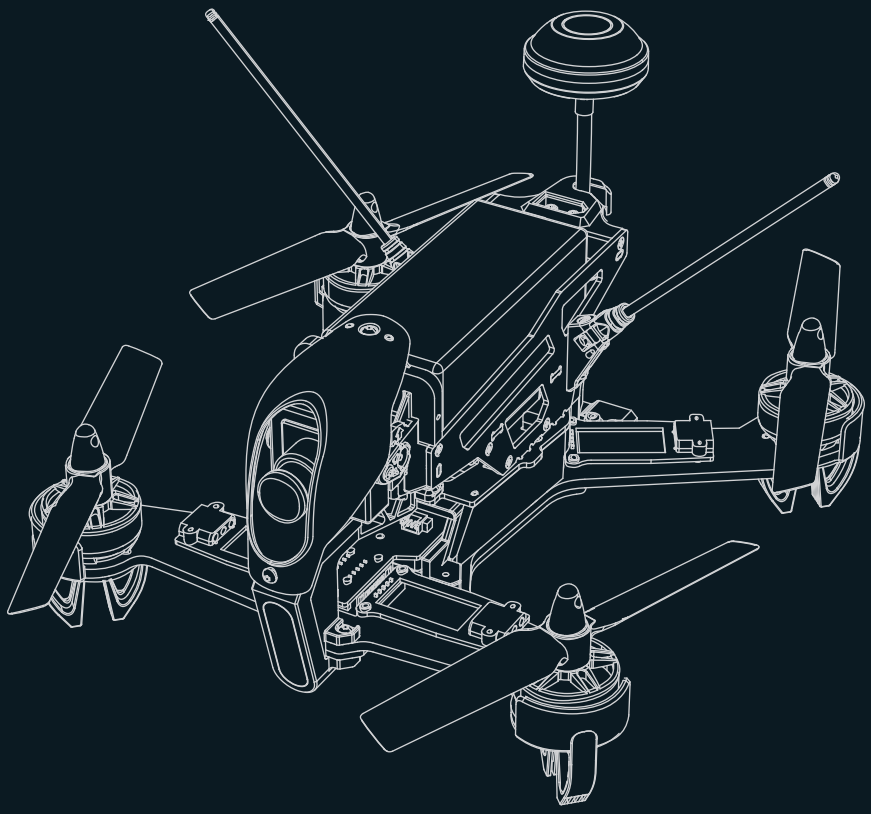
F210 3D Edition

QUICK START GUIDE V1.0

29th-MAR-2016



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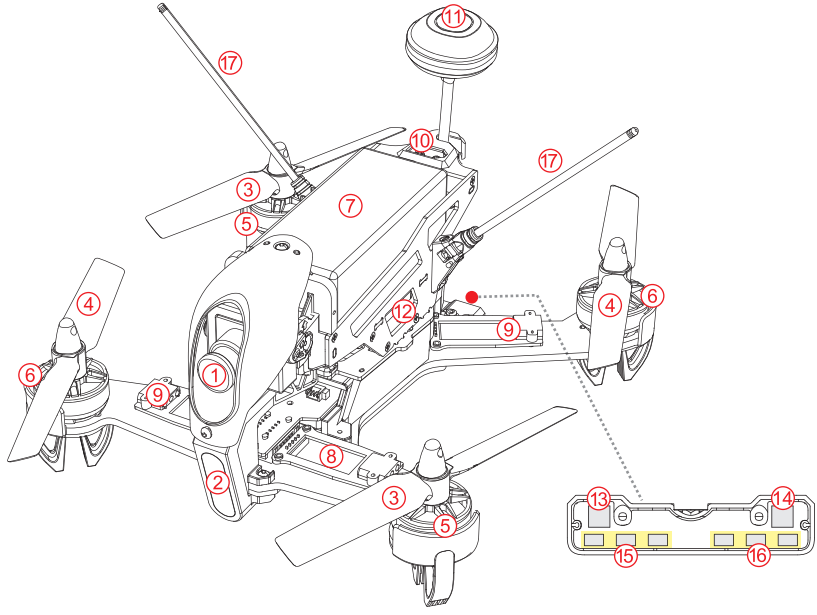
Contents

1.0 Get to know your aircraft

- The F210 3D Edition body is created using CFP for outstanding crash survivability.
- Modern industrial and modular design, improves the product performance and permit easy maintainance and upgrades.
- Advanced 5.8ghz live video and OSD system, for a unforgettable visual FPV experience.
- The F210 3D Edition employ a modern flight control system for acrobatic flight routines such as roll, flip and race courstte moves.



1. Camera
2. Lighting Lamp
3. Propeller(CW)
4. Propeller(CCW)
5. Clockwise motor (levogyrate thread is counterclockwise)
6. Counterclockwise motor (dextrogyrate thread is clockwise)
7. Li-Po Battery
8. Brushless ESC(CW)
9. Brushless ESC(CCW)
10. Power port(XT60)
11. Mushroom antenna
12. Main Flight Controller
13. Left red LED light
14. Right red LED light
15. LEFT turn indicator light
16. RIGHT turn indicator light
17. DUAL reciever antennas for best performance
    * always extend before flying

2.0 Get to know your Remote Controller

The F210 3D Edition feature 4 useful flight modes, 2D Stabilize / Intermediate / Advanced(RATE) Flight modes are selected by the MIX switch and 3D semi-automatic / Manual Flight modes are selected by the FOMD switch.

* Select the appropiate mode according to your flight skills.

* For your first test flight with a new quad, always start with the STABILIZE mode.

※ 2D STABILIZE Flight mode: the main flight controller system comes with stabilization function, its operation is relatively stable, it can not roll, it is suitable for beginners.

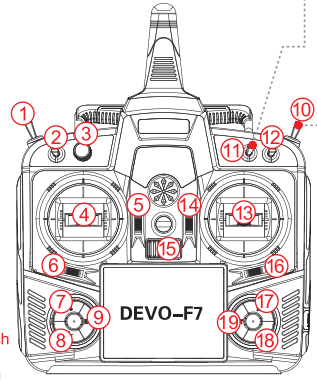
※ 2D INTERMEDIATE flight mode: the main flight controller system comes with partial stabilization function, its operation is relatively flexible, it can roll.

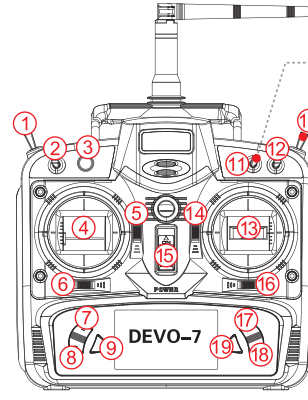
※ 2D ADVANCED Flight Mode: the main flight controller system without stabilization function, its operation is very flexible, it can roll.

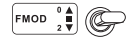
MODE 2 (Throttle stick on the left)	Left stick	THRO/RUDD stick
	Right stick	ELEV/AILE stick
	Left trim	THRO trim
	Right trim	ELEV trim
MODE 1 (Throttle stick on the right)	Left stick	ELEV/RUDD stick
	Right stick	THRO/AILE stick
	Left trim	ELEV trim
	Right trim	THRO trim

2D Stabilize Flight Mode	2D Intermediate Flight Mode	2D Advanced Flight Mode
		
MIX Switch to “0”	MIX Switch to “1”	MIX Switch to “2”

1. HOLD TRN switch
2. GEAR switch
3. AUX2 control
4. Left stick
5. Left trim
6. RUDD trim
7. UP+ key
8. DN- key
9. EXT key
10. FMOD - 2D/3D Flight mode Switch
11. MIX - Flight Mode Switch
12. ELEV/AILE/RUDD D/R Switch
13. Right stick
14. Right trim
15. Power switch
16. AILE trim
17. R+ key
18. L- key
19. ENT key



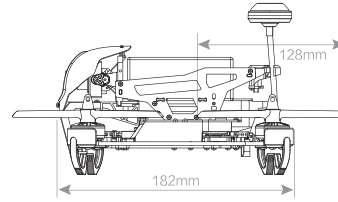


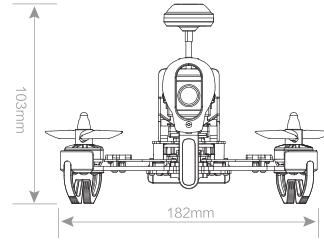
2D Flight Mode	3D Semi- automatic Flight Mode	3D Manual Flight Mode
		
FMOD Switch to “0”	FMOD Switch to “1”	FMOD Switch to “2”

3.0 Specifications

Aircraft

Main Rotor Dia.:	128mm
Overall (L x W x H):	182 x 182 x 103mm
Weight:	370g (Battery excluded)
Remote Controller:	DEVO 7 / DEVO F7
Receiver:	DEVO-RX713
Main Flight Controller:	FCS-F210(F3D)
Transmitter:	TX5825(FCC)/TX5824(CE)
OSD:	F210 OSD
Brushless motor:	WK-WS-28-014A(CW/CCW) KV2500
Brushless ESC:	F210 3D(CW/CCW)
Battery:	14.8V 1300mAh 40C 4S LiPo
2D Flight Time:	8~9mins
3D Flight Time:	About 5mins
Working Temperature:	-10℃~ +40℃





Camera(700TVL)

Horizontal Resolution:	700TVL
System Committee:	PAL/NTSC
Video Out:	1.0Vp-p/75Ω
Power Input:	DC 12V

TX5825(FCC) / TX5824(CE) transmitter

5.8G wireless image transmission

TX5825(FCC) Bind B section: 4 channels

TX5824(CE) B section: 8 channels

TX5825(FCC) output power ≤200mW

TX5824(CE) output power ≤25mW

4.0 Attention before flight

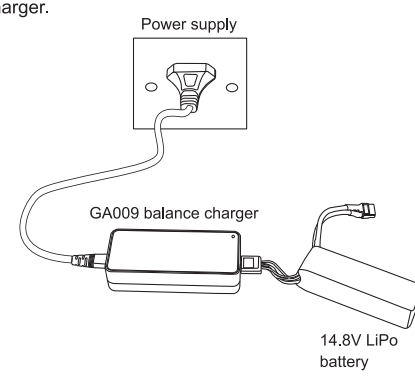
- The F210 3D Edition mini-quad is recomended for pilots, 14 years or older, with RC hobby experience.
- Only fly the F210 3D Edition in dry weather, with low wind, please do not fly in rain or heavy foggy conditions.
- Always choose large open fields for flying. Check local LAW and ordinances for legal flying areas.
- Always keep at least 10 feet distance to the aircraft when armed, to avoid injury from high-speed propellers on the ground or while flying. Always disarm before handeling the aircraft.
- Do not fly close to high-voltage power lines, cellphone towers, or radio towers, as these may disrupt your control signal.
- ALWAYS check local laws BEFORE flying. NEVER fly over crowds, concerts or sports stadiums.

5.0 Charge the Battery

① Connect the power-cable to the wall-outlet, the GA009 charger accept voltage from 100v to 240v. When correctly powred the charger LED will be flashing green.

② Insert the LiPo battery balance plug into the Ga009 charger.

③ During charging the LED will be solid RED. When almost done, the LED will flash RED-GREEN alternately. this indicate the charger is balancing the battery. When charging is completed, the charger will display a solid GREEN LED.



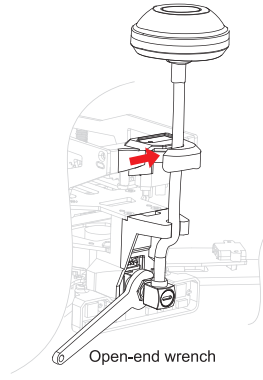
Attention:

- When the yellow LED light flashes, there may be a problem with the charger or battery, so please stop charging
- Please refer to Page 24 for details of GA009 balance charger.

6.0 Prepare the F210 3D Edition

Install mushroom antenna

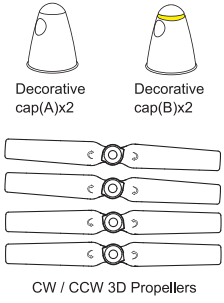
First, install the mushroom to the mounting brackets as show.
Next, push into the Video Transmitter, Finally tighten the rotating collar with the included wrench.

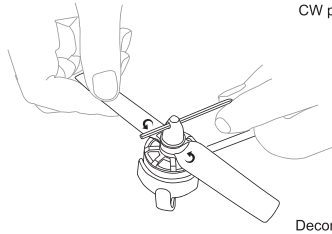


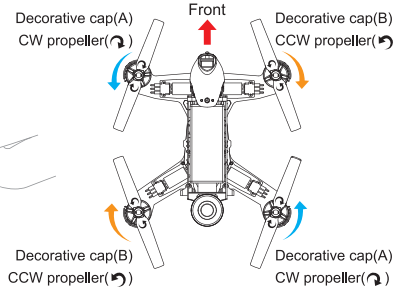
Install 3D Propellers

Fix the clockwise propeller install onto the clockwise motor, and then fix Decorative cap A install onto the clockwise motor according to the direction of blue arrow.
Fix the counterclockwise propeller onto the counterclockwise motor, and then fix Decorative cap B install onto the counterclockwise motor according to the direction of orange arrow.
Ensure that the blade and Decorative cap installed correctly and firmly(as picture)

Attention:
For the convenience of the install or remove the blade, please use tools though the Decorative hold.



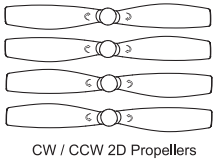


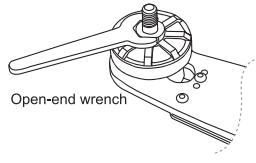


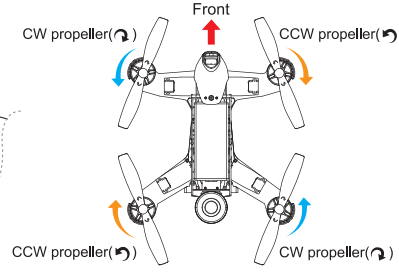
Install 2D Propellers

Fix the clockwise propeller onto the clockwise motor according to the direction of blue arrow, and fix the counterclockwise propeller onto the counterclockwise motor according to the direction of orange arrow.
Tighten the propellers manually and make sure the propeller is installed in proper way and fastened.

Attention:
Install prop by hand and tighten by holdingthe motor with the included wrench.
You can also use the wrench to help removebroken props in case of a crash.





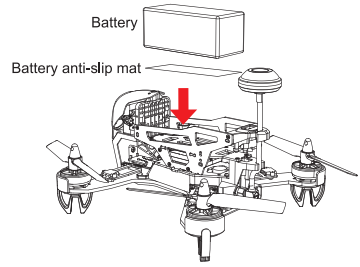


Tips:

- 2D propeller can be used for the 2D flight, can't used for 3D flight.
- 3D propeller can be used for the 2D/ 3D flight.
- Suggest to use 2D propeller for racing.

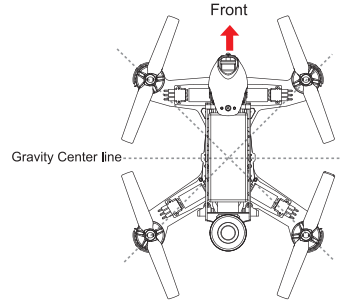
Battery installation

First put the battery anti-slip mat into the battery compartment.
Put the battery on top and move it forward-backwards as required for perfect balance, then firmly secure the battery with the velcro strap.

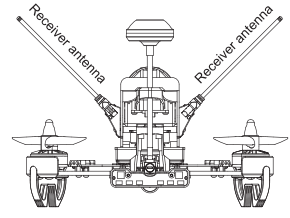


Gravity center adjustment

Grab the F210 3D Edition mini-quad by the COG line (center of gravity).
See the illustration for the COG.
Adjust the battery forward-backwards until the quad balances.



Attention:
ALWAYS unfold the two reciever anteannas to their correct STRAIGHT UP position before flying. Do not fly without properly unfolding the antennas.



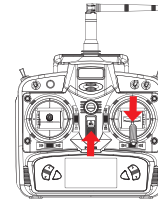
7.0 Ready for flight

Attention:

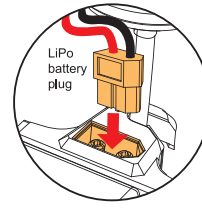
- Place the aircraft in a wide open space, with the rear facing you.
  (This position is known as “TAIL IN”)
- Put all the function switches to the 0 position, put all trims and dials to the Middle position, move the throttle to the lowest position, then turn on the Remote Controller.
- A video receiving equipment is needed(such as DEVO F7, Goggles glasses, etc.) to display an image and OSD information. (Setting method please referto P20 to P22)
- The F210 3D Edition mini-quad have a low-voltage alarm beeper.
  And the OSD give you a visual reference for the remaining battery power.
  When voltage reach below 14.0 volts the RIGHT LED light will flash quickly and the beeper will sound alarm.
  The F210 3D Edition mini-quad is designed for FPV racing, there is no “automatic landing mode”.
  WARNING: Do not hesitate to land when you hear the alarm or see the OSD indicating 14.0 volts.

7.1 Binding of the F210 3D Edition

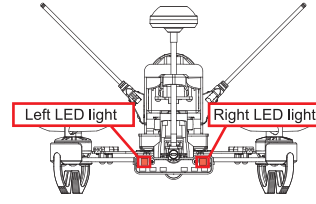
① Turn on the Remote Controller. (Make sure all the function switches, all trims/knobs and throttle stick at the lowest position)



② Put the aircraft on a horizontal place and connect the aircraft power, then the LEFT red LED light turn on. (make sure the positive and negtive connected correctly)



③ When the RIGHT red LED flashes slowly and turns off , that means the aircraft binds successfully. (Note: Do not move the F210 3D Edition during binding)



7.2 Motor Unlock / Lock

Tips:

- When you turn the FMOD(FMD) to 2D flight mode and unlock the motor, can not make 3D flight.
- When you turn the FMOD(FMD) to 3D flight mode and unlock the motor, can make 2D flight too. But if you change to 2D flight mode from 3D flight mode, have to turn to 3D flight mode and unlock motor one more time.

3D Motor Unlock / Lock

Motor Unlock

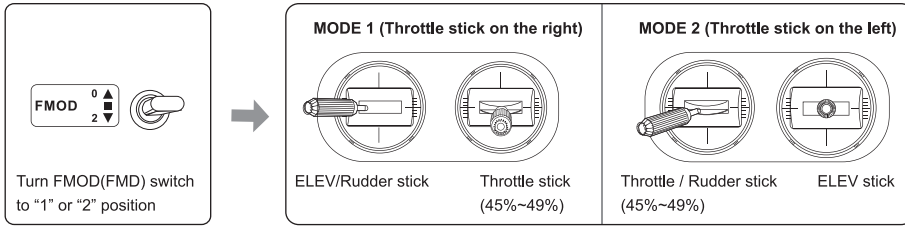
After binding the DEVO 7/ DEVO F7 to the F210 3D Edition, turn FMOD(FMD) switch to “1” or “2” position, put throttle stick on 45%~49% position(as showing on radio screen).

Move the rudder (YAW) stick to the left side and hold for more than 2 seconds.

(on mode 2 radios throttle and rudder is the same stick).

You will see the RIGHT red LED light keeps on and buzzer issues a “B B” sound, indicating that motors are unlocked.

* After unlocking, motors and propellers will begin to move, for your personal and property safety, please stay away from the aircraft, and then push the throttle stick, the aircraft will take off.



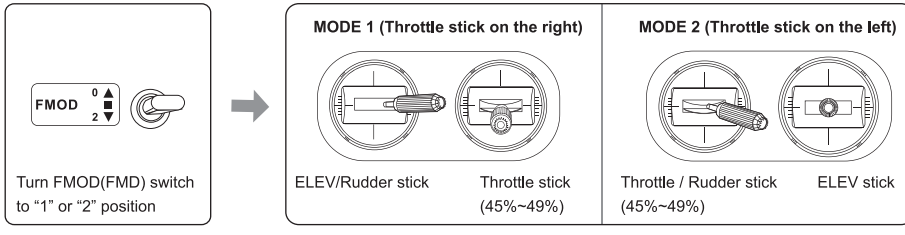
Motor Lock

Turn FMOD(FMD) switch to “1” or “2” position, put throttle stick on 45%~49% position(as showing on radio screen), move the rudder (YAW) stick to the right side.

The RIGHT red LED light turns off and buzzer issues a “B B” sound when the motors are disarmed.

TEST: Push the throttle stick up a little, the motors will not start when locked.

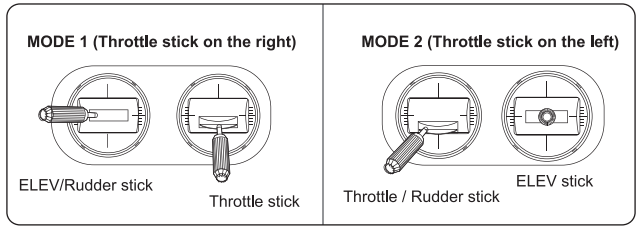
NOTICE: The motors are LOCKED by default after successful binding.



2D Motor Unlock / Lock

Motor Unlock

After binding the DEVO 7/ DEVO F7 to the F210 3D Edition, Check that all trims are neutral, the throttle stick is ALL the way Down with the display indicating 0% throttle. Check that ALL switches are in the UP position. Gently push the throttle stick down and move the rudder (YAW) stick to the left side and hold for more than 2 seconds. (on mode 2 radios throttle and rudder is the same stick).
You will see the RIGHT red LED light keeps on and buzzer issues a “B B” sound, indicating that motors are unlocked. Be very careful at this point, as pushing the thottle up will start the motors.
You can test by pushing the stick up a little, the motors should start.

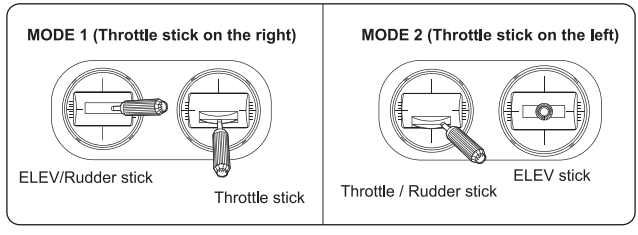


Motor Lock

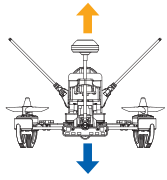
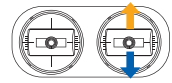
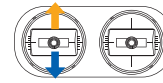
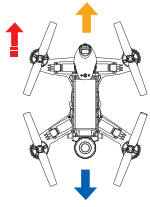
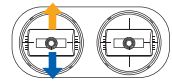
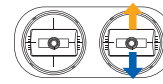
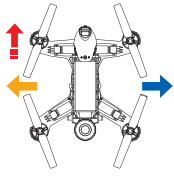
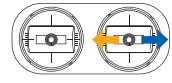
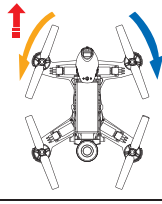
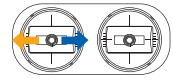
Lock the motors by moving the throttle stick all the way down and the rudder (YAW) stick all the way to the right. The RIGHT red LED light turns off and buzzer issues a “B B” sound when the motors are disarmed.

TEST: Push the throttle stick up a little, the motors will not start when locked.

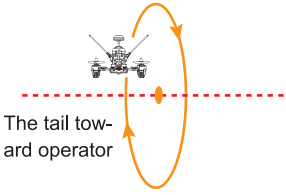
NOTICE: The motors are LOCKED by default after successful binding.



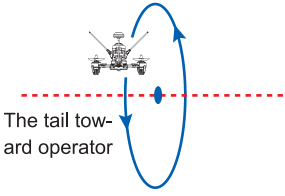
8.0 Operation Instruction

Aircraft posture(← the direction of head)		Remote Controller control instruction	
THROTTLE Up/down The rear toward operator		 MODE 1 (Throttle stick on the right)	 MODE 2 (Throttle stick on the left)
PITCH Forward/backward When backward, the left/ right turn indicator lights will be solid.		 MODE 1 (Throttle stick on the right)	 MODE 2 (Throttle stick on the left)
ROLL (lean) Left / right When lean left, the left turn indicator light will be solid. When lean right, the right turn indicator light will be solid.		 MODE 1 / MODE 2	
YAW (turn) Left / right When turn left, the left turn indicator light will flash. When turn right, the right turn indicator light will flash.		 MODE 1 / MODE 2	

The aircraft roll forward

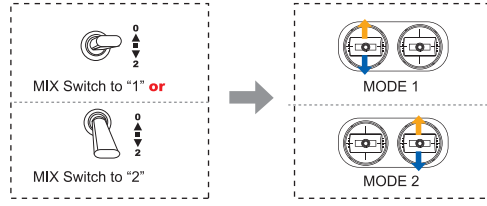


The aircraft roll backward



FLIP & ROLL'S

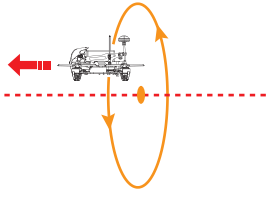
Are only available in the intermediate & Advanced flight mode. Set MIX switch to position 1 or 2, to select the appropiate flight mode.



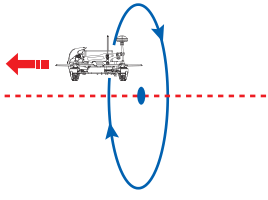
Attention:

(1) Always select large open spaces with soft ground for flying.
(2) Rolls and flips are best suited for expereinced pilots.
(3) Match throttle power to the flight to manage altitude.

The aircraft roll left

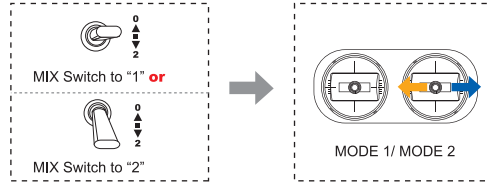


The aircraft roll right



FLIP & ROLL'S

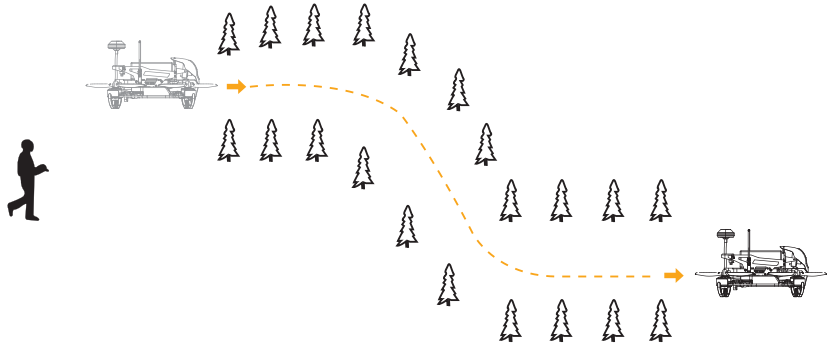
Are only available in the intermediate & Advanced flight mode. Set MIX switch to position 1 or 2, to select the appropiate flight mode.



Attention:

(1) Always select large open spaces with soft ground for flying.
(2) Rolls and flips are best suited for expereinced pilots.
(3) Match throttle power to the flight to manage altitude.

DERAM Baron AKA Proximity FPV obstacle flying



Attention:

(1) Dream Baron is more suitable for experienced pilots,
highspeed obstacle avoidance flights require advanced skills.

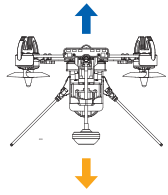
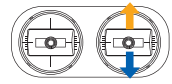
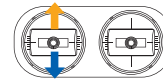
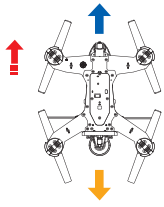
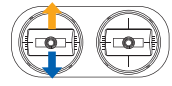
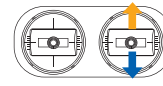
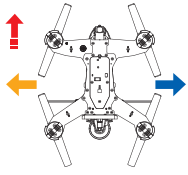
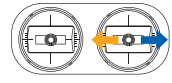
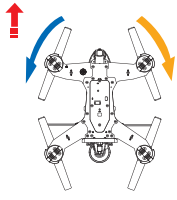
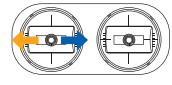
(2) Recommended FPV range 300m depending on enviroment.

(3) Avoid flying over people, animals, do not fly over crowds, concerts or sports stadiums.
Avoid flying close to powerlines and cellphone towers as these may crash you.
Visit walkera.com for more suggestions and for WALKERA racing gates.

3D aerobatics flight

Attention:

- You have to use 3D propellers and unlock by 3D way when 3D aerobatics flying.
- 3D aerobatics flying more suitable for experienced pilot.

Aircraft posture(← the direction of head)		Remote Controller control instruction	
THROTTLE Up/down The rear toward operator		 MODE 1 (Throttle stick on the right)	 MODE 2 (Throttle stick on the left)
PITCH Forward/backward When backward, the left/ right turn indicator lights will be solid.		 MODE 1 (Throttle stick on the right)	 MODE 2 (Throttle stick on the left)
ROLL (lean) Left / right When lean left, the left turn indicator light will be solid. When lean right, the right turn indicator light will be solid.		 MODE 1 / MODE 2	
YAW (turn) Left / right When turn left, the left turn indicator light will flash. When turn right, the right turn indicator light will flash.		 MODE 1 / MODE 2	

9.0 End flight

① Land the aircraft, disarm(lock) the aircraft.

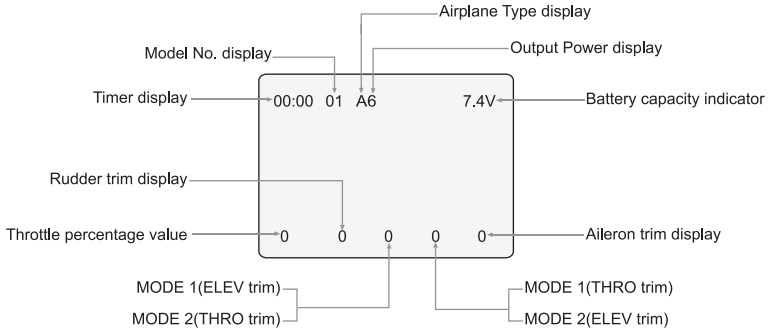
② First Power off the aircraft by unplugging the battery, then turn off the radio.

③ Finally, remove the battery from the aircraft.

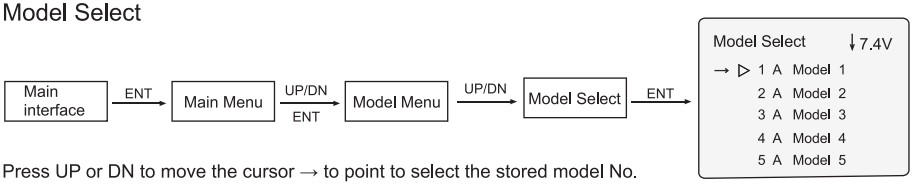
10.0 Additional remarks

10.1 DEVO F7 Remote Controller Setting

Boot Screen(Main interface)



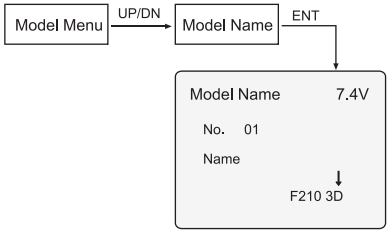
Model Select



Press UP or DN to move the cursor → to point to select the stored model No.

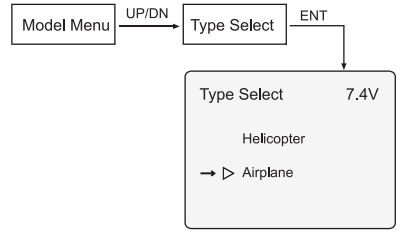
For example “Model 1”, press ENT to confirm and then press EXT to return to Model Menu.

Model Name



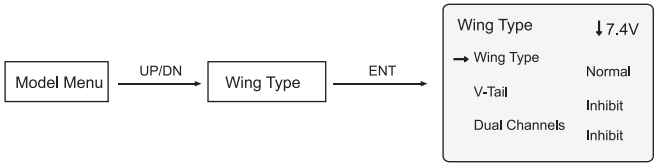
Press UP or DN to move the cursor → to point to select the character and figure which need to be changed, press R or L button to change the character and figure, name model as F210 3D. Press ENT to confirm and then press EXT to return to Model Menu.

Type Select



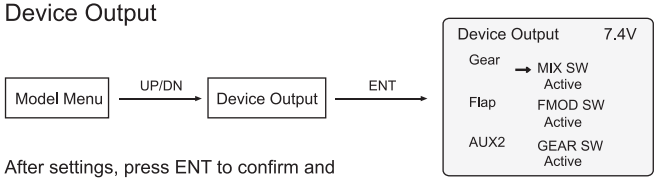
Press UP or DN to move the cursor → to point to Airplane option. Press ENT to confirm and then press EXT to return to Model Menu.

Wing Type



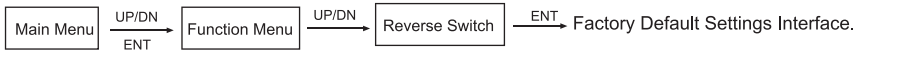
Press UP or DN to move the cursor → to point to Wing Type option, press R or L to select “Normal”.
Press ENT to confirm and then press EXT to return to Model Menu.

Device Output

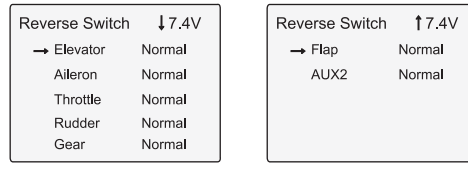


After settings, press ENT to confirm and
then press EXT to return to Main Menu.

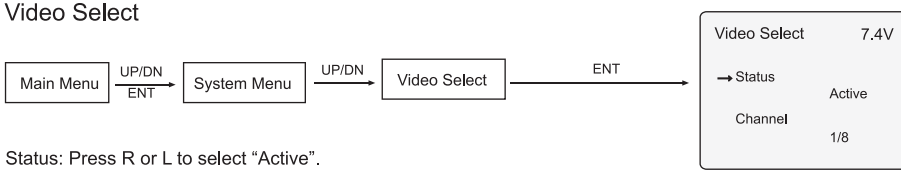
Reverse Switch



Press R or L to select Normal.
After settings, press ENT to confirm
and then press EXT to return to Main Menu.



Video Select



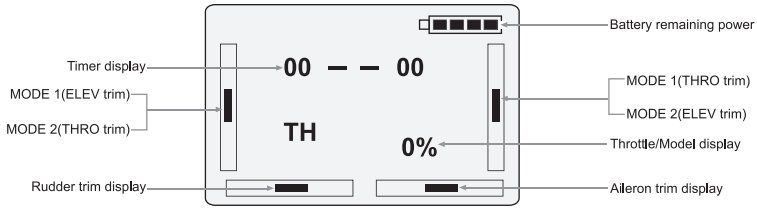
Status: Press R or L to select “Active”.

Channel: Press R or L to select suitable receiving video channel corresponding to the TX5825(FCC)/TX5824(CE).
It will dispaly automatically "OSD" after connection.

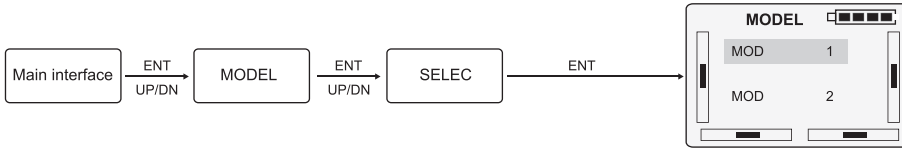
After settings, press ENT to confirm and then press EXT to return to Main interface.

10.2 DEVO 7 Remote Controller Setting

Boot Screen(Main interface)

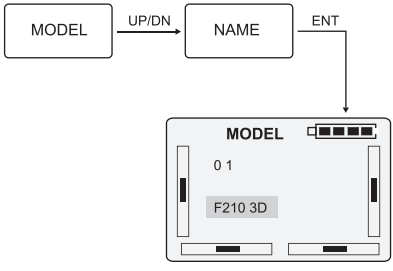


SELEC



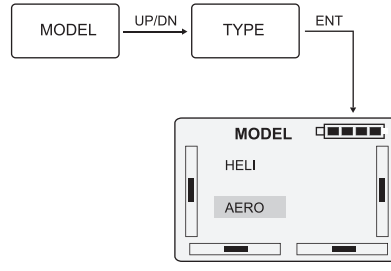
Press UP or DN to select “MOD 1”, press ENT to confirm and then press EXT to return to MODEL.

NAME



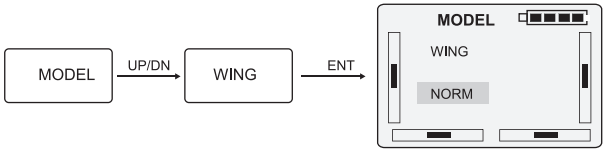
Press R or L button to change the character and figure, named model as F210 3D. Press ENT to confirm and then press EXT to return to MODEL.

TYPE



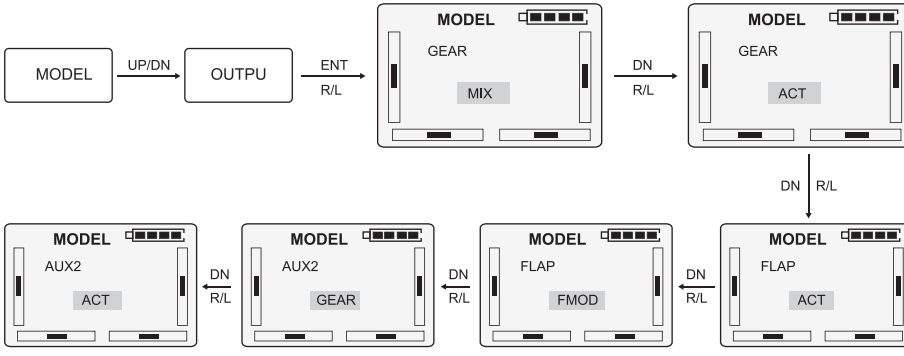
Press UP or DN to select AERO, Press ENT to confirm and then press EXT to return to MODEL.

WING



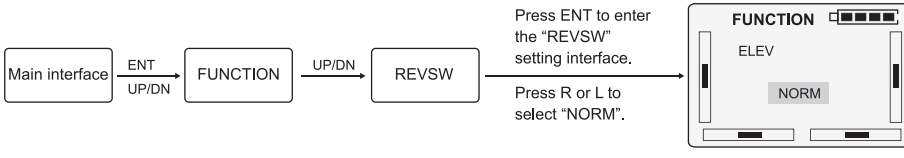
Press R or L to select NORM, Press ENT to confirm and then press EXT to return to MODEL.

OUTPUT



After setup, press ENT to confirm and then press EXT to return to Main interface.

REVSW



ELEV	AILE	THRO	RUDD	GEAR	FLAP	AUX2
NORM	NORM	NORM	NORM	NORM	NORM	NORM

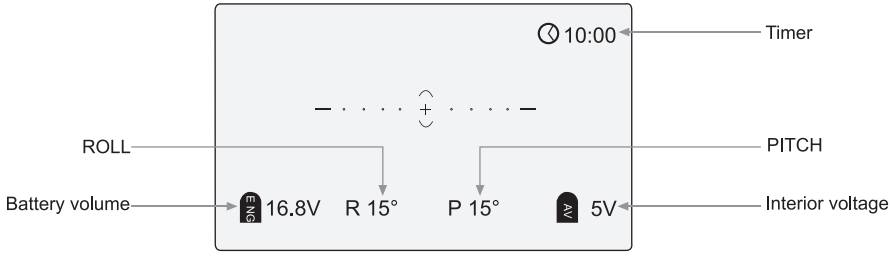
After settings, press ENT to confirm and then press EXT to return to Main interface.

10.3 OSD information

The OSD information is visible on your video reciever.

* Goggles, Devo F7 or screen with video reciever.

The video switch and OSD module code switch, please refer to page 21, 22.



10.4 TX5825(FCC)/TX5824(CE) Video transmitting channel selection

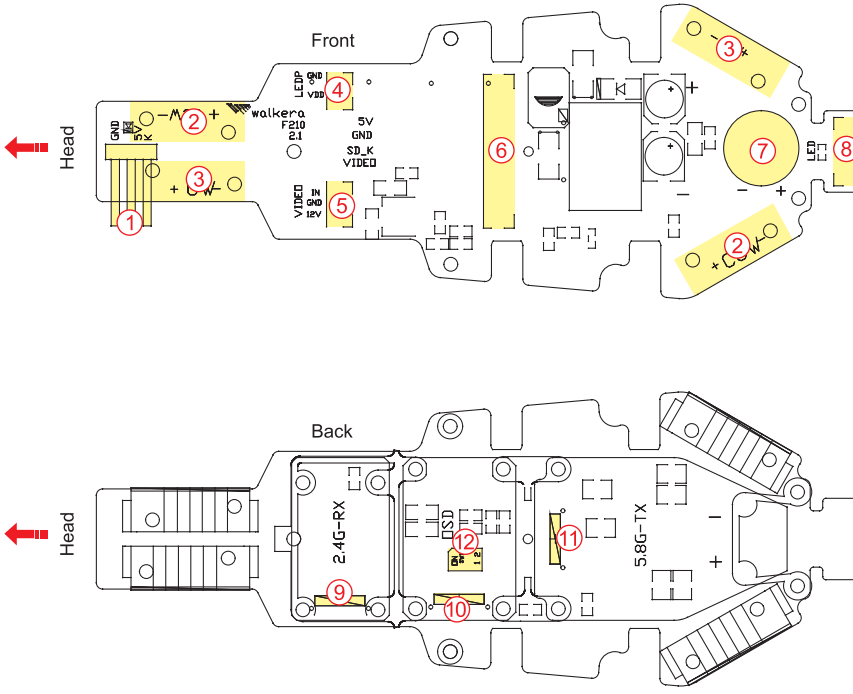
There are 8 channels avilable, chose the best channel based on the image quality on your screen.
Select the channel by adjusting the dip-switches on the video-transmitter according to the diagram.

Channel	1	2	3	4	5	6	7	8
Frequency	5866MHz	5847MHz	5828MHz	5809MHz	5790MHz	5771MHz	5752MHz	5733MHz
Code position (on/off)								

Attention:

- Only 2, 4, 6, 8 channels are available for the TX5825(FCC) transmitter.
- Video transmitter channel must match the reciever channel.

10.5 Introduction for power board

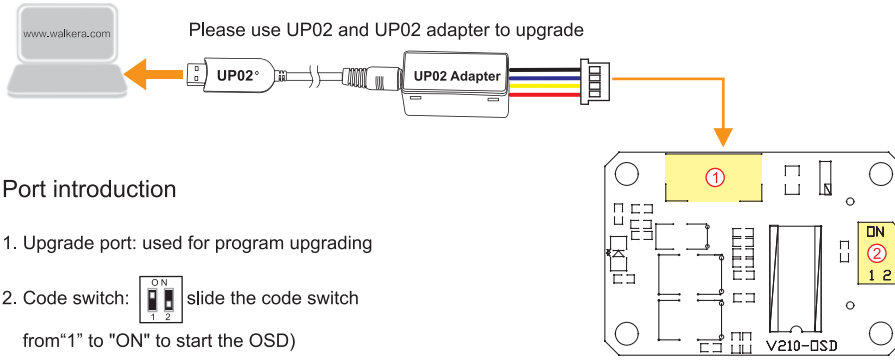


1. 5V power output
2. Brushless ECS connect position(CCW)
3. Brushless ECS connect position(CW)
4. Lighting Lamp connect port
5. Camera connect Port: (3 pins/12V)
6. Main controller Flexible flat cable connect port
7. Buzzer: a kind of alarm device which will alarm automatically when the signal between the aircraft and remote controller lost suddenly or battery voltage lower than 14.0V.
8. Rear LED light connect port
9. Connection port for receiver or external receiver converter
10. OSD connect port
11. Transmitter connect port
12. Video switch:
    Without OSD, Please turn the switch from “1” to "ON" position  to start the video.
    With OSD, Please turn the switch to "1" position  to shut off the video.

10.6 Introduction for F210 OSD

Upgrade

Please go to the official Walkera website for update details, use the UP02 cable and connector.

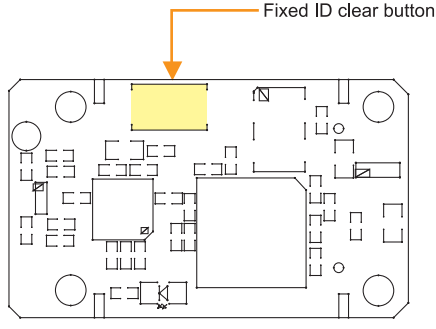


Port introduction

1. Upgrade port: used for program upgrading

2. Code switch: slide the code switch from“1” to "ON" to start the OSD)

10.7 Introduction for DEVO-RX713 receiver



Fixed ID Code - clearing method

If you want to clear the fixed-ID, after having set a fixed-ID from the remote controller,
Press the CLEAN button and power the F210 3D Edition, when successful,
the receivers RED LED will blink slowly to indicate the fixed-ID have been cleaned.
Make sure you set the Remote Controllers fixed-ID setting to OFF.
(to set a fixed-ID, please refer to the remote controller manual)

10.8 Introduction for FCS-F210(F3D) Main Flight Controller

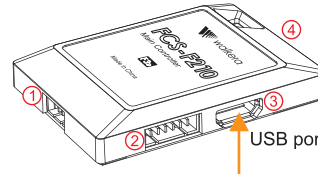
Flexible flat cable connection

The metal surface of flexible flat cable plug should be inserted upward to main controller port properly.

The metal surface of flexible flat cable plug should be inserted downward to power board port properly.

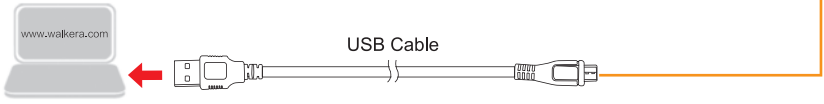
Port introducton

1. 4 pins port: Not used
2. 6 pins port: Not used
3. USB port: used for upgrading
4. Connection port: used to connect flexible flat cable

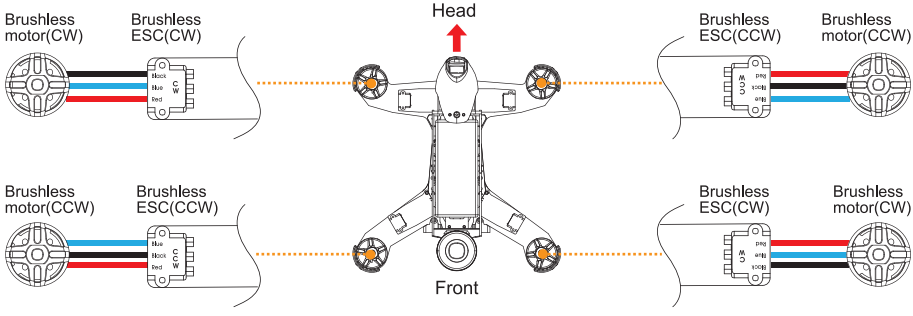


Upgrading

Please upgrade online via Walkera official website



10.9 Brushless ESC and Brushless Motor connection diagram



11.0 Instructions for GA009 balance charger

General specifications of the GA009 automatic balance charger

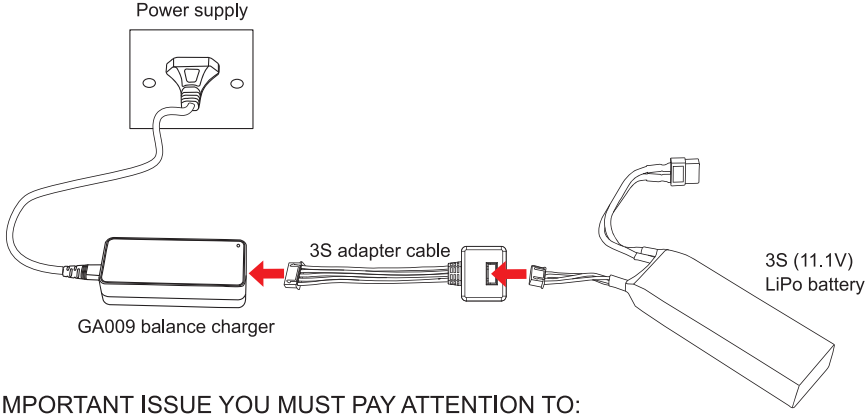
Input voltage	Output current	Output Power	Dimension
100-240V 50/60HZ	3.3A	60W	137 x 57 x 32mm

Instructions for the GA009 balance charger

(1) GA009 utilizes microcomputer chips to monitor and control over the whole charging process in a balanced way with LED indicator to display the charging status at real time.

(2) GA009 can be used to charge 3S & 4S (11.1V &14.8V) Li-ion and Li-Polymer battery packs.

3S battery to GA009 charger connection diagram



IIMPORTANT ISSUE YOU MUST PAY ATTENTION TO:

(1) The GA009 can ONLY be used for charging 3S and 4S batteries.
NEVER EVER attempt to charge more than ONE battery at any time, the charger may get damaged or catch fire.

(2) During charging, the GA009 should be placed in a dry and ventilated place, far away from head sources and far away from flamable or explosive substances.

(3) ALWAYS remove the battery from the aircraft before charging.
Never charge unsupervised, stay close and keep an eye on the charger for the entire duration of the process.

(4) Always allow the battery to cool down before charging, at least 10 minutes.
Overheated batteries may swell or catch fire while charging.

(5) Before connecting the battery, make sure the correctness of polarity.

(6) Avoid dropping a charging battery.

(7) DO NOT charge a dammaged battery, if the battery have cuts, swelling or bend, do NOT charge.

(8) Dispose of damaged batteries by submerging in a pot of salt-water for 30 minutes, then give to battery recycling place.

walkera

Tel: 400-9318-878

User manual is subject to change without prior notice.

Please go to Walkera official website to get the latest version.