

# ***STRIKER V3***

## **User Manual**



All rights to this product and manual are owned by HELSEL.  
No reproduction, copying, or publishing is allowed without written permission.  
If quoted, HELSEL must be credited and the content must not be misused.

This manual is available online and may be updated without notice to improve performance or user experience.



[www.helsel.co.kr](http://www.helsel.co.kr)

## Contents

1. Safety Information -----	03
1-2. Battery Safety Tips -----	04
2. In the box -----	05
3. Charger Overview -----	06
4. Remote Controller – Button Guide -----	07
4-1. Remote Controller – Basic Keymap	
5. Remote Control Modes Explained -----	08
5-1. How to Switch Controller Modes -----	09
6. Power On & Off -----	10
7. Connecting the Drone & Calibrating the Gyroscope	
8. Getting Started -----	11
9. How to Stop the Motors	
10. FAQ -----	12
11. SPEC -----	14

## **STEP.01** Safety Information

- Don't touch the propeller guard until the motors have completely stopped.
- Never fly the drone toward someone's face. Hair or skin could get caught in the spinning propellers.
- Always remove the battery or propellers when checking or maintaining the drone.
- A guardian must be present while charging the battery. Unplug the charger if you need to leave.
- Don't leave the battery in a hot place. Stop using or charging it if it's swollen.
- Follow your local rules when throwing away batteries.
- When replacing the drone battery, keep the controller somewhere safe so no one accidentally powers it on.

### Safety Information

- If the drone goes out of the controller's signal range, it may become unresponsive.
- Make sure the drone stays within your line of sight while flying.
- Outdoor flights can be affected by wind and may cause performance issues.
- For best results, fly indoors.

### Flight Warnings

- If the drone goes out of the controller's signal range, it may become unresponsive.
- Make sure the drone stays within your line of sight while flying.
- Outdoor flights can be affected by wind and may cause performance issues.
- For best results, fly indoors.

Must  
Read



Battery Safety Tips

## **STEP.01-2** Battery Safety Tips

- Always use the dedicated charger provided by HELSEL to charge the battery.
  - When discharging the battery, only use the drone's motor to do so. Over-discharging can damage the battery and is not covered by warranty. To avoid this, don't let the discharge time get too long.
  - To prevent fire, never charge the battery near flammable or explosive materials.
  - If you're storing the battery for more than 3 months, make sure to recharge it afterward to keep the voltage stable and extend its life.
- ⊘ 1. Don't take apart or reassemble the battery.
  - ⊘ 2. Never short-circuit the battery.
  - ⊘ 3. Don't charge near fire, under direct sunlight, or in extreme temperatures (below 0°C or above 45°C).
  - ⊘ 4. Keep the battery away from water – don't get it wet!
  - ⊘ 5. Never try to repair or disassemble the battery yourself.
  - ⊘ 6. Don't hammer, hit, step on, or throw the battery.
  - ⊘ 7. Stay nearby while the battery is charging.
  - ⊘ 8. Don't use the battery if it's badly damaged or misshaped.
  - ⊘ 9. Don't solder anything directly onto the battery.
  - ⊘ 10. No reverse charging or over-discharging.
  - ⊘ 11. No reverse polarity connections.
  - ⊘ 12. Don't plug the battery into random sockets or car outlets.
  - ⊘ 13. Only use it with compatible devices.
  - ⊘ 14. Never mix this battery with disposable ones.
  - ⊘ 15. Don't go over the recommended charging time.
  - ⊘ 16. Never put the battery in a microwave or pressure container.
  - ⊘ 17. Always use the official charger.
  - ⊘ 18. Use a cell balancer when charging.
  - ⊘ 19. Avoid flying near strong interference zones (power lines, train stations, signal towers, etc.).
  - ⊘ 20. If you smell something weird or notice anything unusual, stop using it immediately and take safety steps.
  - ⚠ 21. Keep out of reach of children.
  - ⚠ 22. Use the official charger and follow all charging instructions carefully.
  - ⚠ 23. Be sure to set the charger to LiHV mode. Damage or fire caused by incorrect settings isn't covered under warranty.

Battery Safety Details

<https://www.helselgroup.com/ko/battery>

Charging Guide – Read Before Charging

<https://www.helselgroup.com/ko/support-st450>

Must  
Read



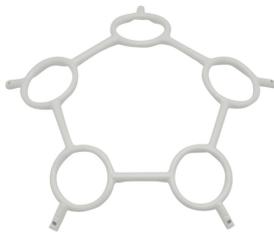
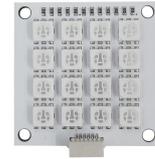
Battery Safety Tips

**STEP.02** In The Box (Based on STRIKER V3 RTF + ST10)



STRIKER V3 Semi-Assembled Kit x1

(Includes Carbon Frame Set, Flight Controller (FC), 55A ESC, Motors, Position LEDs, Rear LED)



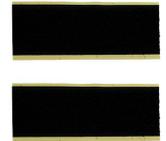
Penta Guards  
x11



Bottom Guard  
x1



51466-3 Propellers  
x4



Battery Strap (Velcro) x1  
Adhesive Velcro x1



Penta Guard  
Connectors  
x50



Carbon Rods  
x30



Full Set of Line  
LEDs  
x1



Center Fixing Clip Kit  
(with screws)  
x1



ST450 Charger  
x1



ECOFLUX  
3000mAh Battery  
x1



ST-RX8S Receivers  
x4

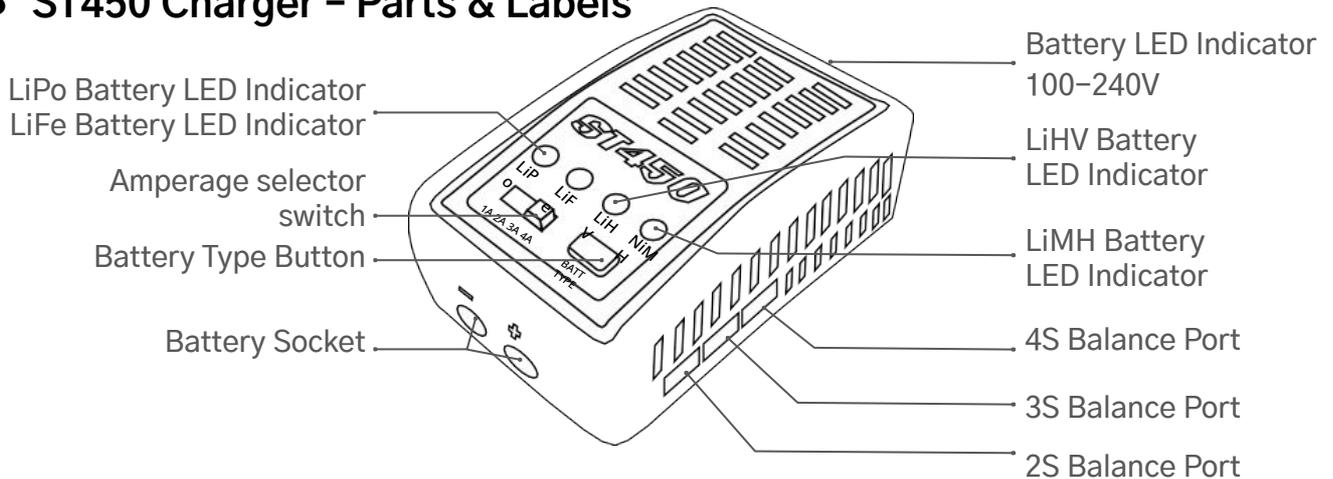


ST10 Remote  
Controller  
x1

### STEP.03 Charger Overview

The ST450 100–240V AC Balance Charger supports 2 to 4-cell LiPo and LiHV batteries in balance mode. It charges with up to 4A output power (500W max).

#### ● ST450 Charger – Parts & Labels



#### How to Charge – Example: ECOFLUX 3000mAh 4S 14.8V 120C Battery



(1) Plug the power cord into the charger.

(2) Plug the other end into a wall outlet.

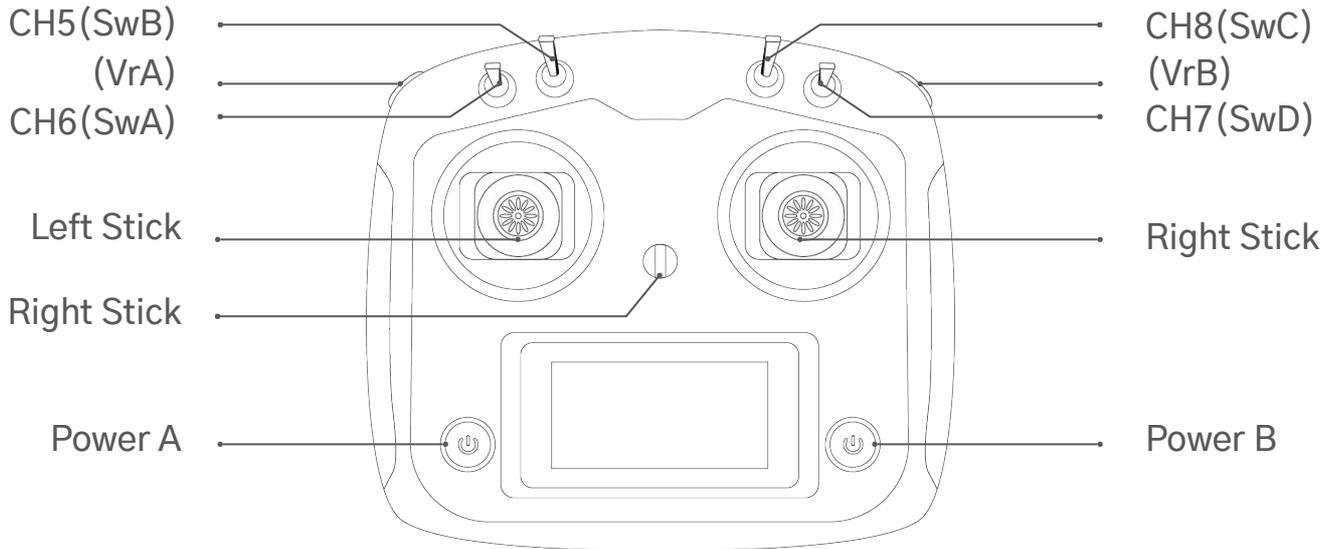
(3) When the LED flashes green and red, the charger is ready. Press the **LiPo** button, then move the slider to **3A**.

(4) Connect the battery's yellow **XT60 connector** and **balance cable** to the charger. Once connected, the LED lights will turn on and charging will begin.

**⚠ Important! Always set the correct charging mode before starting. Using the wrong mode may cause fire or explosion. Hesel is not responsible for any damage caused by incorrect settings.**

LED Indicator	Charging Status
Flashing Green & Red	Charger is ready.
Solid Red	Charging started – battery is at about 25%.
Flashing Red	Battery is 25% to 50% charged.
Solid Yellow	Battery is 50% to 70% charged.
Flashing Green	Battery is 70% to 99% charged.
Solid Green	Battery is fully charged.

**STEP.04 Remote Controller – Button Guide**



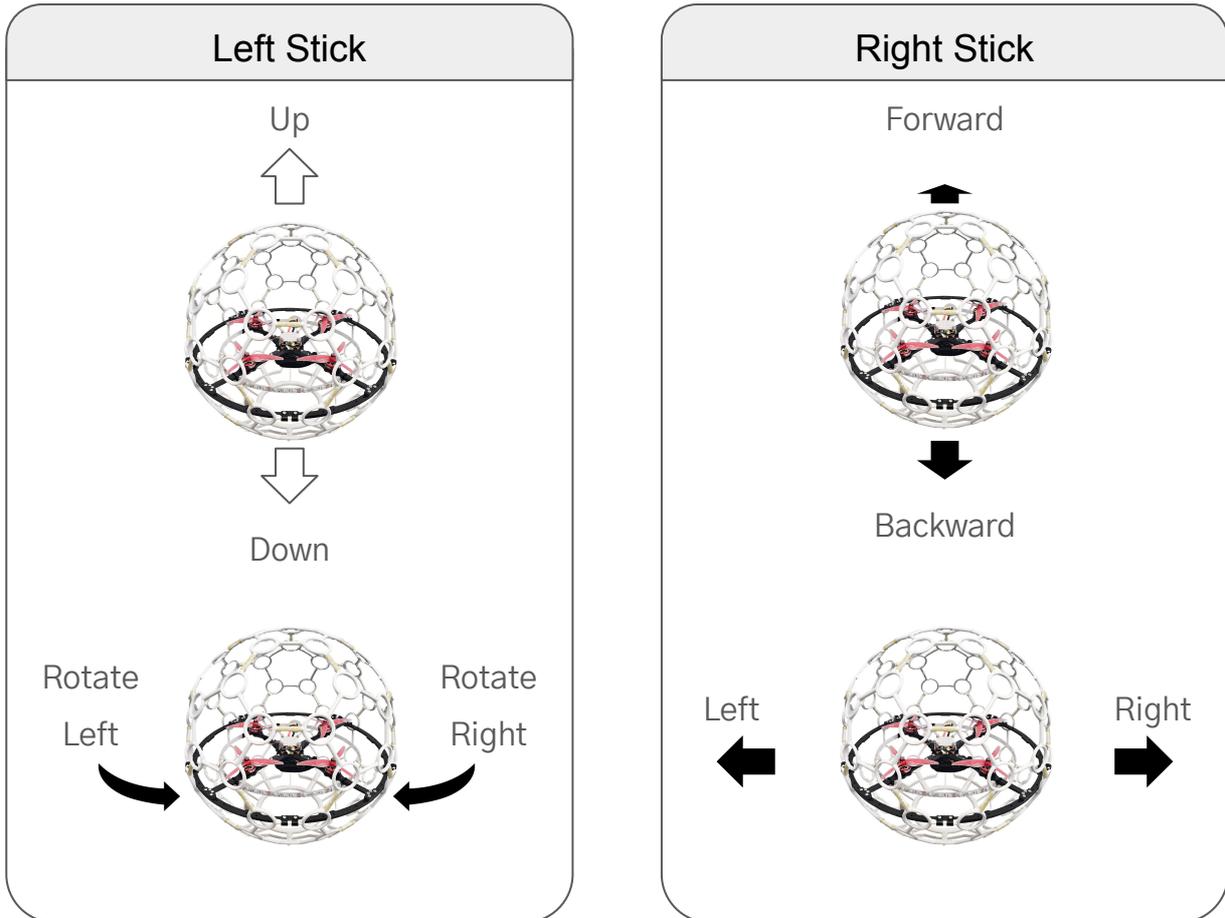
**STEP.04-1 Remote Controller – Basic Keymap**

Button	Function
Power A, B	Press both at the same time to turn the controller ON/OFF
Left Stick	Up / Down / Rotate Left & Right (Default Mode 2)
Right Stick	Move Forward / Backward / Left / Right (Default Mode 2)
CH7(SwD)	Arming (Start motors)
Other Buttons	Can be customized by user

## STEP.05 Remote Control Modes Explained

The controller is set to Mode 2 by default.

Here's how the controls work in Mode 2:



Stick Position	Direction	Function	Drone Movement
Left Stick	Up	Throttle ↑	Drone goes up
	Down	Throttle ↓	Drone goes down
	Left	Yaw	Yaw left (Rotate counterclockwise)
	Right	Yaw	Yaw right (Rotate clockwise)
Right Stick	Up	Pitch	Move forward
	Down	Pitch	Move backward
	Left	Roll	Move left
	Right	Roll	Move right

## STEP.05-1 How to Switch Controller Modes

### How to Switch Between Mode 1 and Mode 2

: Press the  button on the controller screen, then tap SYSTEM (SYS) > STICK MODE.

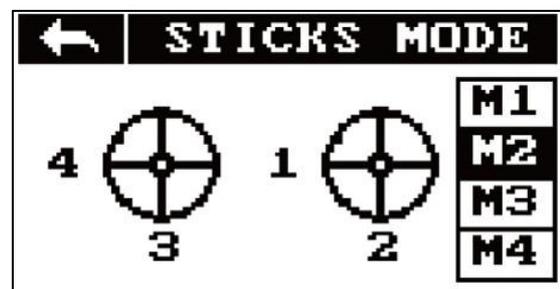
You'll see options M1 to M4.

- M1 on the right is Mode 1
- Tap M2 to switch to Mode 2

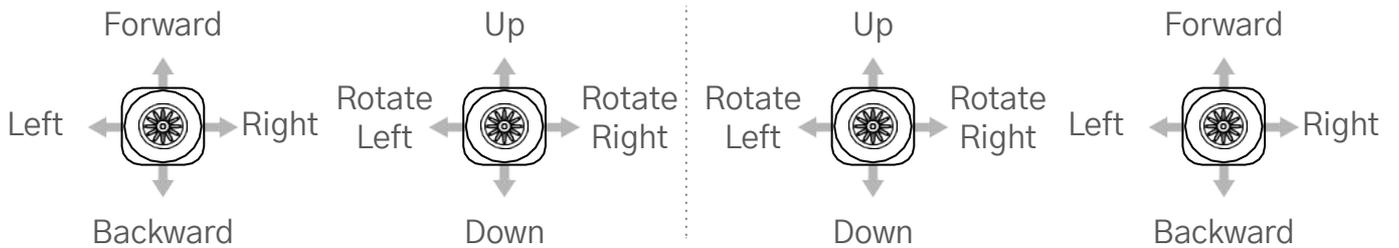
That's it.



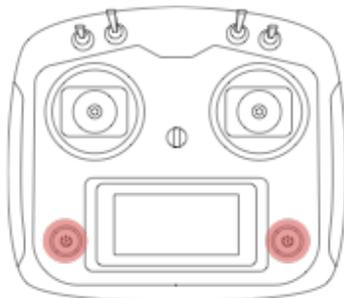
MODE 1



MODE 2



## STEP.06 Power On & Off



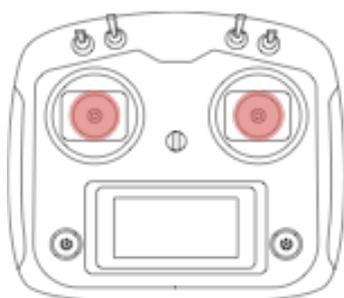
### Controller ON & OFF

: To turn the power ON or OFF, press and hold the two designated power buttons until the screen turns on.

### | ⚠ Important Safety Notes |

- If the controller is turned off during flight or shuts down due to low battery, the STRIKER V3 may become uncontrollable.
- Always make sure your controller is fully charged before flying.
- The STRIKER V3 does not have a low voltage warning, so please keep track of your flight time manually.
- After flying, disconnect the STRIKER V3's battery, then move all toggle switches to the top position before turning off the controller.
- If the power doesn't turn on or off properly, make sure all toggle switches are in the up position.

## STEP.07 Connecting the Drone & Calibrating the Gyroscope



1. After turning on the controller, connect the battery to the STRIKER V3 and place it flat on the ground. Once the status LED on the FC (Flight Controller) lights up:

- Push the right stick down
  - Push the left stick to the bottom-left
  - Hold both positions for at least 3 seconds
3. If the status LED blinks quickly 3 times, calibration has started.
4. Once it blinks, release the sticks – calibration is now complete!

- \* It's recommended to calibrate before every flight.
- \* Do not touch the drone during calibration.

## STEP.08 Getting Started

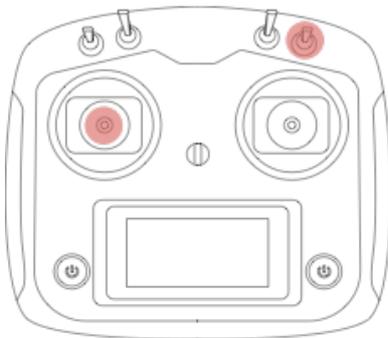


image 1



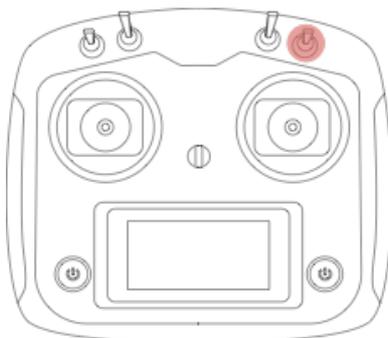
image 2



1. Move the left stick all the way down (as shown in image 1).
2. Then, push down the 4th toggle switch [CH7 (SwD)] (as shown in image 2) — the motors will start immediately.
3. Push the left stick upward to take off.

**!** Note: The STRIKER V3 does not have altitude hold. If you leave the left stick in the center, the drone will continue to climb.

## STEP.09 How to Stop the Motors



You can stop the motors anytime using the [CH7 (SwD)] toggle switch, as shown in the image.

Even during an emergency or if the drone becomes uncontrollable, flipping this switch will instantly shut down the motors.

After landing, wait until all four motors have completely stopped before approaching the drone.

**STEP.10** FAQ

The controller won't turn on.	Battery inserted incorrectly	Check the battery polarity (+, -) as shown on the case. Reinsert correctly or try a new battery.
	Power button malfunction	Check and contact customer support (A/S).
	Power button not pressed	Make sure the power button is set to ON.
	Toggle switches are down	Set all toggle switches to the up position.
The motors won't start.	Battery not properly connected	Check the connection and reconnect in the correct direction.
	Out of controller range	Stay within 200m and fly in open indoor spaces if possible.
	Not the correct paired (bound) controller	Check the controller model. Follow the pairing steps in the manual and try binding again.
Cannot arm/disarm or calibrate IMU.	Controller not ready	Turn the controller off and on again, then try rebinding.
Altitude won't hold.	Barometer failure	Contact customer support (A/S).
	Temporary error from strong impact	Recalibrate the IMU.

Sudden takeoff in altitude hold mode	Damaged propeller	Check and replace if needed.
	Heavy shaking or impact	Turn off the power, then turn it back on and try again.
	Motor needs replacement	Contact customer support (A/S).
Motor won't spin	Motor malfunction	Contact customer support (A/S).
Strange flight behavior (unstable hovering)	Loose screws	Tighten all joints securely.
	Broken center bracket	Check and replace if needed.
	Severely damaged or incorrectly installed propellers	Check and replace if needed.
Switches are not working	Poor switch contact	Contact customer support (A/S).
Drone won't lift off	Low drone battery	Replace the drone's battery.
	Low controller battery	Replace the controller's battery.
모터가 멈추지 않아요.	Motors won't stop	Pull the throttle stick all the way down. Refer to [How to Stop the Motors] for instructions.

## STEP.11 SPEC

Dimensions	400*400*400 (mm)
Weight	≤1020g(including battery)
Max Flight Time	Approx. 6분 minutes (Hovering, with ECOFLUX 3000mAh battery)
FC	V3 F435 FC
ESC	STRIKER V3 55A ESC
Battery	ECOFLUX 3000mAh 4S 14.8V 120C 리튬폴리머 배터리Li-Po battery
Propeller	Hurricane 51466-3 MCK V2
Motor	2306.5-2550KV Brushless Motor
KC Certification	R-R-cdr-STV3



**HELSEL Official Website**

<https://www.skyballdrone.com/>

<http://www.helselgroup.com>

This document is an official assembly manual for STRIKER V3.

Unauthorized reproduction or modification is prohibited and may result in legal action.