



# **SUNDORI Drone User Manual**

## **"Hexa granular/control spraying [H-1]"**

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## Inspection

### Pre-flight check

Be prepared to safely check the place you want to fly and remove any obstacles or hazards.

Check for various obstacles and dangers.

Flight approval check before training in no-fly zones, restricted areas and other places.

Check areas where accidents may occur due to obstacles during flight.

Check electric pole wires, holding lines, fences, buildings, and mobile communication base stations.

Check for areas that are obstructed by buildings or obstruct your view while flying.

Check areas where communication (or GPS satellites) may be disrupted due to high-voltage lines/transmission towers, etc.

Exclude areas where serious situations like the above may occur from the training area, and ensure the safety of the unmanned multicopter instructor, trainees, and other people.

### Low voltage alarm

To prevent damage from crashes or other harmful consequences caused by low battery voltage, the SUNDORI Drone uses two levels of undervoltage protection. A low voltage warning light indicates that the battery cannot provide enough power to the aircraft, warning you to land the aircraft as soon as possible.

|   |   |   |
|---|---|---|
| <p><b>voltage warning</b><br/>(low battery)</p> | <p><b>Drone LED</b><br/>light alarm</p> | <p>When the battery is not enough, there is a primary alarm and a secondary alarm.<br/>The primary alarm is a yellow light that blinks 3 times.<br/>As for the secondary alarm, many lights such as red, yellow, and green come on, and the yellow light keeps blinking and it immediately lands on the spot. (It is out of battery.)</p> |
|---|---|---|



Appendix 1.

Pre-flight checklist

| No  | Part                     | Description  | Responses                   |                             | Abnor<br>mality |
|---|--------------------------|--|-----------------------------|-----------------------------|-----------------|
|   |                          |  | Pre-fl<br>ight              | After<br>flight             |                 |
| 1   | Remote<br>controll<br>er | ① Check the status and voltage of the remote controller switch and control stick.                            | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
| 2   | Battery                  | Check the voltage of the two main batteries (check if 25V or higher).  | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
| 3   | Wing                     | Check the fixation of 4-6 propellers, check the left and right propeller levels.                             | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Check the top, bottom, left and right clearance between propeller and motor.                                 | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Check for any cracks, warping, torque seal breakage, and paint condition.                                    | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   | Motor                    | Check for foreign substances in the motor or friction on the front body.                                     | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Check for friction by turning the propeller.   | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Check whether the motor is overloaded. (burning smell, heat, etc.)   | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   | Gear                     | Check whether there are any foreign substances on the heat sink of the transmission and whether it is fixed. | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
| Check whether the transmission is overloaded. (burning smell, heat, etc.) |                          | ok <input type="checkbox"/>  | ok <input type="checkbox"/> |                             |                 |
| 4   | Airfram<br>e             | ① Check if the main frame has any cracks or damage, or bolts are not loosened.                               | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | ② Check the fixation of the main hatch.  | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | ③ Check if the LED warning light is attached.  | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Check the receiver antenna status. (broken, fixed)   | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Check the fixing and wiring of the main hatch and cooling fan.   | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
| 5   | Inside<br>aircraft       | ① Check the status of installation, cracks, damage, or wear on the aircraft                                  | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | FC fixation check.   | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
|   |                          | Mainframe fixation check.  | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |
| 6   | Landin<br>g gear         | Check for airframe installation status, cracks, damage, and wear.  | ok <input type="checkbox"/> | ok <input type="checkbox"/> |                 |



Precautions before take-off

| NO | Description   | Check                       | Notes |
|----|---|-----------------------------|-------|
| 1  | Have you received flight approval (local aviation authority) for the current flight area? | ok <input type="checkbox"/> |       |
| 2  | Do you have a license?  | ok <input type="checkbox"/> |       |
| 3  | Are the pilots and co-pilots in good health?  | ok <input type="checkbox"/> |       |
| 4  | Have you checked the weather conditions?  | ok <input type="checkbox"/> |       |
| 5  | Are you wearing a protective hat and remote controller strap belt?                        | ok <input type="checkbox"/> |       |
| 6  | Are you wearing safe clothing such as safety glasses (sunglasses) and a mask?             | ok <input type="checkbox"/> |       |
| 7  | Are the main battery and remote controller battery charged?                               | ok <input type="checkbox"/> |       |
| 8  | Is the location suitable for take-off now?  | ok <input type="checkbox"/> |       |
| 9  | Did you check the surrounding obstacles and secure a safe distance (15m)?                 | ok <input type="checkbox"/> |       |

LED light status indicator

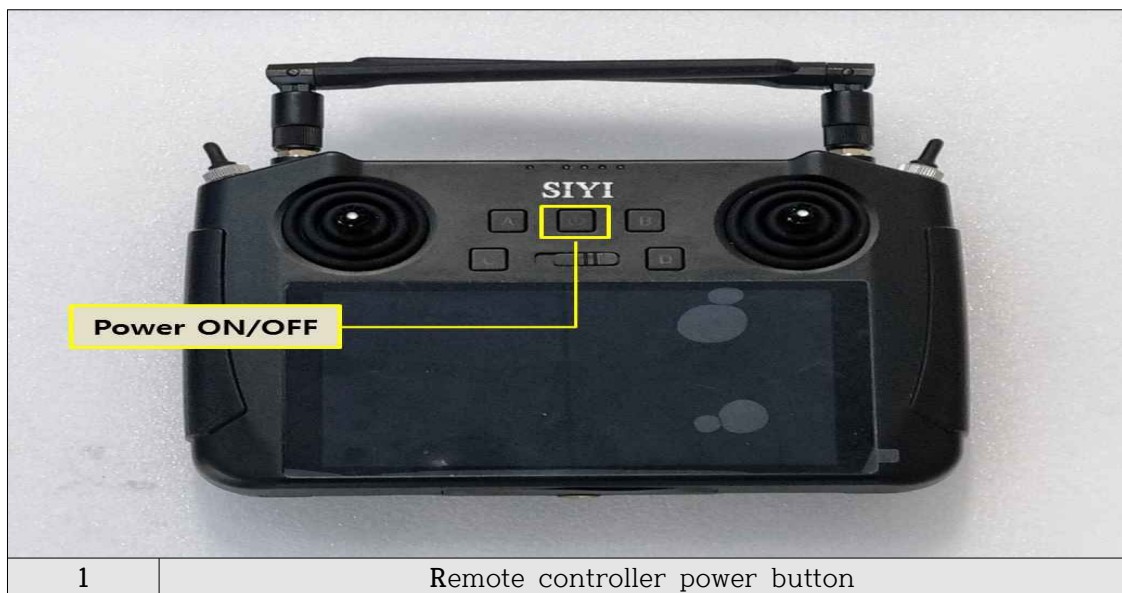
|  |  |
|--|--|
|  | GPS status signal  |
|  | Primary low voltage                                      |
|  | Secondary low voltage<br>(automatic landing at the spot) |
|  | A/P (A-B automatic control)<br>status signal             |
|  | A-point status signal during<br>A-B automatic control    |
|  | B-point status signal during<br>A-B automatic control    |
|  | Error state  |

# Hexa Granular/Control spraying Drone User Manual\_how to operate

## I .Preparation before takeoff

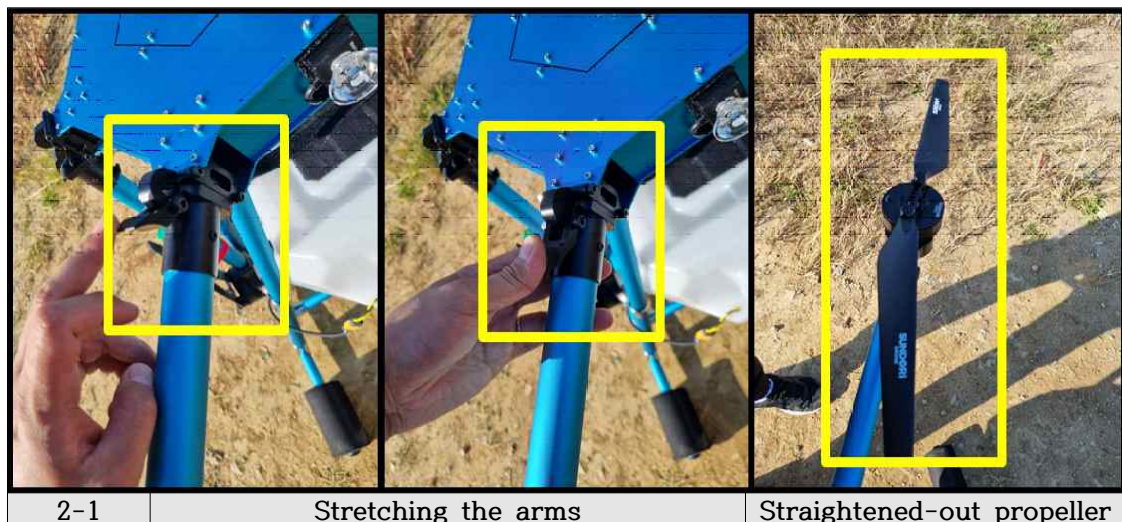
### 1. Remote Controller Power ON

Briefly press the power button short once and immediately press it again for a longer time to turn on the controller.



### 2. Drone preparation 1

After unfolding the six arms of the drone, take off the velcro on each propeller and straighten the propeller.





### Drone preparation 2

The picture(2-2) below is the unfolded view. The six arms of drone are straightened, the velcro is taken off, and the propeller is straightened out.



2-2

Drone preparation 1

### 3. Drone Preparation 3

Straighten the nozzle spray pipe.



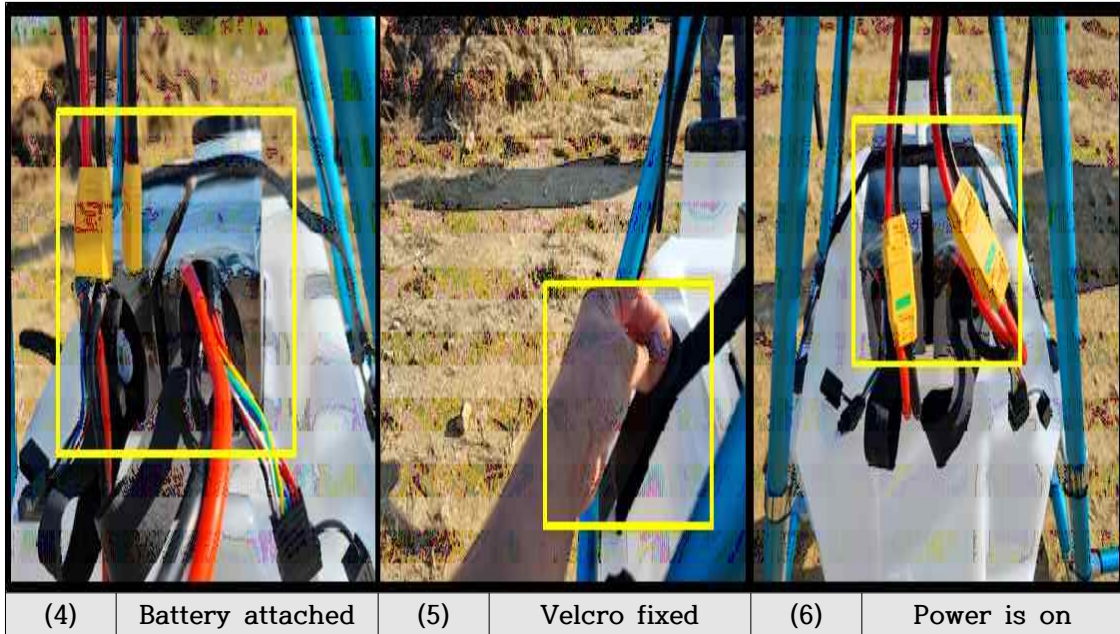
(3)

Straighten the nozzle spray pipe.



#### 4. LED lights

When the battery is connected to the drone, various lights flash quickly in red, yellow, orange, white, and green. If the GPS signal is detected, then a green light on, that indicates the normal light. (Preparations for takeoff are completed.)



#### 5. Spraying preparation





### 6. Start-up and take-off

If you operate the stick as shown below (picture 6), the drone starts up immediately.

After confirming that the engine starts, release the stick lightly.

Raise the left stick throttle to rise (in mode 2).

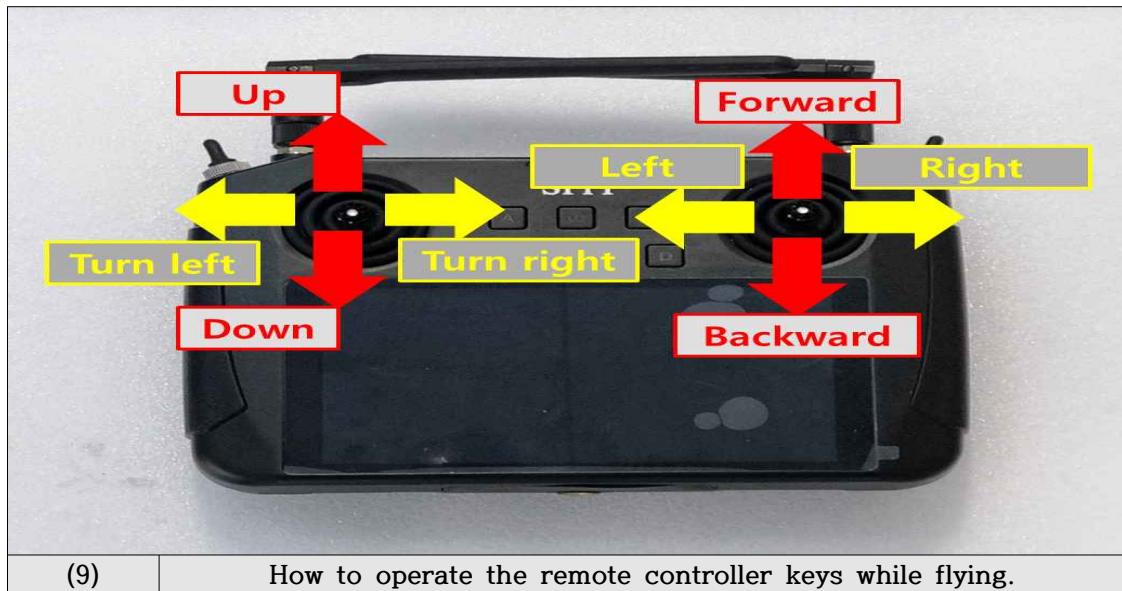
Gently check the throttle (up, down), rudder (turning left and right), aileron (left and right), and elevator (forward, reverse).



## II. How to operate a controller.

### 1. Controller key.

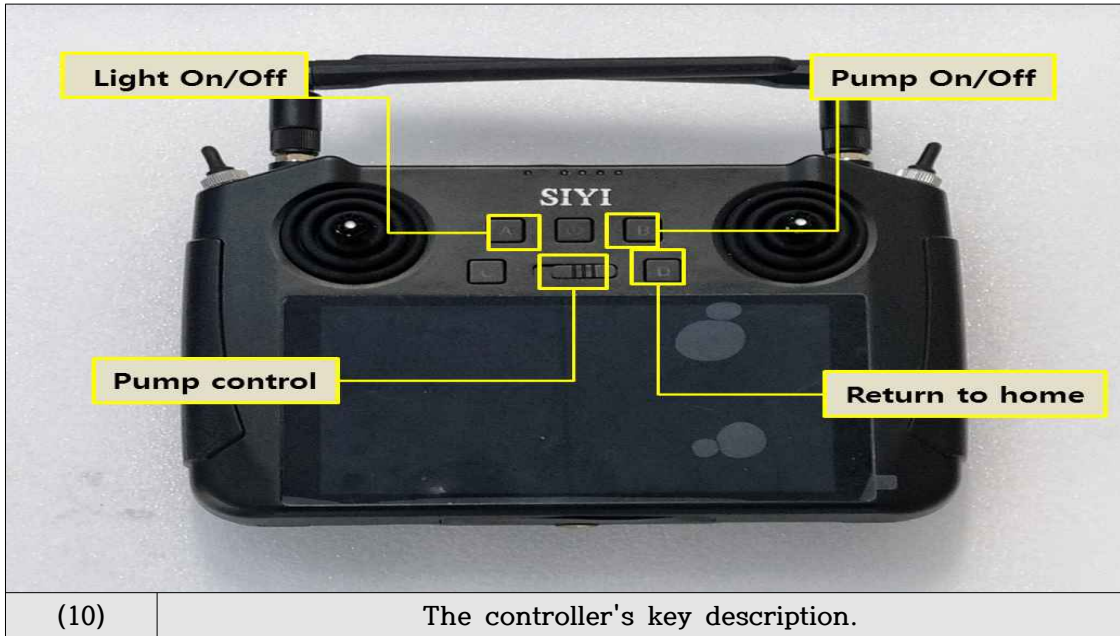
- Throttle (up, down), rudder (turning left and right), aileron (left and right), elevator (forward, backward)



If there is no problem, please follow the safe flight rules.

**\*\* If there are any abnormalities, you must set the upper left stick [F-A-P] to A and must return manually.**

2. Controller Buttons



- Button A on the remote controller is the front search light ON/OFF function.
- Button B on the remote controller is the water pump ON/OFF function.
- The center space bar [left center right] on the remote controller controls the amount of water pump.
  - (Left: Pump off/ Center: Pump injection stage 1/ Right: Pump injection stage 2)
- Button C on the remote controller has no function.
- Button D on the remote controller is an automatic return function (return to home) .
  - When the drone is within 10m from the first take-off point, the drone automatically lands at the location and turns off.
  - When the drone is more than 10m from the first take-off point, it rises 15m in altitude and then returns to the first point and turns off.

### III. Automatic spray flight

#### 1. A-B point Flight



#### How to start Automatic spray

- While in flight, go to the place where you want to take point A, stop there, then lower the short stick in the upper right corner to A among OFF, B, or A. At this time, the yellow light on the drone is fixed.
- Go to the place where you want to take the point B, and raise the stick that you lowered to A to B by one space. At this time, the green light on the drone is fixed.
- Lower the left stick of the remote controller to P among F, A, and P.
- In the direction you want to go, gently push the stick either left or right in that direction.

Automatic spraying of A-B point flight starts.

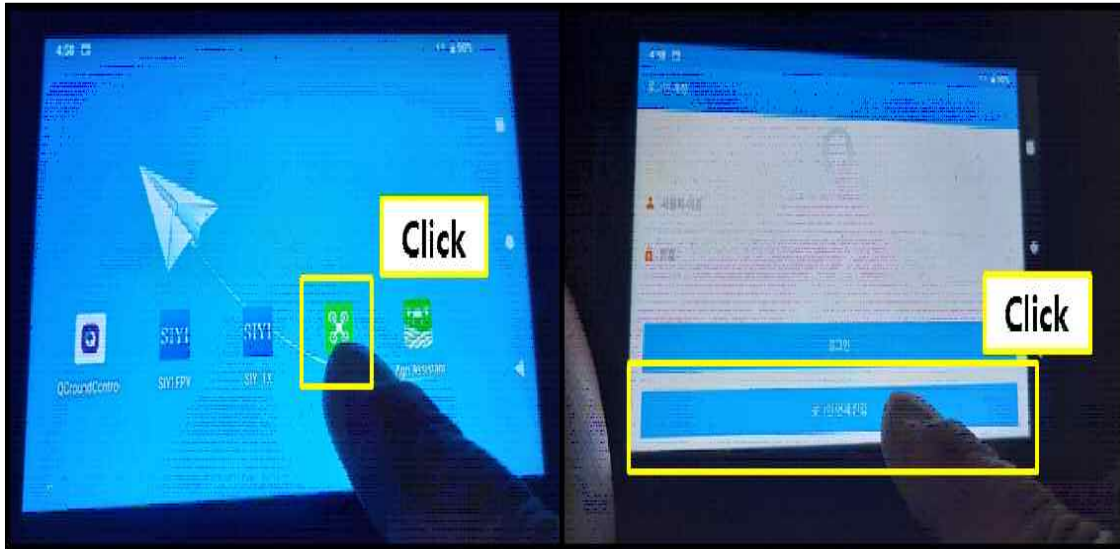
#### How to end Automatic spray

- \*\* To end automatic spray, raise the stick that went down to P to F among F, A, and P in the upper left.\*\*
- \*\* Automatic spray system remembers the time when the drone last made an end point flight.

Even if you raise the stick from P to F and end automatic spray, it starts when you lower the stick to F, the drone automatically go back to the place where it ended before. Therefore, if you want to erase the memory, you can move the [OFF, A, B] stick up and down quickly, and the drone will blink many lights such as red, yellow, and green to erase the memory.\*\*

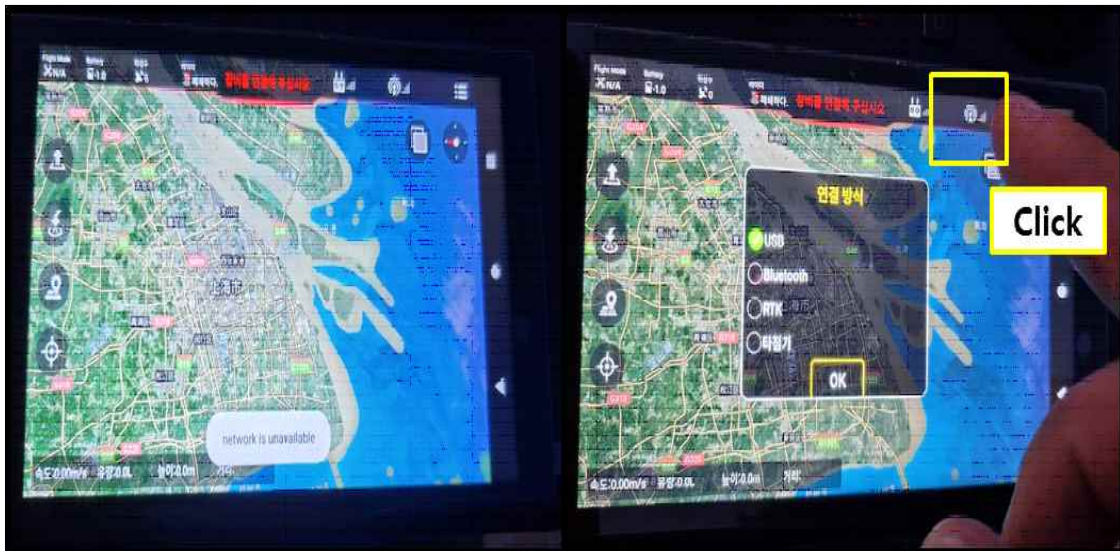


2. Multi-point routing autopilot



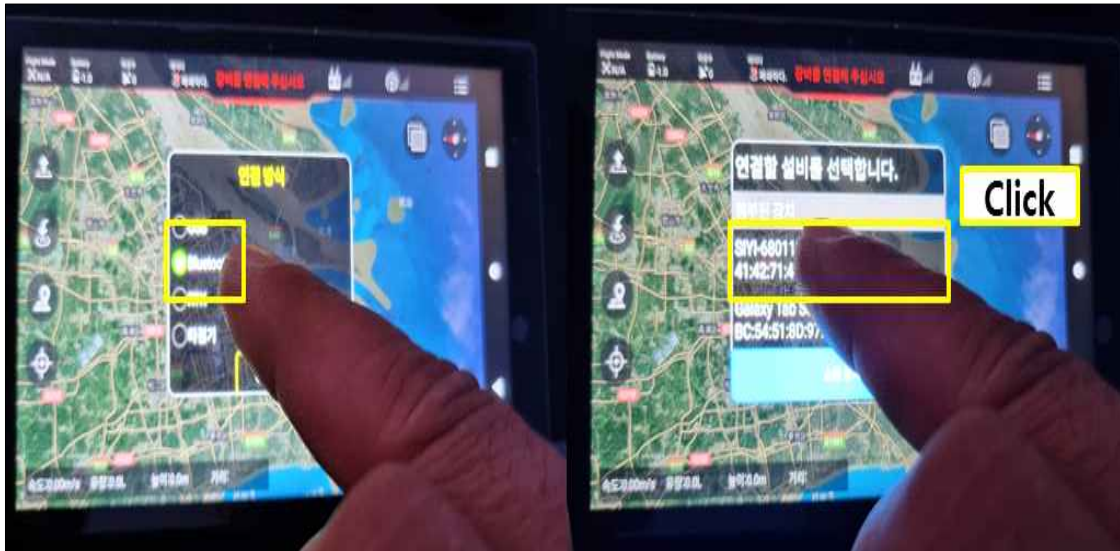
1. Click the application.

2. Click the "Non-Login" button.



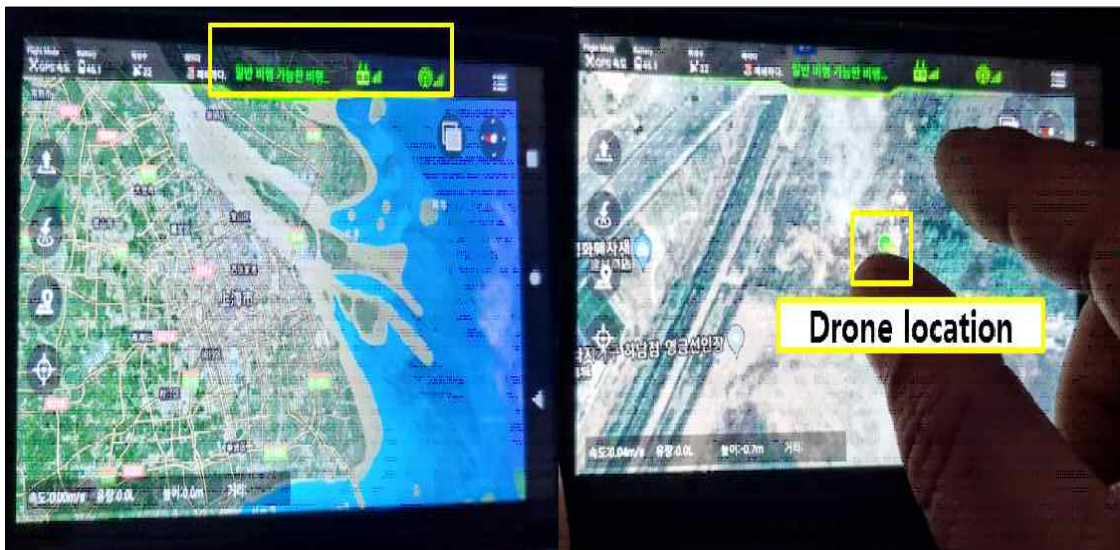
3. Screen before connection.

4. Click as above to connect the drone.



5. Check "Bluetooth" and click "OK".

6. Select the device according to the picture.



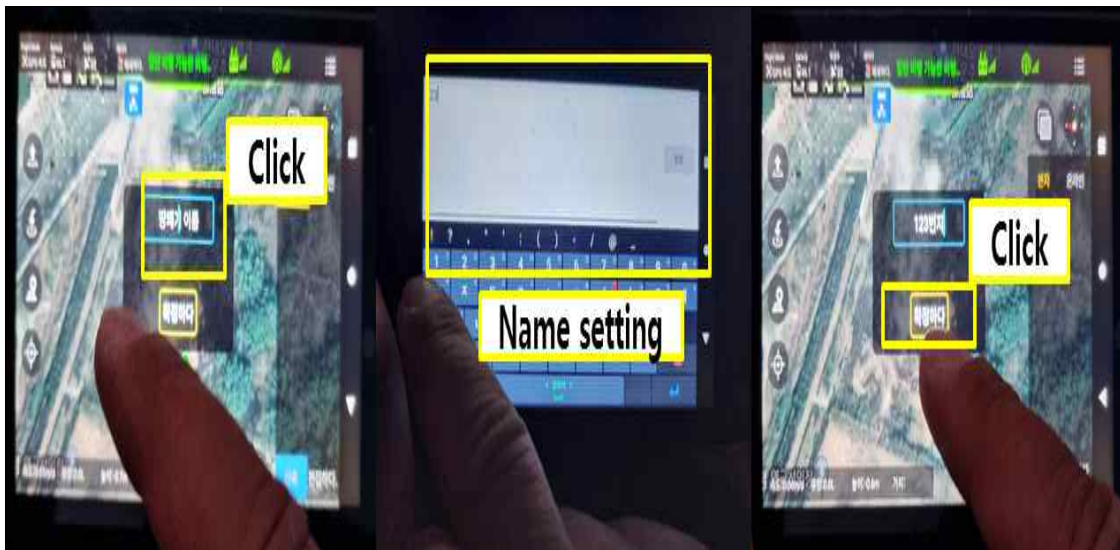
7. Connection completed. A green status indicator appears.

8. Check the current drone position on the map.





9. Click as shown to set flight path.      10. Click as shown to set flight path.



11. User name setting blank.      12. Set the title.      13. Click according to the picture.



|                                     |                                      |                                  |
|-------------------------------------|--------------------------------------|----------------------------------|
| 14. Click according to the picture. | 15. Set the flight path as you want. | 16. Completion of route setting. |
|-------------------------------------|--------------------------------------|----------------------------------|



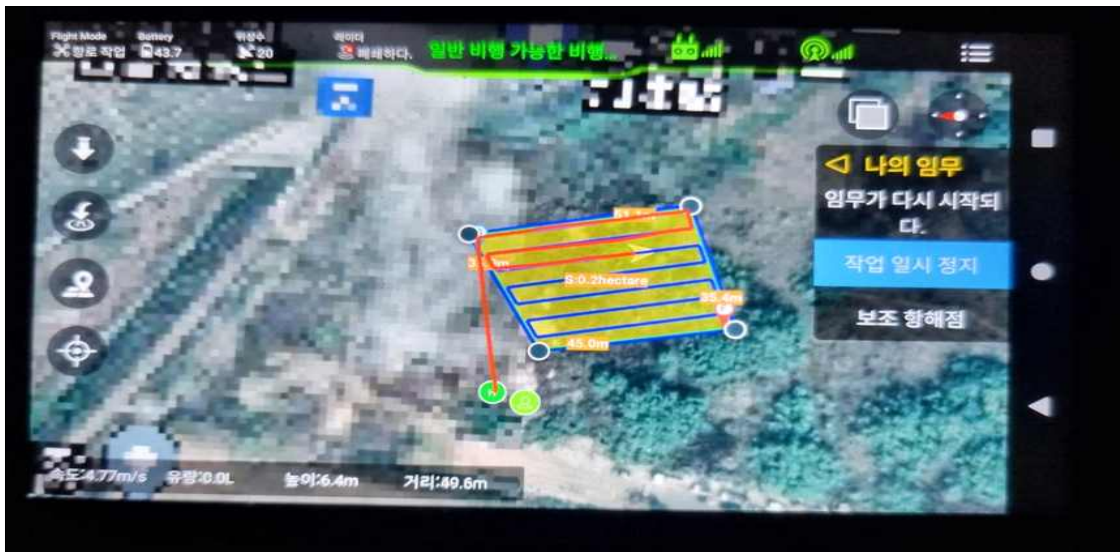
|                                     |   |
|-------------------------------------|---|
| 17. Click according to the picture. | 18. After setting the interval to 5M, click the buttons according to the numbers. |
|-------------------------------------|---|





19. Click according to the picture.

20. If you want it to fly the path, slide your finger as shown in the figure.



21. The automatic route flight screen.

3. Precautions when setting the multi-point routing auto flight



1. If the interval is not set to 5M, an error message is displayed as shown in the picture.

2. The screen changes for setting the interval.

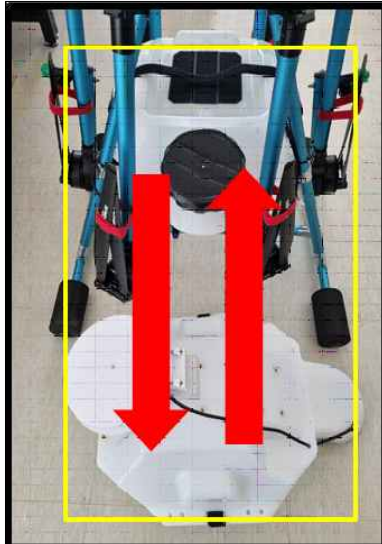
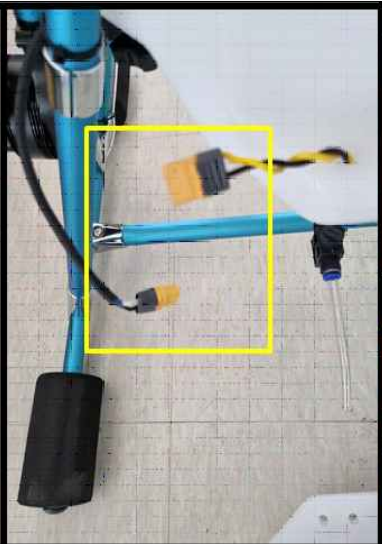
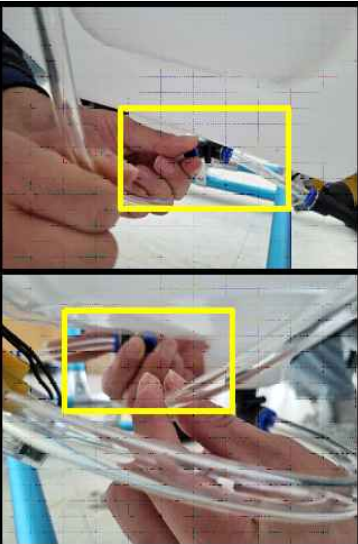


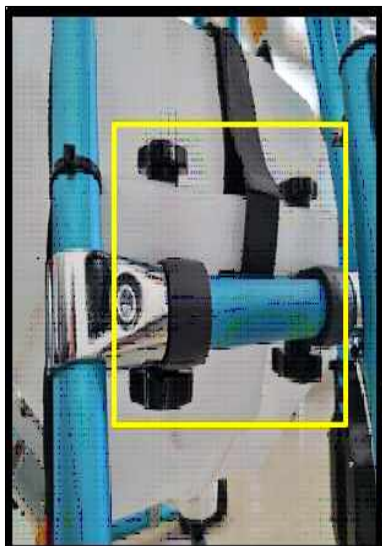
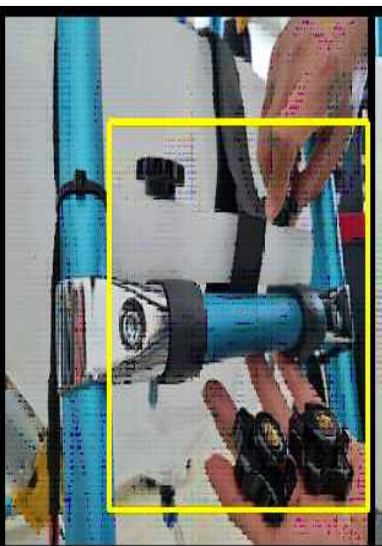
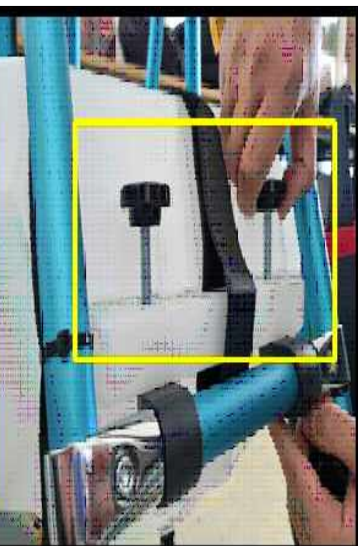
3. Click according to the picture.

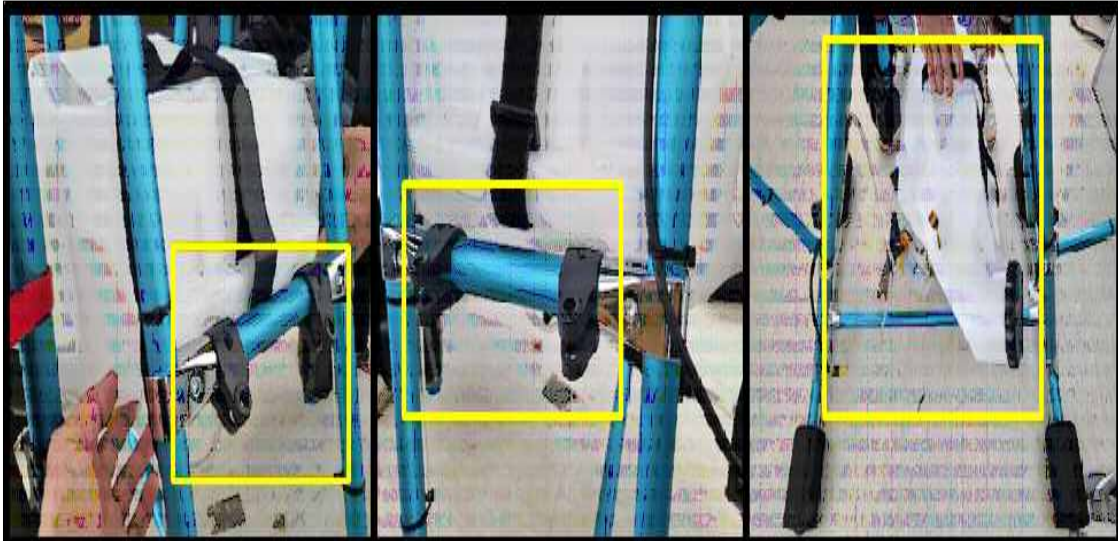
4. The number in the blank next to the word "Width" is the interval setting. Set the width you want.



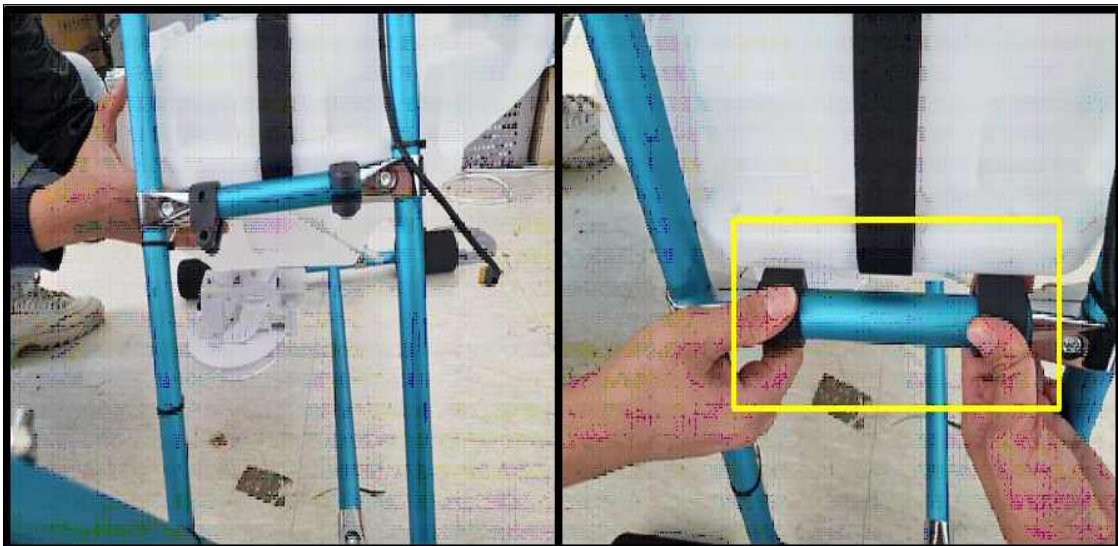
#### IV. How to exchange granules and spraying tank

|   |   |  |
|---|---|--|
|  |                    |  |
| <p>1. Change of granulation and spraying tank</p>                                 | <p>2. Unplug the yellow cable(xt90) shown in the figure to replace it with a granular material.</p> | <p>3. Remove both sides of the hose under the tank.</p>                            |

|   |   |  |
|---|---|--|
|  |  |  |
| <p>4. mounted bolts and nuts before change tank.</p>                                | <p>5. Loosen the nut as shown in the figure.</p>                                    | <p>6. Pull out the bolts. (Same for the other side)</p>                              |

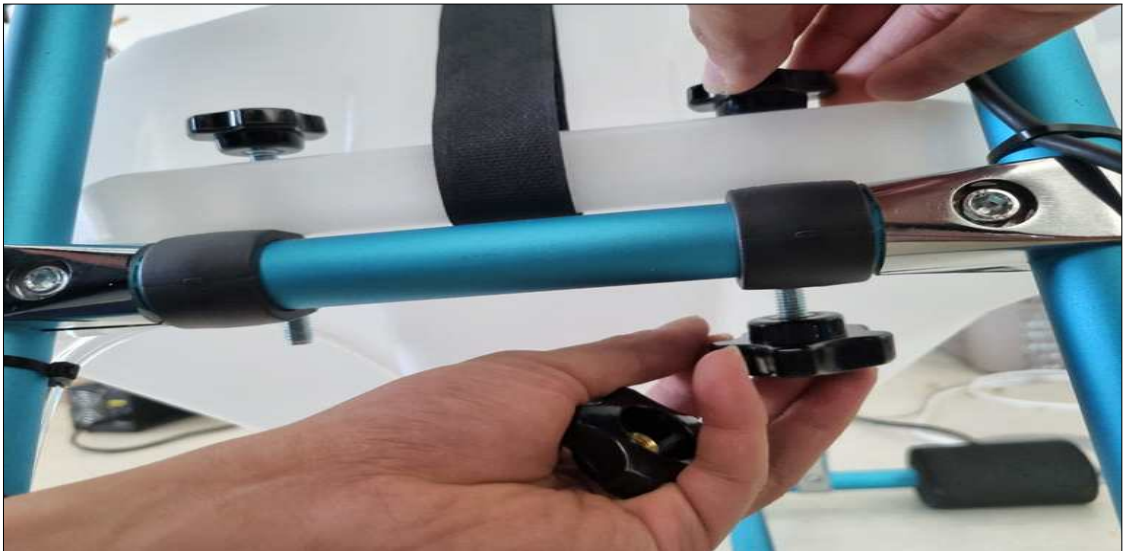


|                          |   |   |
|--------------------------|---|---|
| 7. Turn the holder back. | 8. Rotate the opposite holder back as well. | 9. move the tank by lowering and pull out |
|--------------------------|---|---|

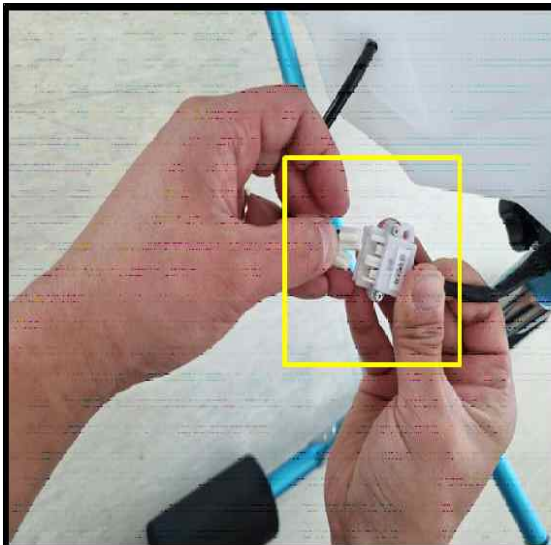


|  |  |
|--|--|
| 10. Install the granule spreader tank. | 11. Refit the holder that was turned back. |
|--|--|

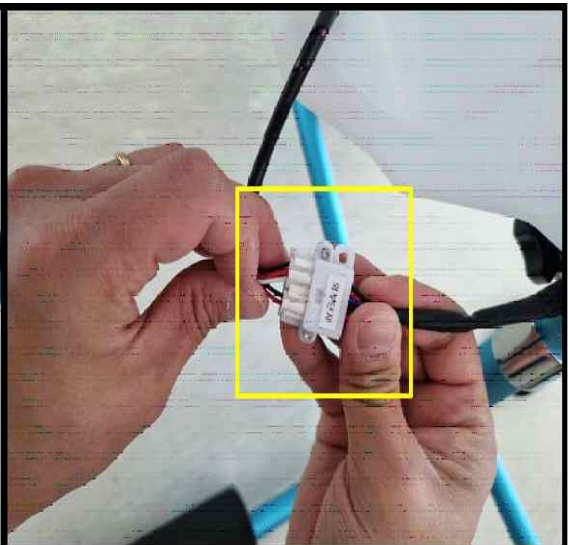




12. Tighten the removed bolts and nuts. (Same for the other side)



13. There is a granule spreader connector plug socket on the right. (2-pin, 3-pin)



14. Connect as shown in the picture.



15. (Finish) Arrange the removed hose under the 20L spray tank as shown in the picture.

## V. How to charge

### 1. How to charge the remote controller



1. Be sure to turn off the power before connecting the Type-C cable. It cannot charge while the power is on.

2. If the red light is on, it is charging. When finished, the green light turns on.

### 2. How to charge the battery



1. Turn on the power switch.

2. Install the 6-cell battery.

3. Click the "START" button to start charging.





## VI. Precautions for taking off and landing

| Caution   |
|---|
| You must take off on a level terrain.                               |
| Do not take off or land on sloped terrain.                          |
| This may cause the aircraft to roll over or interfere with control. |
| Take off and land where there is no movement of people or vehicles. |
| Select a location where dust is not generated by downwind.          |
| Make sure there are no obstacles around your path.                  |
| Take a good look at the surroundings of your landing site.          |
| Make sure the aircraft's landing gear is on the ground.             |
| Make sure nothing is blown away by the wind (downwind).             |
| Check if the location can receive GPS signals well.                 |

## VII. Troubleshooting

Problems that can be handled by users during operation of SUNDORI Drone are included. It does not include issues or causes addressed by the seller. If any of these problems occur, cancel the flight and have the aircraft inspected and repaired by the seller.

## ☺ **Inquiries for technical support**

If there is an abnormality in the aircraft status or an abnormal signal such as LED, do not fly, contact the manufacturer immediately and respond according to the instructions.

- ❑ web site : [www.sundori.net](http://www.sundori.net)
- ❑ TEL : (+82)2-408-2777  
(+82)70-7733-0568 (Technical Contact)
- ❑ Add : C-1202, (Hanam TechnoVallyU1 Center)  
947 HanamDearo, Hanam city, Gyung-gi do,  
Korea
- ❑ E-mail : [e7korea@naver.com](mailto:e7korea@naver.com)
- ❑ Blog : [www.sundoriblog.com](http://www.sundoriblog.com)
- ❑ Facebook : [www.facebook.com/sundori27/](http://www.facebook.com/sundori27/)
- ❑ Instagram : @sundori27
- ❑ kakaotalk(messenger) : sundori27





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