LITE

# TIKE

## USER MANUAL

HELSEL

HELSEL

# Contents

1. precautions 04

2. Product configuration 05

3. How to use 06

1) Product part description 06
2) controller Part Description 07
3) Product Battery Charging 08
4) safe flight conditions 09
5) On and Off 10
6) Product connection (binding) and IMU calibration
7) Start 11
8) How to stop the motor
9) Change Stick Mode 12
10) Setting Elevation Maintenance Mode
11) Headless Mode Settings 13
12) Speed adjustment
13) Restoring your posture 14
14) Position LED Color Settings

4. frequently asked questions 15

5. Product specifications and information 17

# 1. precautions (Use the following carefully.)

※ Do not place your hands inside the shell before the propeller is fully stopped.

※ Do not fly towards humans and animals when operating drones.

※ Long hair can be dangerous because it gets caught by rotating propellers. Wear or tie your hat when flying.

※ When removing the mounted shell, first remove the Tykey Lite battery or remove the propeller Remove.

※ When replacing the drone battery, keep the controller safe to prevent anyone from accidentally operating it.

※ Taiki Lite is designed to be suitable for indoor flights.

- The drone may not be controlled if it is out of the control range of the signal of the controller.
- Be careful not to deviate from the view when operating.
- Outdoor flights affected by the wind are a cause of degradation. Flying indoors is recommended.

## Shock alert

**※ In altitude maintenance flight mode, a strong impact is the reason the altitude maintenance function is weakened. Repeated strong impacts can cause rapid elevation increases or uncontrollability during flight.**

- Switch to levelling mode or recalibrate the IMU.
- When charging the battery, stop using and discard the swollen battery.

※ The 'TIKE Lite' flight control board is not waterproof.

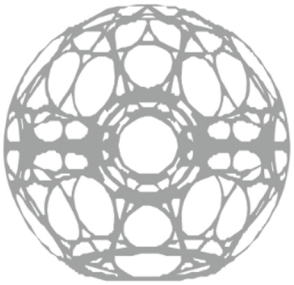
※ A serious impact can cause damage to the drone sphere structure.

※ In altitude maintenance flight mode, high-intensity shocks can cause errors in altitude maintenance function. High jumps and loss of control can occur.

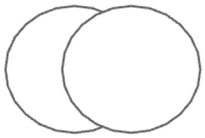
※ To fly again, switch to altitude maintenance mode or land the drone and recalibrate the IMU.

※ The 'TIKE Lite' is only available for 3S (11.1V) lithium batteries.

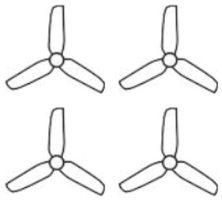
# 2. Product configuration



① TIKE Lite



② Circular badges x 2



③ Propellers x 2pack

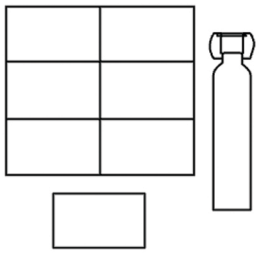
* CW,CCW x 2

④ Battery x 1

* ( 1100mAh 3S 60C )

* Cap x1

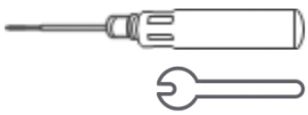
⑤ Connectors x 1



⑥ Velcro Rough x 1

Soft x 6

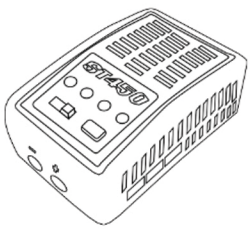
Long x 1



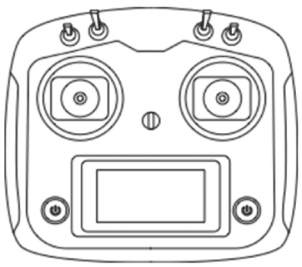
⑦ Driver x 1

Remover x1

⑧ Screw x 18



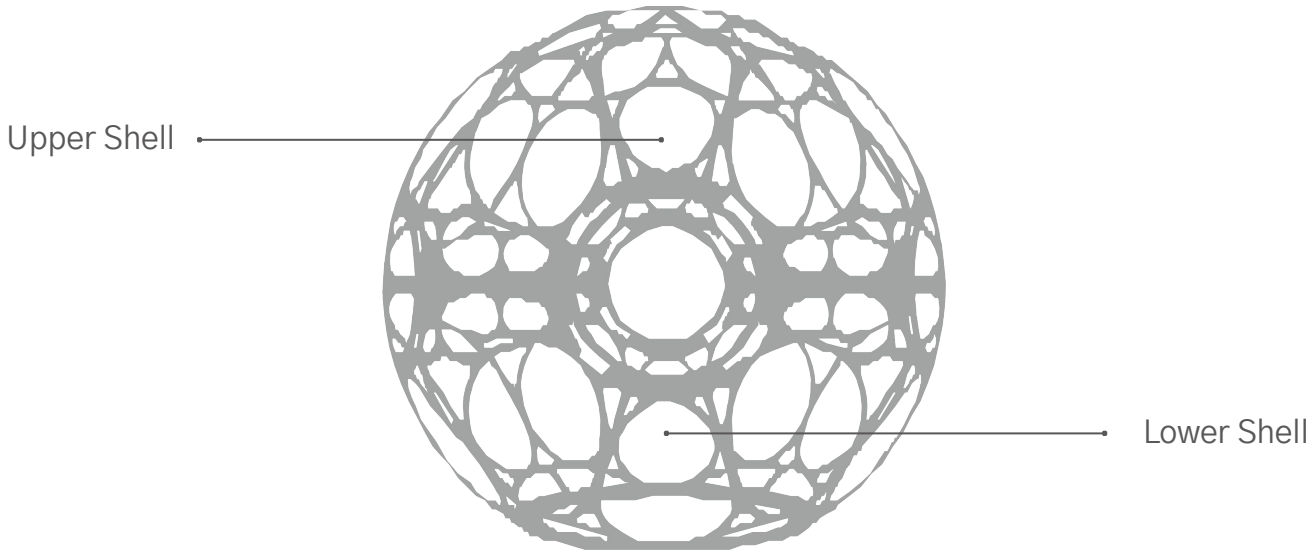
⑨ Charger x 1

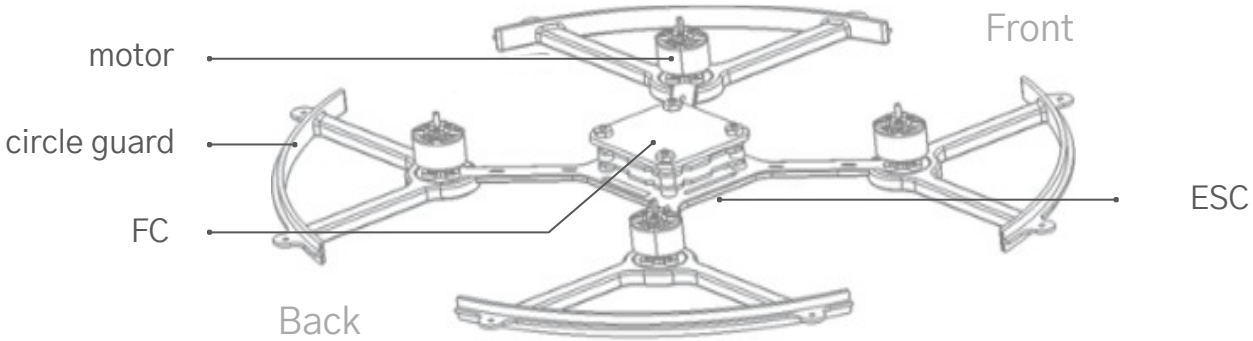


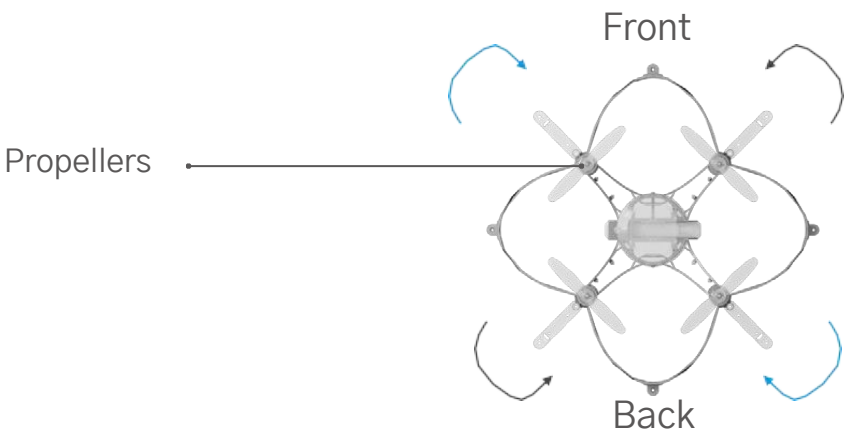
⑩ Control x 1

# 3. How to use it

## STEP.01 Product part description

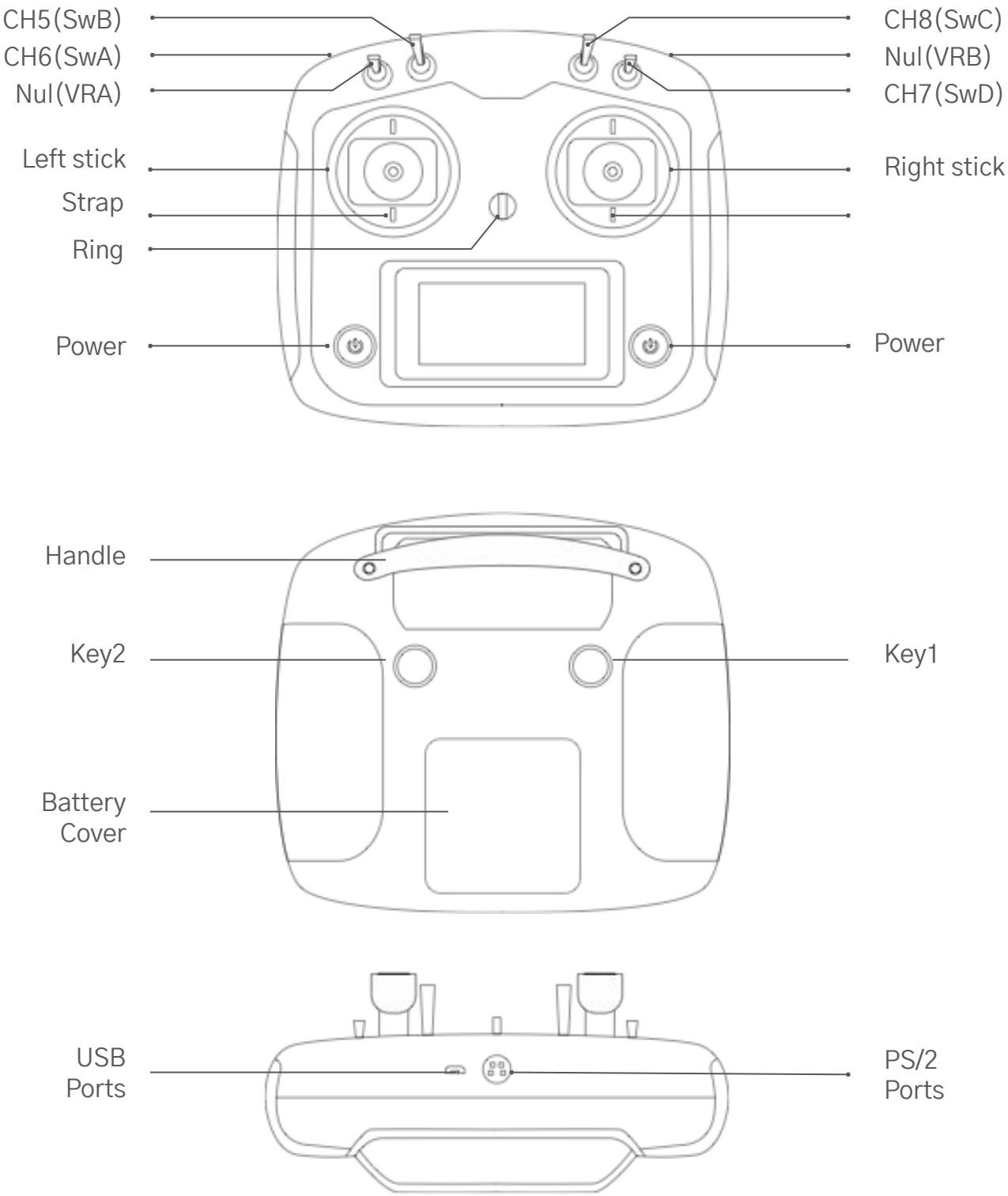


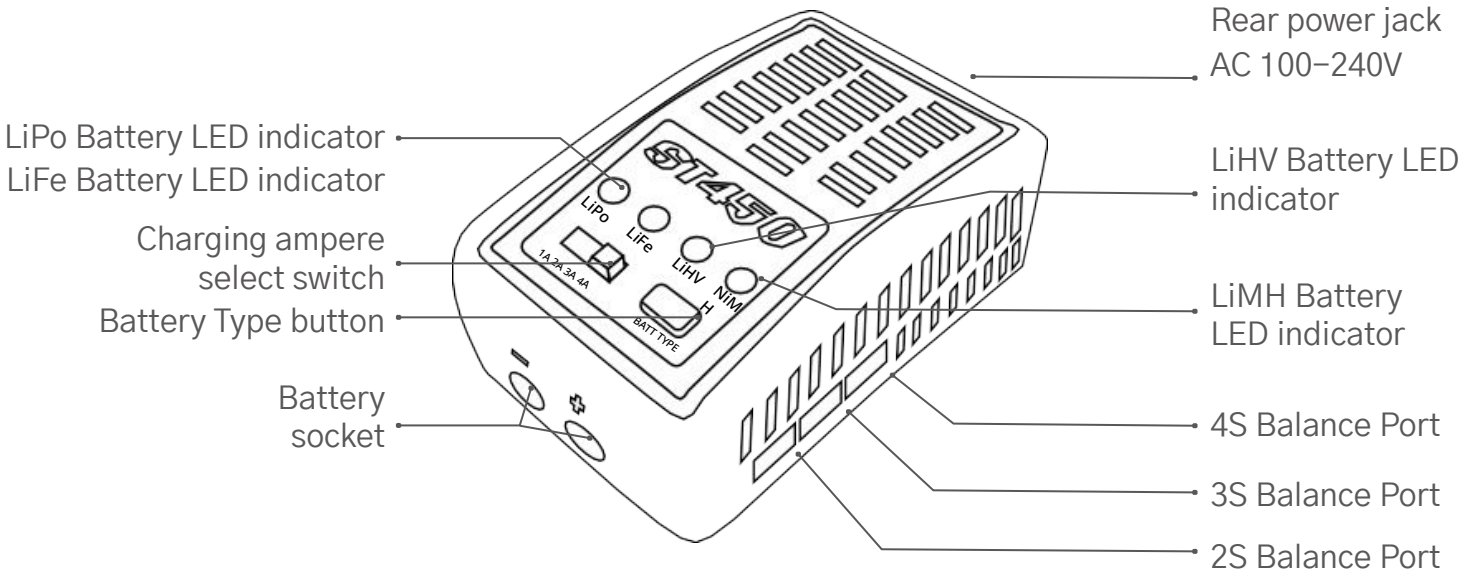




*Propeller Direction Indication

## STEP.02 controller Part Description



## STEP.03 Product Battery Charge [ST450]



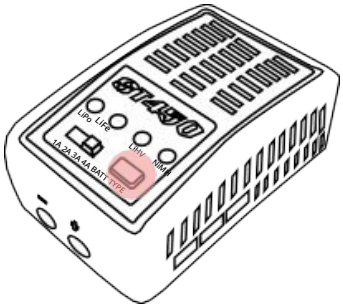

### Product Information

ST450 100-240V AC balance charger used in TIKE Lite. It can charge 2- to 4-cell LiPo and LiHV batteries in balance mode. It can be charged up to 4A with 500W of power, and users can easily select and charge 1A/2A/3A/4A amps depending on the battery's capacity.

### Instructions for Use

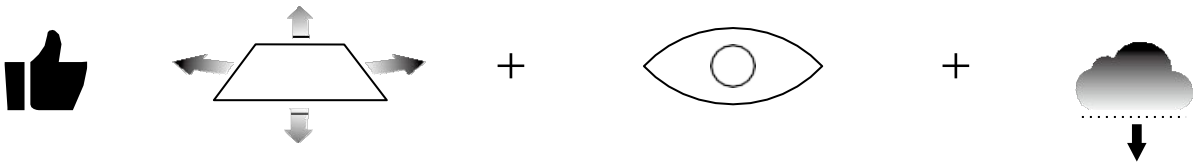
The ST450 has a built-in power supply. The AC power cord can be used to attach directly to the AC Conset (100-240V).

1. Please connect the charger to the power cord.
2. Plug the power cord into the wall outlet, where all the LEDs will flash for approximately 1 second and the battery type will alternate between green and red.
3. Press the battery type button to set it to suit the battery you want to charge.



* Select the type of battery to charge

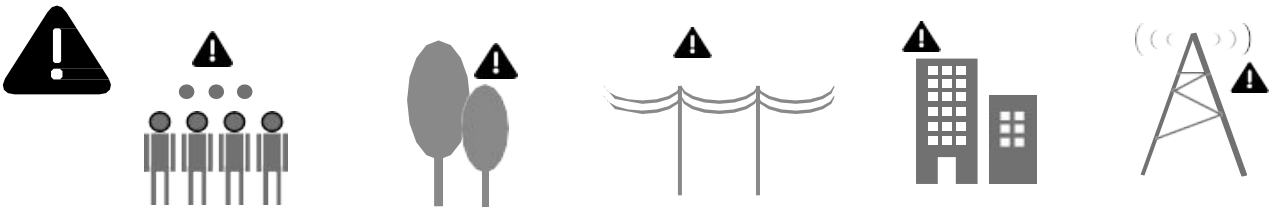
## STEP.04 safe flight conditions



a large area without obstacles

a visibly watchable flight

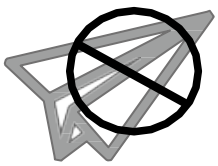
an altitude of less than 50m



Before flying, make sure there are obstacles around, make sure there are people, make sure there are high-voltage wires, and do not fly in areas with strong magnetic fields, such as trees, airports, or water. Also, please refrain from flying in areas with strong magnetic fields.

The weather is very important for an outdoor flight of a drone. Never fly outdoors if the weather is heavy in snow, rain, wind, or fog.

Never contact your fingers or other body parts when the propeller rotates.

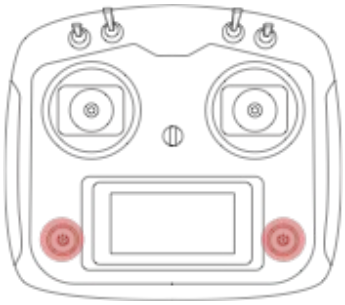


Please refrain from flying at NO FLY ZONE.

### |precautions|

When you fly outdoors, make sure to prohibit flying in unstable weather conditions under any circumstances.
This manual is the most basic user guide, and be sure to be familiar with this before flying to prevent any accidents that may occur.

## STEP.05 On and Off



### Controller ON, OFF

: You can press two buttons that corresponding to ON, ON and OFF.

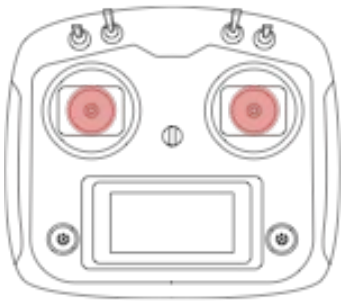
### precautions

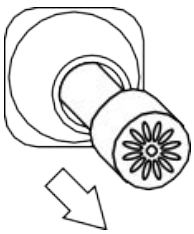
'TIKE Lite' can get out of control if the controller is switched off during flight or automatically switched off due to low battery in the controller, use it while in full force to avoid low battery in the controller.

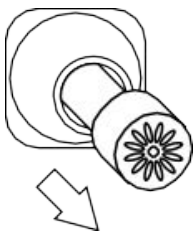
The 'TIKE Lite' position LED flashes when the TIKE Lite battery is lower than the warning voltage (low power).

At the end of the flight, disconnect the 'TIKE Lite' battery, place all toggle switches on top and turn off the controller. If the power does not turn off or on, make sure all toggle switches are on top.

## STEP.06 Product connection (binding) and IMU calibration



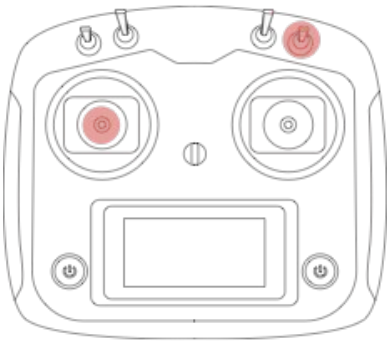




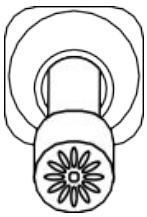
1. After turning on the controller, connect the battery to the 'TIKE Lite', secure it horizontally on the floor, and when the position LED is lit, lower the left and right sticks of the controller to the lower right corner at the same time and hold for more than 3 seconds.
2. The position LED then flashes slowly.
3. If the position LED blinks, leave the stick in place.
4. If you remain still for a few seconds, the position LED will not flash and the calibration will be completed.

* It is recommended to do calibration before each take-off.
* Do not touch the drone during calibration.

## STEP.07 Start-up



Painting1

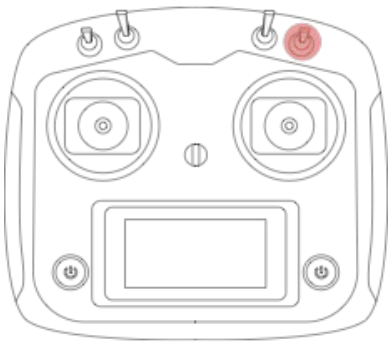


Painting2

There are two ways to start the motor.

1) Move the left manipulator stick to the bottom as shown in Figure 1 and lower the fourth toggle key [CH7(SwD)] as shown in Figure 2 to start the motor immediately.
2) Lower the 4th toggle key [CH7(SwD)] to the bottom as shown in Figure 2 and move the left manipulator stick to the bottom as shown in Figure 1 to start the motor immediately.
   (Direct takeoff from horizontal maintenance mode is not recommended.)

## STEP.08 How to stop the motor



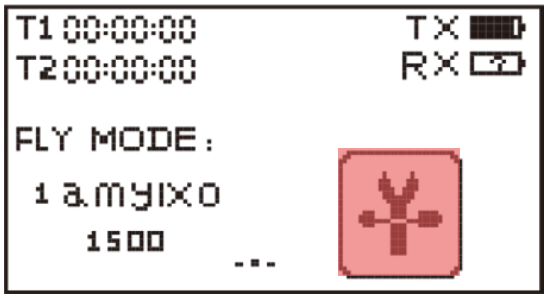
The motor can be stopped using toggle number 4 [CH7(SwD)] as shown in the figure. Stop the motor in case of a dangerous situation, as it can be stopped regardless of the circumstances.

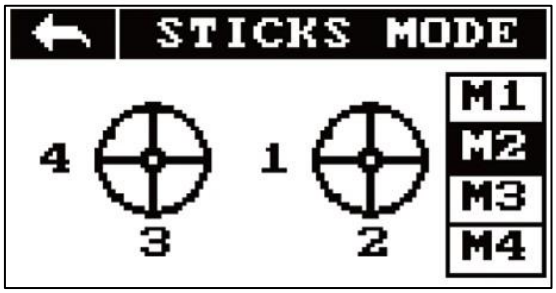
* If disconnected from the aircraft, wait about five times before slowly landing on the ground.
* After landing, wait for approximately 4 motors to stop.

## STEP.09 Change Stick Mode

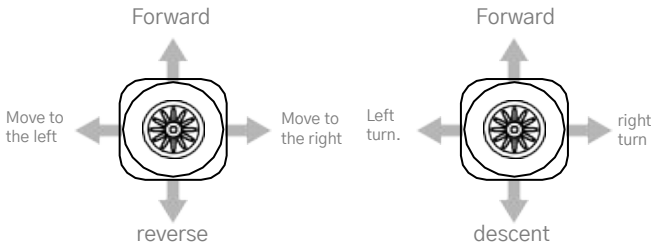
### Mode 1 and 2 How to Set Up

: Press the button on the controller screen, then press SYSTEM (SYS) and select > STICKS MODE. M1 through M4 will appear, M1 on the right is Mode 1, press M2 to change to Mode 2.

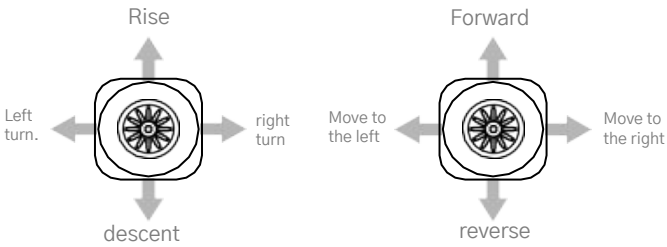


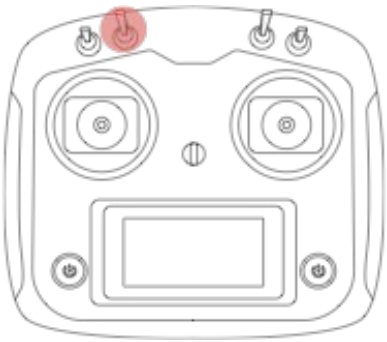

**MODE 1**




**MODE 2**




## STEP.10 Setting Elevation Maintenance Mode



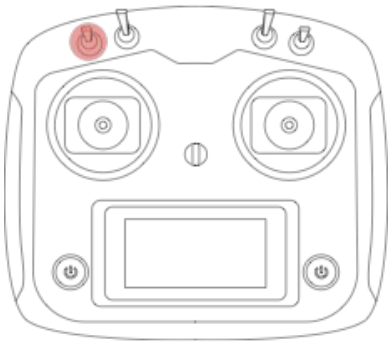
ON Elevation Maintenance Mode

ON Elevation Maintenance Mode

OFF Horizontal maintenance mode

If unnecessary, it is recommended to turn off altitude maintenance mode after takeoff.
”For football matches or races, it is recommended to fly in levelling mode.” If the sensor strongly collides in the vertical direction in levelling mode, there is a risk of abnormal operation, such as an elevation. In this case, change to levelling mode.

## STEP.11 Headless Mode Settings



* The headless mode can be turned on and off using toggle number 2 [CH6(SwA)] while the motor is turned on.

OFF

ON

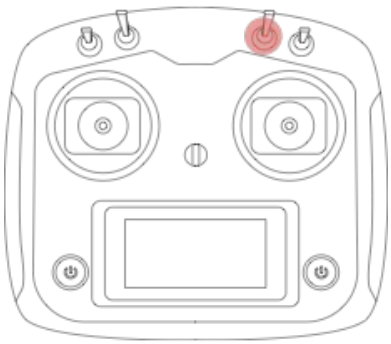
1. Position the drone so that the pilot and drone can look in the same direction.
   (Make sure that the rear LED of the drone looks at the pilot and the binding is finished, then release it.)
2. Headless mode on after turning on the motor
3. Even if the aircraft is turned in the wrong direction during flight, the drone can be operated based on the first direction set.
4. If the drone does not go in the desired direction, turn off the headless mode.

### precautions

Headless mode cannot be maintained for a long time, if not operating normally, release headless mode, land and reset to fly.

## STEP.12 Speed control

* The controller's right number 3 toggle [CH7 (SwC)] can be used to adjust the flight speed.

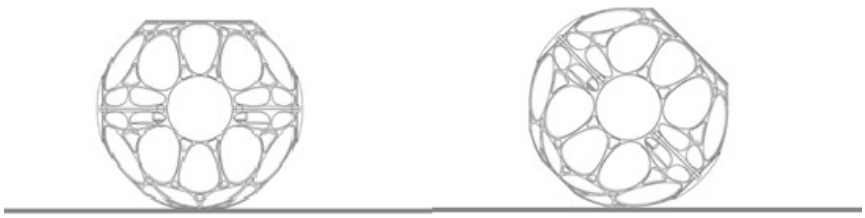


Slow

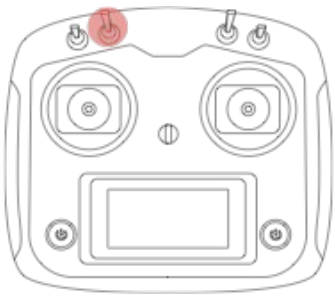
middle

Fast

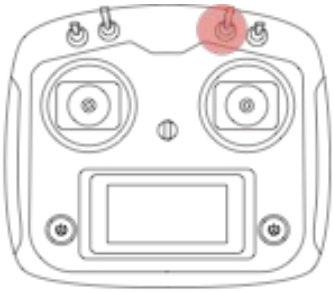
## STEP.13 Restoring your posture



When 'TIKE Lite' is flipped, it can be flipped and taken off again using the following method.

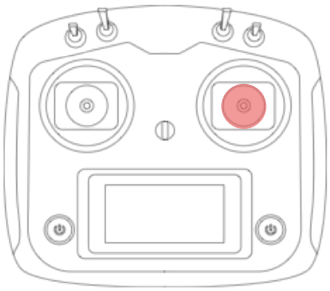


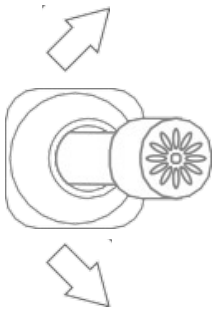
A. Turn off the fixed height mode.



B. Set the speed to three levels

C. Start-up



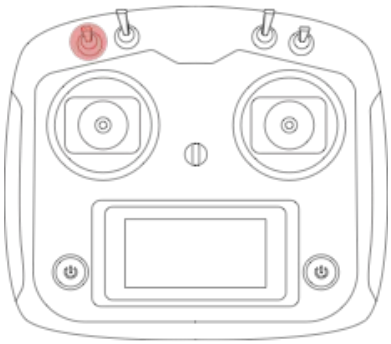


D. Attempt to roll the drone by selecting the direction with the right stick.

**precautions**

Pilot practice is required. Excessive right stick lifting can cause motor failure.

## STEP.14 Position LED Color Settings



* You can change the color of the position LED by moving [CH6(SwA)] with the motor stopped.
* The order is green > red > yellow > purple > sky blue
* It operates in headless mode when starting is on.

# 4. frequently asked questions

| | | |
|---|---|---|
| The controller will not turn on. | If the battery is not properly fitted, the controller will not be powered on. | Make sure the battery is installed correctly according to the +, − shown on the battery mount, or try again with a new battery. |
| | Faulty controller power button | Please check and apply for aftersales service. |
| | If the controller is not on | Position the power button to ON. |
| | Toggle switch is down | Please raise all toggle switches. |
| It won't start. | Check the battery connection status. | Check the connection status, and connect in the correct direction. |
| | Verify that the distance to the controller is within the limit. | Fly within a radius of 200M. In−field flight is recommended in an unblocked indoor environment. |
| | Verify that the controller is not connected (binded). | Check the controller and try to reconnect the controller by checking how to connect the controller as described in the manual. |
| Starting / unstart /IMU calibration is not possible. | Verify that you are in advanced maintenance mode. | Turn on the elevation maintenance mode. |
| | Check the condition of the controller. | Turn on the controller and re−bind. |
| The elevation is not maintained | an altimeter fault | Please register for aftersales service. |
| | Temporary operational failure due to excessive impact | Proceed with IMU calibration again. |
| | Verify that you are in advanced maintenance mode. | Turn on the elevation maintenance mode. |

| | | |
|---|---|---|
| It's soaring in altitude maintenance mode. | Verify that the propeller is damaged. | Check and replace. |
| | When TIKE is shaken and shocked too much | Power off and on and try again. |
| | Replace the motor. | Please register for aftersales service. |
| The motor does not rotate. | Replace the motor. | Please register for aftersales service. |
| The flight performance of TIKE is weird. | Loose engagement of screws | Tighten it so that it doesn't shake. |
| | Damage to the center bracket | Check and replace. |
| | Severe damage to propeller or incorrect installation | Check and replace. |
| Each switch is not working. | Bad contact condition of the switch | Please register for aftersales service. |
| TIKE doesn't go up. | Low battery | Replace battery in TIKE |
| | Low battery on the controller | Replacing the battery of the controller |
| The motor won't stop. | Pull the throttle stick all the way. | Refer to how to stop the motor. |
| | Turn off the engine in altitude maintenance mode. | Switch to advanced maintenance mode. |

# 5. Product Specifications

| | |
|---|---|
| **Size** | 220*220*220 (mm) |
| **Weight** | 179.4 g (Without battery) \| 248.6 g (With battery) |
| **Maximum take-off weight** | ≤249g |
| **Maximum flight time** | About 8 min (Hovering ECOFLUX 1100mAh Criteria) |
| **flight speed** | 3 gears adjustable |
| **Recommended flight radius** | Distance: Within 200m \| Height: Within 30m |
| **Battery** | 1100mAh 3S1P 60C (11.1V) |
| **Propellers** | T3*2.5*3 |
| **motor** | brushless motor |
| **FC** | HELSEL FC |
| **Shell material** | Polycarbonate |
| **KC Certified.** | R-R-cdr-TIKELite |

**HELSEL official website**

http://www.helsel.co.kr
http://www.helselgroup.com

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