Gannet Pro / Pro+

User Manual V1.3.2

2021.03

Gannet

THE SKY IS THE LIMIT
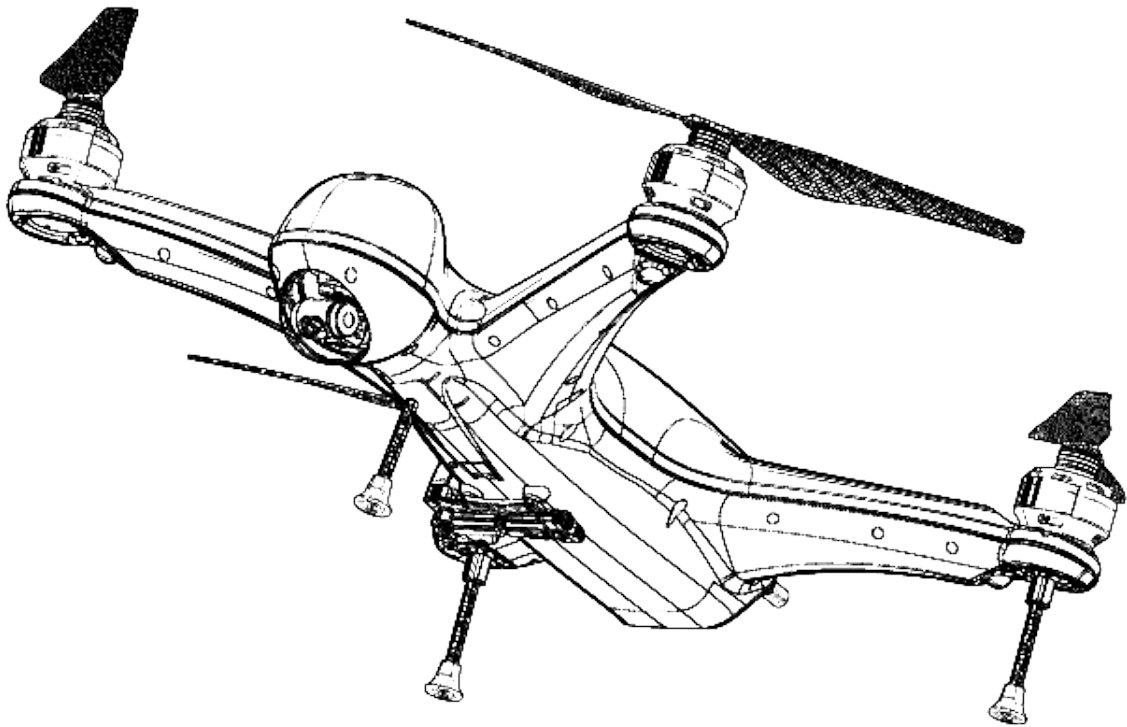
Searching for Keyword

Search for keywords such and "bait release" and "Compass Calibration" to find a topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F on Mac to search.

Printing this document

This document supports high resolution printing.

Using this manual

Legends

⚠ WARNING

Read before first flight

Read these instructions before using the Gannet Pro / Pro+.
Read the ENTIRE instruction manual. Watch the instructional videos. Become familiar with the features of the drone before operating. Failure to operate the drone correctly can result in damage to the drone, personal property and cause serious injury.

* If the drone will not hover in one place it is likely the compass calibration process will need to be redone. See instruction later in the manual.
* DO NOT pull the throttle all the way down when flying. This will make the motors idle and the drone will fall out the sky.
* If the drone suddenly starts flying erratically in GPS mode, it is recommended to switch to ALT mode (E switch to the middle position) to take full manual control over the flight of the drone.
*DO NOT use a charger higher rated than 5.5v for the remote controller.

In this guide:

Gannet Pro / Pro+ User Manual
Gannet Pro / Pro+ Quick Start Guide
Gannet Pro / Pro+ Safety and Disclaimer Guidelines
Gannet Pro / Pro+ Battery Safety Guidelines

It is strongly recommended that you watch our tutorial videos on our Official Gannet Tutorials YouTube page and read the quick-start guide before you take your first flight. All the information you need for your first flight can also be found in this manual.

LEGAL NOTICE AND DISCLAIMER

1. REGULATORY NOTICE

As the purchaser of this remotely piloted aircraft system ("drone"), your attention is drawn to the following in respect of the operation of this drone:

1.1. Operation of this drone in South Africa is subject to compliance with the requirements prescribed by the South African Civil Aviation Regulations ("the Regulations").

1.2. You should familiarise yourself with these Regulations and ensure that your operation of this drone is compliant with these regulations.

1.3. Amongst other requirements, the Regulations prescribe that for private use –

1.3.1. The drone can only be used for your personal and private purposes where there is no commercial out come, interest or gain from the use;

1.3.2. The drone can only be operated over property which you, as the operator or pilot of the drone, own or where you have the owner of the property's permission; and

1.3.3. The drone can only be used in Restricted Visual Line of Sight which means within 500 meters from here you stand while operating the drone, and not exceeding the height of the highest obstacle within 300 Meters from where you stand while operating the drone, and during which you can maintain direct unaided visual contact with the drone to manage its flight and collision avoidance;

1.4. Amongst other requirements, the Regulations prescribe for all other use, including use for the purposes of commercial gain –

1.4.1. The drone must first be approved by the South African Civil Aviation Authority for use by way of an RPA Letter of Authority (RLA);

1.4.2. The drone must be registered by the South African Civil Aviation Authority before use; and you, as the operator or pilot of the drone, must hold an RPA Pilot License.

1.5. If you are using this drone outside of South Africa, you should familiarise yourself with, and ensure that you comply with, any laws and regulations that are applicable to the operation of remotely piloted aircraft systems in your country.

1.6. While operating the drone you must observe all statutory requirements relating to liability, privacy and any other laws.

2. OPERATION OF THE DRONE

2.1. The operation of the drone is subject to you complying with our operating instructions included with the drone, particularly to you complying with the technical parameters and operation of the drone.

3. WARRANTIES

3.1. The operation of the drone is subject to you warranting, and you hereby do warrant, that the drone will not be operated, in South Africa, in contravention of the South African Civil Aviation Regulations or, in any country outside of South Africa, in contravention of any regulations applicable to the operation of the drone in the relevant country outside of South Africa.

4. LIABILITY

4.1. We, Gannet, the manufacturer and distributor of this drone, disclaim all liability from the operation of the drone resulting in –

4.2. Collision with other aircraft.

4.3. Injury to or death of any person; and

4.4. Damage to any property.

4.5. We disclaim all liability resulting from you breaking any applicable laws (in any relevant jurisdiction while or by operating the drone, including but not limited to privacy laws, laws against terrorist and related activities and aviation laws.

4.6. The limitations of liability apply to the fullest extent that they are permissible by law.

GENERAL

5.   By using the drone, you acknowledge, accept, and agree to this Legal Notice and Disclaimer completely.

5.1 Any subsequent onward resale of the drone is subject to you making the new owner or operator of the drone aware of this Legal Notice and Disclaimer, and the terms of this Legal Notice and Disclaimer will endure any changes in ownership or legal possession of the drone.
These warnings and safety precautions are very important; please read the following carefully and follow the instructions in this operating manual to ensure safety.
Propeller safety
The Gannet Pro's propeller is very hard and very sharp. The material of their composition is carbon fibre. This material makes the propeller has a high strength and improves the flight of the quad copter.

5.2 When updating the firmware of your flight controller or the aircraft's current problems, make sure the propeller is removed from the aircraft to prevent the propeller from injuring you and others.

5.3 When one of the propellers is damaged, do not fly, as the damaged propeller can cause the aircraft's manipulator to deteriorate or even be unmanageable, which can be very dangerous.

5.4 Make sure the propellers are installed in the correct order and that the propeller retaining clips and screws are in place.

Precautions

6   This quadcopter can be extremely dangerous and cause personal injury. Be careful when flying and operating it. Please follow the content of this manual and comply with relevant laws and regulations when flying.

6.1 Before each flight please ensure that all parts of the aircraft are properly installed and that the order of rotation of the four motors is in accordance with the rotation sequence in this manual. If the wrong installation or the wrong direction of motor rotation will cause the aircraft to be unable to fly, and it may cause damage to the aircraft.

6.2 We strongly recommend that you use the simulator for the first flight. lt is recommended to use the simulator to practice flying (https://www.realdronesimulator.com/downloads).
When flying, please fly in open areas and in no men areas, and understand the meaning of different flight modes.

6.3 The lithium batteries should be taken out of the aircraft after each flight. When not in use for a long time, the lithium batteries be put into storage mode and should be placed in a fireproof container to avoid accidents. When flying in GPS mode, if you find that the aircraft is flying unstable or uncontrolled. Switch the flight mode to attitude mode in time, then you can get full control of the aircraft to avoid accidents.

6.4 When you need to fly in GPS mode (Green), please make sure that the drone has GPS lock (GPS lock is green LED status fast flashing 6 times), and that you have sufficient satellites to fly (slow flashing green light with no red light flashing). When you have GPS lock, and sufficient satellite lock the quad copter records the current position as the home point, when the return mode is executed, the aircraft will automatically return to the current takeoff point and perform an automatic landing.

Warranty

Gannet provides product warranty covering parts and labor for any equipment malfunction resulting from normal use. We reserve the right to inspect the equipment for external damage or tampering. Should external damage or tampering be evident, or if the instrument has in any way been opened for inspection, reverse engineering (strictly prohibited), etc, without authorization, then the warranty will be void. If the system has been used in environments beyond that identified in the specifications or stored improperly then the warranty will be void.

We try very hard to ensure that you receive your order in pristine condition. If you do not receive the products ordered, please contact us. In the unlikely event that the product arrives damaged or faulty, please contact us immediately.

* In flight warranty will NOT be entertained without flight logs for Pro/Pro+.
   (Or video footage for Gannet lite)
** In order to have flight logs, you must be connected to the GannetGo App

Gannet in-flight warranty conditions

- Calibration must show normal and satellites connected.
- Drone must be flown in GPS mode.
- (Gannet lite and Lite V2 only) All flights must be recorded by Smartphone or Video camera and show that compass calibration has been completed and that the drone has home lock and GPS lock.
- Drones are not to be flown in winds that exceed 30km/h.
- Payloads are not to exceed maximum recommended weight.
- In flight warranty will NOT be entertained without flight logs for Pro/Pro+.
- Release tensions are to be correctly set.

Warranty Periods

1. **Airframe**   12 Months
2. **Flight Controller**   12 Months
3. **Drone Motors**   6 Months
4. **Remote Controller**   12 Months
5. **Batteries**   3 Months (< 300 Charge Cycles)
6. **Battery Charger**   6 Months
7. **Propellers**   No Warranty
8. **Landing Gears**   No Warranty

WARRANTY LIMITATIONS SUBJECT TO CONSUMER LAW

To the extent permitted by law in the jurisdiction of sale, this warranty and the remedies set forth are exclusive and in lieu of all other statutory, express or implied warranties. Gannet disclaims all statutory and implied warranties, including without limitation, warranties of merchantability and fitness for a particular use or purpose as well as warranties against hidden or latent defects to the extent permitted by law. In cases where such warranties cannot be disclaimed, Gannet limits the duration and extent of remedy of its warranties to the duration of this express warranty and, at Gannet's exclusive option to the repair or replacement of products for which warranty is claimed.

THIS WARRANTY DOES NOT APPLY TO

- parts such as propellers, membranes, landing gears or protective or decorative coatings that will diminish over time or through normal wear and tear unless such failure has occurred due to a defect in materials or workmanship.
- damage caused by unauthorised modifications or accessories to the product.
- cosmetic damage, including but not limited to scratches, dents or blemishes unless such failure has occurred due to a defect in materials or workmanship.
- damage caused by accident, abuse, misuse, sunlight, fire, penetrative water or other external causes unless such failure has occurred due to a defect in materials or workmanship.
- damage caused by operating any Gannet Product contrary to Gannet's published guidelines, local laws or regulations.
- damage caused by unauthorised service performed by anyone who is not an authorised Gannet repair provider.
-defects caused by normal wear and tear or otherwise due to the normal aging of the materials.
- damage caused by unauthorized modification of circuits and misused or mismatched battery and charger.
- loss or damage to your data by the product.
- any product where any serial number has been removed or is illegible.
- any product where you cannot provide proof of purchase as the original purchaser.
- damage caused by using a product with a defective or flat battery.
- crashes or product damage caused by pilot error or by factors unrelated to a manufacturing defect.
- damage caused by operating the product in an environment with electromagnetic interference such as close to radio transmission towers, high-voltage wires, substations, radio masts or by interference from other wireless devices.
- damage caused by operating the product at greater than the specified safe takeoff weight.
- damage caused by using the product in an impaired or damaged state.

Features

Long battery life

The GANNET PRO has a built-in high-capacity, high-performance LiHV 4s 8000 MaH high voltage lithium polymer battery that has an estimated unloaded hover time of 29 minutes.

The GANNET PRO + has a built-in high-capacity, high-performance LiHV 6s 6600 MaH high voltage lithium polymer battery that has an estimated unloaded hover time of 25 minutes.

Powerful power system

Gannet Pro & Pro + use extremely powerful built-in high performance waterproof brushless motors, with self-locking propellers, high end ESCs, designed to give you a stable flight experience with a powerful load capacity.

High performance flight controller

Gannet Pro & Pro + built-in high-performance DJI NAZA-M-V2 (Gannet Lite NAZA Lite) multi-rotor flight controller provides you with a comfortable handling and a stable flight experience. A variety of flight modes are built in to meet your diverse flight needs. (Admission software system requirements: Windows XP sp3 / Windows 7 / Windows 8).

Stable and reliable waterproof kit

GANNET PRO & PRO + are equipped with a high-stability waterproof seals through out the quad copters frame to prevent rain, dust, water and the like from entering the interior of the aircraft, effectively solving the problem that conventional quad will be damaged if it is in contact with water.

Product Profile

The Gannet Pro & Pro+ is an extremely robust fishing and search & rescue drone, fully Waterproof design with high lift capacity.

Fishing Drones combine the technology of avionics, electronics and robotics to create a flying machine.

When flying a drone, you are a pilot with all the responsibilities that go with that.
This includes ensuring everything is in good working order, operating and responding correctly before flying.

Features Highlights

Camera and Gimbal: The Gannet Pro / Pro+ shoots at 1080p

Flight Controller: Naza-M v2 provides a safe, reliable flight experience. When connected to your cellphone, a flight recorder stores critical information from each flight

Remote Controller: The Gannet Pro / Pro+ remote controller includes a 5 inch high luminance display fully integrated to indicate all telemetries.

What's in the box

- Gannet Pro or Pro Plus drone x 1
- Gannet remote controller x 1
- 150W smart balance charger with car battery charger x 1
- 13" or 15" quick release self-locking propeller x 4
- 8000mAh or 6600 mAh lithium polymer power battery x1
- EVA carry case x 1
- Gannet lanyard x 1
- Battery tester x 1

Battery Safety

Battery:

- NEVER store the battery fully charged or flat.
- If used then bring the voltage up with your charger to the storage level of 15,1V- 15,4V.
- If charged fully and not used you will have to discharge the battery to 15,1V- 15,4V either by flying the drone or by using the discharge function on the charger, flying even just hovering can achieve this the fastest.
- At this Voltage, the battery will stay healthy for long periods (15.1 - 15.4V Pro / 22.6 23.1V Pro+)
- NEVER leave a charging battery unattended, keep watch on the charging process & react to any potential problems that may occur.
- NEVER charge a hot battery, always let it cool down first,
- Always use the supplied charger by Gannet
- NEVER exceed a 1C charge Amperage best to charge the battery at 5-5.5A it is slower but safer
- NEVER store LiPo batteries in any location that exceeds 25°C (80° F) (e.g. in a car, garage, or in the sun)
- NEVER let the battery or chargers positive and negative leads touch. This can cause the battery to short and lead to a FIRE.
- NEVER charge a swollen or ballooned battery (even if swollen upon purchase). Continuing to charge a battery that has begun to swell will result in a fire.

If the battery reaches high tempretures during charging follow these steps:

- STOP the charging process and disconnect battery immediately
- Disconnect battery from the charger immediately.
- Place it in an open non-flammable area.
- Watch it for approx. 30 minutes from a safe distance.
- Follow proper procedure to dispose of battery
- ALWAYS inspect the battery to make sure there are no signs of damage, deformity, or swelling before charging. If there are, STOP charging the battery and follow the proper procedure to dispose of the battery.
- ALWAYS charge batteries in a fireproof container and away from combustible material. Do NOT charge on surfaces that can catch fire – this includes wood, cloth, carpet, or in the application's device.
- ALWAYS store LiPo batteries in cool, dry places between 5-25°C (40-80° F)

If the battery reaches high tempretures after a crash follow these steps:

- Disconnect battery immediately from the drone
- Place it in an open non-flammable area.
- Watch it for approx. 30 minutes from a safe distance.
- If the battery appears to be stable (no signs of damage or swelling) proceed to put it back into use with caution.
- Keep LIPO batteries out of reach of children or pets.
- Avoid discharge the battery to below 14,6V rested (14,2V in flight) doing so can cause permanent battery damage,
- NEVER discharge below 14.2V is sure to cause permanent damage,
- Handle the battery with care, dropping it may cause permanent total damage

Quick Start Guide

Drone:

Installing the Propellers

- Always ensure that the correct propellers is installed on the correct motors, they are match marked with either no markings as for Front Right and Back Left or with circles as for the Front Left and Back Right motors.
- Make sure the propellers are slightly nipped tight so that they can not unscrew themselves.

Installing the Battery

- Slide it in with the terminal downwards and securely plug in the connector, it can only go in one way with the black negative wire to the left.
- Close the battery door and loosely tighten the retaining screws evenly at the same time to ensure a good seal, do not over tighten them, as they can strip.
- Always ensure that the screws and brass nut thready are lubricated with vasaline to prevent corrosion and seizing of the threads.

Setting the release

- The release must be set to release when approximately 400g of pressure is added to the load (bait plus sinkers) that will be flown. Over setting the release tension can result in a failed release. Ensure release is set when the release is in a closed / locked position.

DO NOT use the easy loader arm for baits under 800g. For baits under 800g connect the drop-loop directly onto the ball-bearings (ensure that the release is correctly set to the release tension according to the thickness of the drop-loop line).
Ensure that your lines are out of the way of the propellers for takeoff, if a line gets into the props the drone will crash. (See Drop-loop section)

⚠ If signal from the remote is lost while the drone is armed. It could take off from the ground and climb to Return To Home altidute before desending again. If signal is lost due to powering off the Remote Controller. Switch the controller back on and toggle the flight mode switch to Atti, then back to GPS to regain controll of your drone.

On startup:

- ALWAYS switch on the remote first, failure to do so can result in a fly away, on power up of the drone a rapidly flashing orange indicator light on the drone will indicate that the remote is not on. In this instance power the drone off, power the remote on and after waiting at least 3 seconds power the drone on again.
- Always ensure the two right hand toggle switches are flipped to the top for GPS and Normal flight modes,
- NEVER move the drone during initial warm-up, if you did pleased power down for at least 3 seconds and restart, the second time round it will already be warm and will boot up much faster,
- NEVER power down and restart in rapid succession as this will trigger the watter-flip function and one motor will not start up. The drone takes a few seconds to power down fully.
- On initial power up the indicator LED will flash orange at a rate of about one flash per second, this indicates warming up.
- After warm-up, the indicator LED may flash orange and red in succession this means the drone requires a compass calibration, follow the calibration steps.
- If no calibration is needed the LED will change to flash either Red Red Green or Red Red Orange. This indicates what flight mode you are in whilst the drone is looking for satellites Green = GPS and Orange = Atti,
- If the n LED changes to rapid orange flashes it is in RTH mode,
- Once good GPS lock is obtained in GPS mode the flashes will change to a steady Green flash, as soon as the home point is saved 5 rapid Green flashes will indicate this and it is safe to fly.

Take off and flight

- Always stand well clear of the drone, carbon fibre propellers can be very dangerous and must be avoided, never try to stop spinning propellers by hand!
- Arm the drone by pushing inwards and down with both controller sticks,
- When safe, give gradual power by increasing the throttle/elevation/Left control stick gradually, DO NOT give rapid full throttle, the drone will take off dangerously fast,
- If the drone starts to move in slow circular movements it can indicate that the compass calibration is not optimal for this position, you can land and recalibrate it a short distance away to reduce possible interference. Also note that Smartphones and smart watches can cause interference and should be kept away from the drone during calibration,
- If the circular movement is minor, momentarily switch the drone to Atti and back to GPS, this cancels the "hunting" of the GPS and steadies the drone, Home point remains in the original position,
- Avoid sudden rapid or full control stick movements, gentle controlled movements will result in a more enjoyable flight experience,
- First low battery warning is given at 15,2V pay close attention to this. If unloaded the drone can still fly for several minutes but best be on your way back to land.
- Never attempt to fly just one more bait on a low battery
- At 14,2V the drone will not have any more power to fly and will land/descend where it is.
- NEVER overload the drone, higher loads drain the battery faster, too high loads can also damage the battery
- When loaded keep the flight time as short as possible, fly at a steady speed and do not waist time hovering in place unnecessarily as it will drain the battery rapidly.
- Do not fly in strong gusting winds unless you are an experienced pilot and even then take care and fly with caution
- RTH (return to home) should only be used when absolutely necessary, it is safer to fly the drone back yourself, if it is hard to judge the orientation, switch to home lock in which event pulling back on the right-hand control will bring the drone closer to you regardless of the drones orientation. When you do use RTH keep an eye on the drone to ensure that the drone is performing the command and should it deviate, return to GPS mode so that the drone can be flown back manually.

Warning!

If signal from the remote is lost while the drone is armed. It could take off from the ground and climb to Return To Home altidute before desending again. If signal is lost due to powering off the Remote Controller. Switch the controller back on and toggle the flight mode switch to Atti, then back to GPS to regain controll of your drone.

General warnings and care

- Familiarize yourself with your local drone laws and abide by them at all times.
- Do not fly near known sources of high interference, this includes Cell phone towers, railroad lines and power lines, never calibrate the drones compass near such a source of interference, this includes cell phones and smart watches
- Do not unnecessarily expose the drone to water, especially salt water, although every precaution has been made to prevent corrosion by using corrosion resistant materials and corrosion protective coatings on the exposed parts both internal and external, it should be noted that salt water is highly corrosive and can in a matter of hours cause damage if not thoroughly removed and cleaned.
- Do not leave the drone in direct sunlight for prolonged periods, it can heat the battery up and cause failures, it can also cause hull over pressure weakening the seals.
- NEVER intentionally land the drone at a distance away for you on the water, whilst the radio communication in flight is well over 1,6km (1 Nm) it cannot be assured that radio communication will always be maintained whilst the drone is floating on the surface far away from you as water blocks all radio waves.
- Motor bearings need to be lubricated regularly with a good machine oil that is **solvent free**.
- NEVER fly with cracked, chipped or damaged propellers, they can easily fail mid-flight under load and cause a crash, if a damaged propeller is found discard it immediately keeping only the propeller quick release,
- If the drone has been exposed to salt water, rinse it directly after the flight with running fresh water to wash away all salt. Dry with a cloth and lubricate the motor bearings, both upper and lower,
- Always disconnect the battery when packing away the drone this is to avoid accidentally powering the drone on and discharging the battery completely,
- If the drone stops responding to any command and just hovers in place, switch the remote off completely, this will activate RTH and the drone should return home unless there is severe interference preventing this,
- When removing the battery, pull gently on the connector whilst wiggling it, do not jerk or pull on the wires only,
- Add a bit of lubricant to the landing gear retaining rubbers from time to time, it helps them slide in easier locking them in place.
- If landed in water where there is a temperature variation the drone may draw water into the flight bladder, when this happens altitude control may be temporarily affected whilst the water runs out of the bladder, if this happens take some care with manual altitude control till it is restored, the drone can be stood nose up to aid the draining process of the bladder.
- NEVER attempt hand catching the drone as a novice pilot, the large carbon propellers are extremely dangerous and can inflict serious injury.
- Always stand well clear of the drone when taking off and landing
- NEVER fly the drone over people especially not whilst carrying any load

If water landing does occur

Place drone nose up in a horizantal position on a level surface with battery hatch and battery removed, this will aid in draining water from the flight bladder.

Drone Components
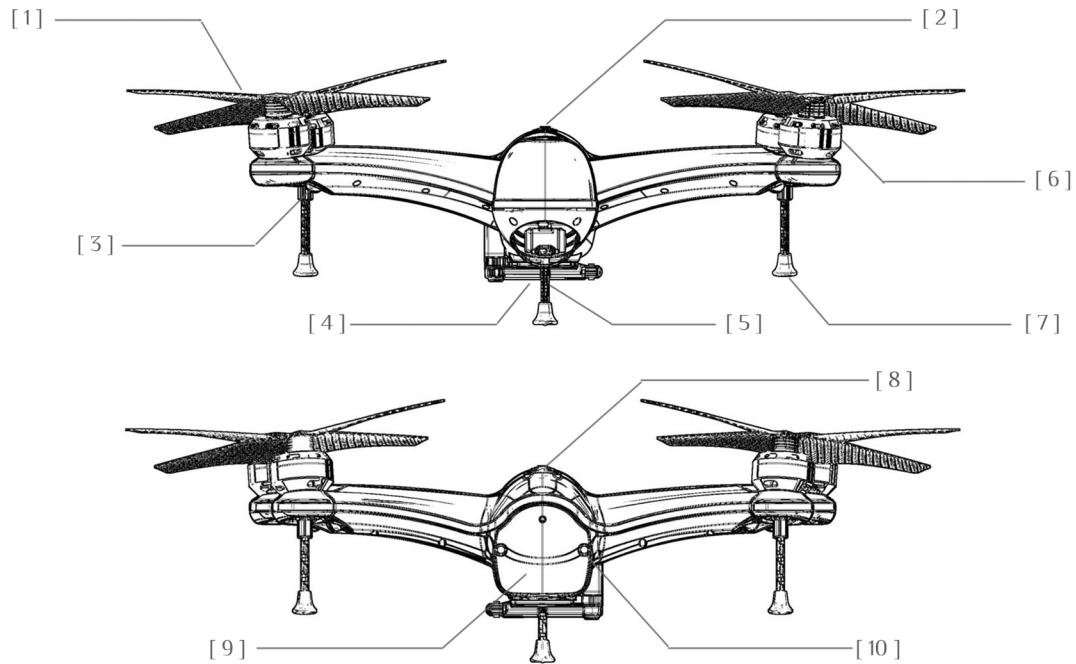
[1] Carbon Fibre Propeller

[2] On/Off Button

[3] Flight Indication Lights

[4] Payload Release

[5] Landing Gear

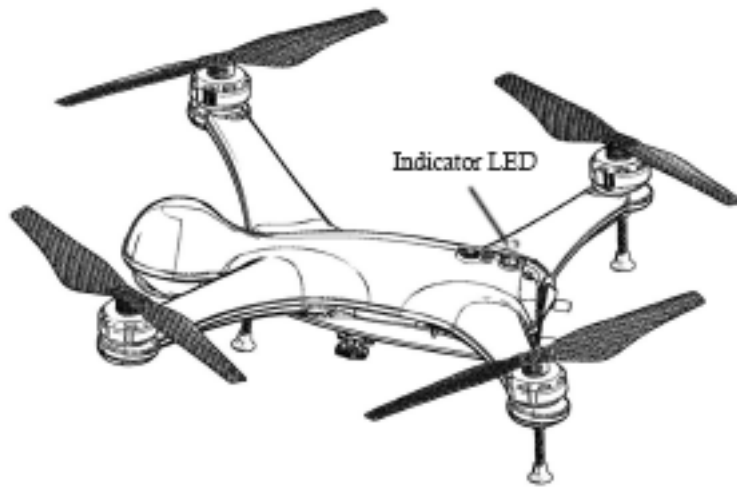[6] Waterproof Brushless Motor

[7] Rubber Foot

[8] LED Status Indicator

[9] Rear Hatch

[10] Rear Hatch Thumb Screw

Drone Indication Lights

Indicator LED

Flight Modes

🟢	One Green Flash	GPS Mode
🟡	One Yellow Flash	Atti Mode
🟡 🟢	One Yellow/One Green Flash	RTH Mode

GPS Status

⚪	No Red Light	Good GPS signal
🔴	One Red Flash	Satisfactory GPS signal
🔴 🔴	Two Red Flashes	Poor GPS signal
🔴 🔴 🔴	Three Red Flashes	No GPS connection, or no GPS signal

Low Battery Warning

🟡 🟡 🟡	Three Yellow Flashes	First level low battery warning, for safety, land as soon as possible.
🟡🟡🟡🟡🟡	Yellow Fast Flashing	Second level low battery warning, the drone will start it's auto landing sequence.

LED Description

System Status	LED Flashing
System start and self-check	🔴🟢🟢🟡🔴🟢🟡🔴🟢🟡🟢🟢🟢
IMU abnormal data or need advanced calibration*	🔴🟢🟡
Warm up after power on	🟡🟡🟡🟡
The aircraft is moved or bias of sensors too big	🟢🟢🟢🟢🟢🟢
Compass error too big, need recalibration.	🟥🟥🟧🟧
Transmitter (TX) signal lost, enter the FailSafe.	🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡🟡
TX stick(s) mid point error too big	🔴🔴🔴🔴
Low voltage alert or other abnormal alert* (e.g. Configuration error, TX data error, Enable low voltage protection without PMU, SN error or Compass abnormal work.)	🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴
Record forward direction or home point	🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢🟢
Control Mode Indictor	Manual Mode: None ATTI. Mode: 🟡 (stick(s) not at center 🟡🟡) GPS Mode: 🟢 (stick(s) not at center 🟢🟢) IOC Mode: 🟡🟢 (stick(s) not at center 🟡🟢🟢)
GPS Signal State Indicator (GPS/Compass Module is necessary)	GPS Signal is Best(GPS Satellite number > 6): None GPS Signal is Well(GPS Satellite number = 6): 🔴 GPS Signal is Bad (GPS Satellite number = 5) : 🔴🔴 GPS Signal is Worst (GPS Satellite number < 5): 🔴🔴🔴

Compass Calibration	LED Flashing
Begin horizontal calibration	🟧 (solid bar)
Begin vertical calibration	🟩 (solid bar)
Calibration or others error	🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴🔴

Remote Control Components

[1] On/Off Button

[2] LCD Display

[3] Power Indicator

[4] Left Stick

[5] Right Stick

[6] Payload Release Switch

[7] Water Flip Switch

[8] Flight Mode Switch

[9] Flight Control Switch

[10] Lanyard Clip

[11] Antenna

[12] Cell Phone Support

[13] Adjustable Device Restraint

[14/15] Camera Control Up/Down

Propellers

The Gannet Pro / Pro+ has two pairs of propellers - two clockwise propellers and two counter-clockwise propellers. The hub of each motor is marked with a circle to indicate the propeller used for that motor. Propellers cannot be attached to the wrong motor by accident.
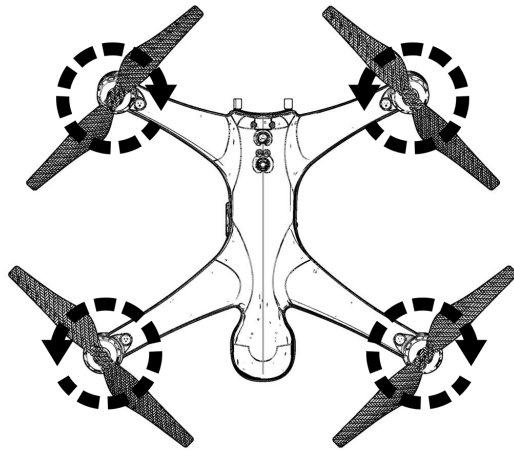
⚠ When installing or removing the propellers, place one hand under the motor to support it when installing or removing propellers.
Failure to provide this support could result in bending or breaking the landing gear.

Attaching and Removing Propellers:

1. Check that the propeller rotation (CW or CCW) matches the motor hub. This is the normal direction the propellers spin during flight.
2. Rotate the propeller on the hub until it stops, then turn the propeller 1/16th of a turn in the same direction to lock it.
3. Check the propeller is completely locked by holding to motor hub firmly and ensuring that the propeller cannot be turned.
4. To remove propellers, support the motor with one hand and turn the propeller in the opposite direction.

⚠ The blades are sharp, please be careful to avoid accidental cutting or scratches.
Prior to each flight, please check that the propellers are smooth all over and are correctly installed and securely fastened.

Preparing for Flight

Before every flight, it is important to prepare your drone properly.

This section is presented in two sections:
1. Preparation before your first flight
 (or when the drone is more than 200km from its last flight location)
2. Preparation before every flight.

Preparation Before your First Flight (or in a new location)

The drone relies on very sensitive sensors to control flight positioning and stability. The compass sensors need to be calibrated before flying in a new location or if the drone has suffered undue shock or excessive vibration.

Compass Calibration

Compass calibration is necessary if:
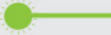
a. The drone is brand new.
b. The drone is more than 200km from the location of its last flight.
c. The YAW (Y) indication on the Remote Controller screen does not show the
    correct compass reading (North = 0°, South = 180°) ±10°
d. The drone has been subjected to strong magnetic fields
e. The drone has been crashed or dropped accidentally
f. The drone sways or drifts excessively during hover in GPS mode
g. The drone Status Indicators are solid RED when trying to arm (unlock) the motors.

Compass Calibration Process

Compass Calibration is performed with the drone outdoors and away from any sources of magnetic interference such as metal structures, radio masts or mobile phones.
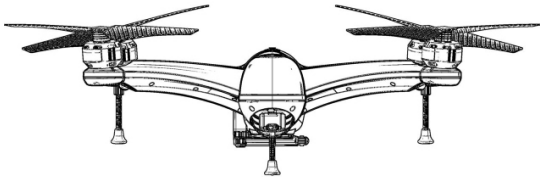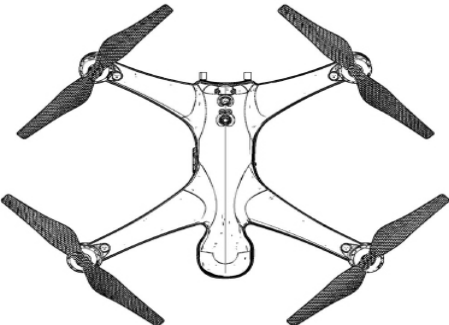1. Place the drone on a horizontal surface. Remove propellers and accessories. Power on the controller then the drone. Close the top GPS hatch cover.
2. Watch the Drone Status Indicator through the top GPS hatch cover of the drone.
2. After hearing a drone power up tone, rapidly switch the Flight Mode switch backwards and forwards between the three modes until the Drone Status Indicator turns YELLOW

GPS   Compass calibration mode
ATTI   Rapidly flick switch back and forward
RTH   5 times between flight modes

Yellow ON	Horizontal Calibration
Green ON	Vertical Calibration
Red ON	Calibration Failed
Alternating - Red, Green, Yellow slow flashing	Calibration Successful

Calibration Step	Description
	1. Holding the drone horizontally, rotate the drone around you in a clockwise direction until the Drone Status Indicator changes from YELLOW to GREEN.
	2. Hold the drone nose-down, facing away from you. Rotate the drone clockwise until the Status Lights start blinking green. Then the calibration is complete. If the calibration procedure was not successful, the Drone Status Lights will glow RED for 3 seconds.

Preparation Before Every Flight

Drones are fun to fly, but they are not toys. Be a responsible pilot and prepare for your flight properly to fly safely and get the most out of your Gannet Pro / Pro+, follow this checklist before every flight.

- Are all batteries charged?
- Is calibration required?
- Are propellers secured properly?
- Are the Drone Status Indicator lights showing errors?
- Is the rear hatch properly closed?
- Is the release mechanism set correctly?
- Are all switches on the remote in the correct position for take off?
- Are there at least 12 satellites for GPS flight and Return Home functions?
- Is the drone battery showing at least 15.7v Pro / 22.3v Pro+ ?
- Are antennas pointing up and out for best reception?
- After take-off always check hover stability at low altitude.
- After flights on salt or dirty water, always thoroughly rinse all moving parts in fresh water and lubricate.

Batteries

The Gannet Pro / Pro+ has two batteries required for operation. One battery powers the drone, the other powers the drone remote controller.
It is important to charge the batteries before use and install them correctly.

DO NOT charge the remote control with a charger over 5.5V.

Drone Battery Installation

When inserting the battery, observe the
following precautions:

- Insert the battery with care with its cables on the underside side of the drone
- Connect the battery to the connector on the upper side of the drone
- Observe the label on the battery

⚠ Once connected to the drone, the battery cables and connectors must be placed in the space between the battery and the rear case of the drone.
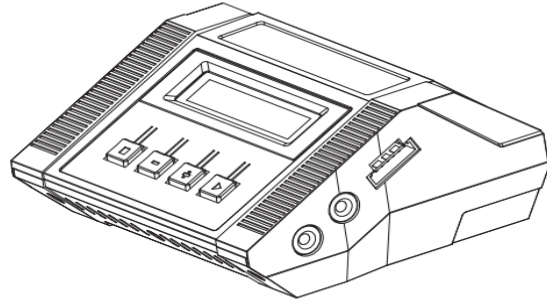
⚠ **Do not use the battery**
  • **If there is any visible damage to any of the cells,**
  • **If the battery is swollen or puffy.**
  • **The power leads or connector is damage.**
  • **If the battery is not holding its charge.**
  • **Large variance (>0.1v) in the voltage of the cells.**
    These are all signs of a faulty or failing battery and failure in flight could result in a crash.

Charging the Battery

Gannet has supplied a smart charger with the Gannet Pro / Pro+Drone.
These chargers can charge different types of batteries including Lead-acid, Lithium Iron Phosphate (LiFe), Lithium-Ion (LiIo) and LithiumPolymer (LiPo) etc. It is important to choose the correct battery type. Using the wrong battery type will damage your battery and could cause the battery to catch on fire.
The batteries used in the Gannet Pro / Pro+ is a LiHV battery. LiPo Batteries should not be left unattended with charging. Place the LiPo battery on a concrete floor or a metal tray when charging. Some people charge LiPo batteries inside a metal container.
Read the manual for the battery charger.
Before connecting the battery ensure you set up the charger to the correct settings for the battery.

Battery Type
• Choose - LiHV

Program
• Choose - Balance Charge for charging to 100% fully charged.
• Remember to plug the Balance cable in
• Choose - Battery Storage for storing the batteries for a week or more.

Checking Battery Voltage

Gannet supplies a battery checker with the Gannet Pro / Pro+. The battery checker will check the voltage of the battery and the voltage of each cell in the battery.

Plug the balancer cable of the battery into the battery tester. The tester will BEEP, and then show the total voltage of the battery, followed by the voltage of each cell.

A fully charged LiPo 4S battery is 17.4V and each cell should be 4.35v. The cells may vary up or down by 0.02v (range 4.18v to 4.22v) Do not use if there is a variance greater than 0.2v between the cells.

Always fly will a fully charged battery. Do not fly with a partially discharged battery as you do not know how much energy or flight time is left in the battery.

Never fly with a battery that has a voltage reading less than 15.5 volts. This means the battery is low and the safety margin is reduced.
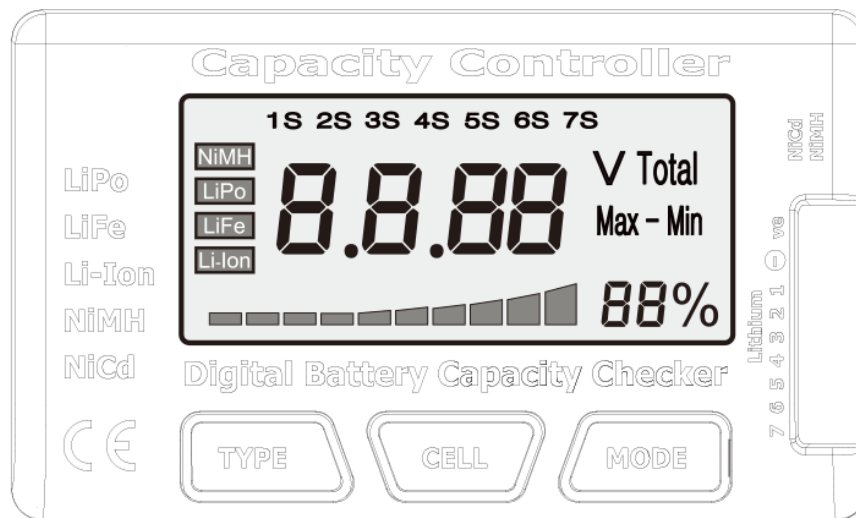
* **Battery Capacity Checker**
* **Battery Balancer**
* **Battery Discharger**
* **Battery Internal Resistance Tester**
* **ESC/SERVO PPM Tester**

	LiPo	LiFe	Li-Ion	NiCd	NiMH
Input Cells	2~7Cells	2~7Cells	2~7Cells	4~7 Cells	4~7 Cells
Total Voltage	√	√	√	√	√
Total Cell battery capacity(0~99%)	√	√	√	x	x
Individual Battery Cell Voltage	√	√	√	x	x
Lowest Cell Voltage	√	√	√	x	x
Highest Cell Voltage	√	√	√	x	x
Voltage Difference Between Highest and Lowest Cell Voltage	√	√	√	x	x

BATTERY CHECKER LAYOUT

Buttons

1. Battery Type: NiCd/NiMH, Li-Po, LiFe, Li-Ion
2. Cell Number: LiPo/LiFe/Li-Ion: 2~7 cells   NiMH: 4~7 cells
3. Display Mode: Battery cell voltage, Total voltage, Lowest cell voltage, Highest cell voltage, Voltage gap between highest cell voltage and lowest cell voltage, Remaining battery capacity (%)
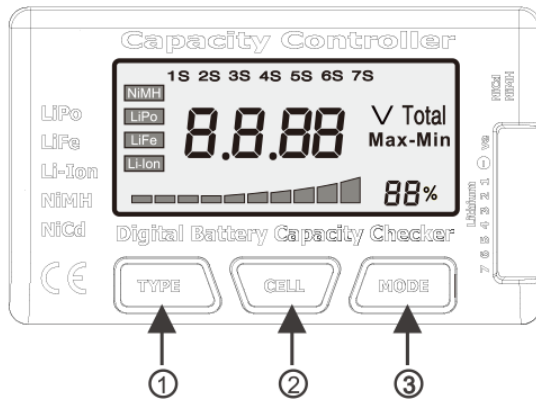
NiCd/NiMH Type Battery Input
(ESC/SERVO PPM signal output)

Lithium Battery Input
(Using balancing connector)

FOR 2-7S LIPO/LIFE/LI-ION BATTERIES

Test Interface

TYPE

● Select batt type
- LiPo
- LiFe
- LiIon

CELL

CELL

• Display voltage and remaining capacity for each cell

Total Capacity(%)

Highest cell voltage
Showing the highest cell number, voltage and remaining capacity

Lowest cell voltage
Showing the lowest cell number, voltage and remaining capacity

Highest/lowest cell voltage display
Showing highest cell number/lowest cell number and the voltage gap

FOR 4-7S NICD/NIMH BATTERIES

4-7S Nixx
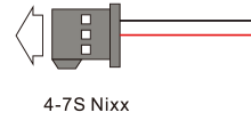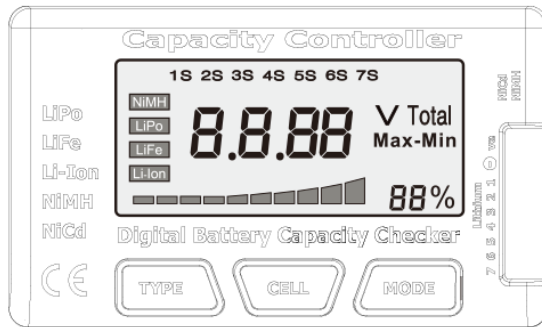
• Battery total voltage

• Set cell numbers

CELL

Remaining capacity (%)
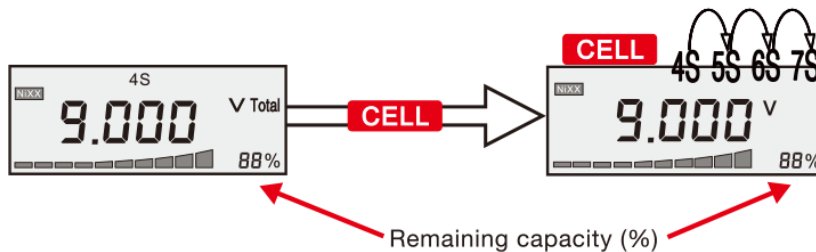
The remaining capacity is estimated based on the total number of cells connected in series.
Press the "CELL" button to select the correct setting.
NiCd and NiMH batteries for the TX and RX (4-7 cells) can be connected to this capacity checker.

USING THE ESC/SERVO TESTER FUNCTION

1. With a servo Y-harness, connect the single end to 5-in-1 meter, and the other two ends to the servo motor, and a 4.8-6V NiMH battery to provide power.

2. Press and hold the "Cell" button until the 5-in-1 meter's screen changes to display the servo-arm position, and then use the "Mode" and "Type" buttons to change its position in both directions.

-
+
PPM

900-2100uS
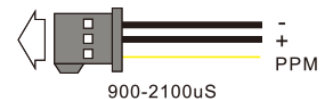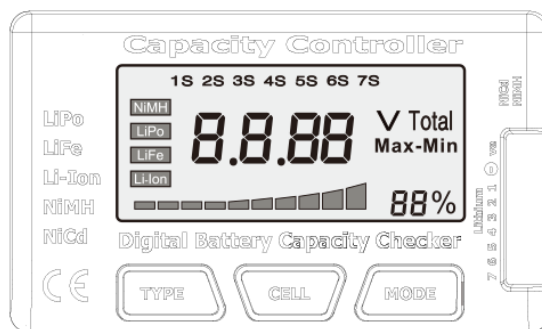
CONFIGURE VOLTAGE ALARM

Test Interface

1S 2S 3S 4S 5S 6S 7S
LiPo **4.200** V
99%

>2seconds
MODE

Set Interface

1S 2S 3S 4S 5S 6S 7S
LiPo **3.100** V Min
99%

TYPE **CELL** **MODE**
− +

→ Set alarm minimum voltage

1S 2S 3S 4S 5S 6S 7S
LiPo **0.100** V Max-Min
99%

TYPE **CELL** **MODE**
− +

→ Set the value between "Max - Min voltage"

LiPo **AL.on**
99%

TYPE **CELL** **MODE**

→ Default Alarming Voltage "OFF"

On/Off Alarm Function
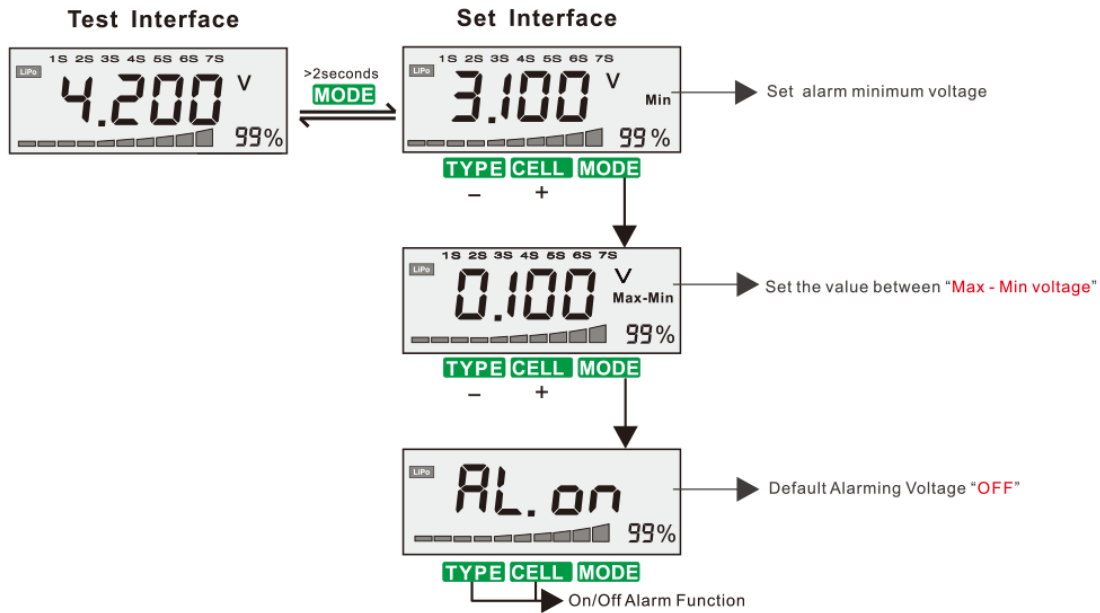
PRESS AND HOLD THE "CELL" BUTTON TO ACCESS OTHER FUNCTIONS

Test Interface

1S 2S 3S 4S 5S 6S 7S
LiPo
LiPo **4.200** V Total
99%

>2seconds
CELL

Function Interface

bAL- F1

TYPE **MODE**
− +

1S 2S 3S 4S 5S 6S 7S total
4.000 V F1

>2seconds
MODE

CELL

Set Max-Min Voltage Gap

0.500 V Max-Min F1

0.5-0.01V

TYPE **CELL**
− +

Return to test interface after balance completed

WARNING

dIS- F2

TYPE **MODE**
− +

CELL

1S 2S 3S 4S 5S 6S 7S total
4.100 V F2

>2seconds
MODE

Set Minimum Discharge Voltage

3.000 V Min F2

3.0-4.0V

TYPE **CELL**
− +

Return to test interface after discharge completed

Ir-- F3

TYPE **MODE**
− +

CELL

1S 2S 3S 4S 5S 6S 7S
002o F3

1s-7s

MODE
+

o : mΩ

PP-- F4

TYPE **MODE**
− +

CELL

0900 F4

900-2100uS

TYPE **MODE**
− +

*WARNING: To avoid overheating, the discharge function can only be used for less than 6 mins each time. After that, please let the unit cool down to room temperature before discharging again.
DO NOT leave your battery discharging with this device unattended.

F1	bAL-	Battery Balancer
F2	dIS-	Battery Discharger
F3	Ir --	Battery Internal Resistance Tester
F4	PP --	ESC/SERVO.PPM.Tester

AC/DC Smart Balance Charger
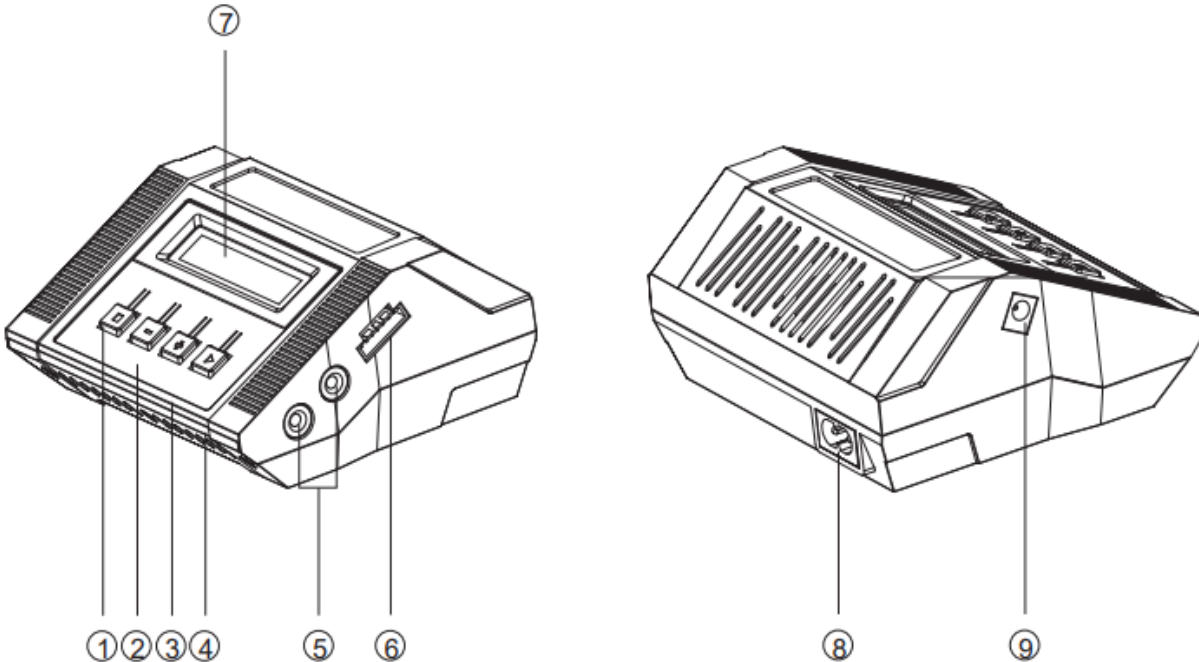
1. Mode Switch
2. Decrease
3. Increase
4. Start/Confirm
5. Main Output

6. Balance Interface
7. LCD Screen
8. AC Input
9. DC Input (for connection to a car charging port)

Connection Instructions

1. The charger can be connected to an AC outlet (100~240V AC) or to a suitable high-current DC source 11~18V such as a car charging port or cigarette lighter adapter.
2. Connect either a LiPo-2S battery or LiHV-4S (HIGH VOLTAGE).
NEVER CHARGE A HiLv-4S BATTERY WITH THIS CHARGER AS THE HIGH VOLTAGE WILL DAMAGE THE BATTERY AND CAN BE A FIRE RISK

⚠ **1. Before charging, check that the terminals and wires of the battery pack are not damaged.**
2. When connecting the battery, always check that the positive (red) and negative (black) wires are connected correctly and the connector plugs are connected to the same coloured ports on the charger.
3. In order to avoid short circuits, connect the banana connector cable to the charger first, then connect the battery. When disconnecting, disconnect the battery first, then disconnect the charger.
4. Only one battery can be charged at a time.

These operating instructions are designed to ensure that you quickly become familiar with its functions. It is therefore important that you read right through the Operating instructions, Warning and Safety Notes before you attempt to use your new charger for the first time Gannet Charger integrates battery technology together with LCD screen.

It is equipped with 4 function buttons. Every operating procedure and status change can be shown on LCD screen, making the operating procedures very intuitive. When the battery is working, you can directly check the battery capacity, battery voltage, charging time and internal resistance on the screen.

Gannet Charger comes with a memory module. Users can edit and save parameters of different batteries. Once the battery parameters are edited, the shortcut for parameters will be generated on the screen, which provides a simple one click interface for users.

Gannet Charger is built-in switching power supply. It can be powered up with 12V car battery or 100-240V AC input, suitable for use with LiPo / LiFe / LiHV / Li-lon / NiMH / NiCd / Pb battery.

Please BE SURE to read these INSTRUCTIONS, WARNING and SAFETY NOTES before you use the charger for the first time It can be dangerous to mishandle batteries and battery chargers, as there is always a risk of batteries catching fire and exploding.

Please read this entire operating manual completely and attentively before using this product, as it covers a wide range of information on operating and safety.

SPECIFICATIONS

- AC input Voltage: 100V –240V
- Control: Button
- Backlight: Blue
- Dimension: 130*115*61mm
- Charge current: 0.1A-10A
- Charge power:max.100W
- Balance current: 400mA/cell

- DC input Voltage: 11–18V
- Display Type: LCD
- Cooling system: 1 cooling fan
- Weight: 380g
- Safety timer: 1-720min or turn off
- Discharge current: 0.1A-2.0A
- Discharge power: max.5W

- Memory: 10 different charge/discharge profiles

- External port: 1-6s Balance Socket-XH, Temperature probe socket, Battery Socket, DC input, AC Input, Micro USB for PC.

- Battery Types/cells: LiPo/Lilon/LiFe/LiHV:1-6S
  NiMH/NiCd:1-15cells
  Pb:2-24V

- Charge Voltage: LiPo:4.18-4.22V/cell   Lilon:4.18-4.20V/cell
  LiFe:3.68-3.80V/cell   LiHV:4.30-4.40V/cell

- Discharge cut-off voltage: NiMH/NiCd:0.1-1.1V/cell
  LiPo:3.0-3.3V/cell   Lilon:2.9-3.2V/cell
  LiFe:2.6-2.9V/cell   LiHV:3.1-3.4V/cell
  Pb:1.8V

Dual Power Input

The power source can be 11-18V DC input, it can be powered up at any place with a 12V car battery or 100-240V AC input. The power supply is built in and users could connect the AC Power cord to the main AC socket directly. What 's more the AC input voltage is 100-240V so that the users could use charger all over the world and don't need to worry about any damage caused by improper input voltage.

Charging Status Monitor

When the charger is working, you can check the charging capacity, battery voltage, charging time and internal resistance on the screen.
More important, the voltage curve can be displayed on the screen, so you can monitor the charging status.

Internal Independent Lithium Battery Balancer

A20 Changer employs an individual-cell-voltage balancer. It isn't necessary to connect an external balancer for balance charging.

Balancing Individual Cells Battery Discharging

During the process of discharging, Gannet Charger can monitor and balance each cell of the battery individually. Error message will be indicated and process will be ended automatically if the voltage of any single one cell is abnormal.

Fast and Storage Mode of Lithium battery

Purposes to charge lithium battery varies, "fast " charge reduce the duration of charging, whereas "store" state can control the final voltage of your battery, so as to store for a long time and protect useful time of the battery.

Memory Preset

The charger can store up to 10 different charge/discharge profiles for your convenience. You can keep the data pertaining to program setting of the battery of continuous charging or discharging. Users can call out these data at any time without any special program setting.

Terminal Voltage Control (TVC)

The charger allows user to set the charge/dischareg and voltage.

Capacity Limit

The charging capacity is always calculated as the charging current multiplied by time. if the charging capacity exceeds the limit, the process will be terminated automatically when you set the maximum value.

Processing Time Limit

You can also limit the maximum process time to avoid any possible defect.

There is mini USB port in the charge which can be used to connect it to the PC. You need optional USB cable (USB A Male to Mini B Male) which is not included in the package. The free "Charge Master"software gives you unparalleled ability to operate the charger through your computer. You can update firmware from "Charge Master".

Inner Resistance of Battery Pack

Measure Inner resistance of battery pack inclusively all connections and leads.

⚠ Never attempt to charge or discharge the following types of batteries.

- A battery pack, which consists of different types of cells (including different manufacturers)
- A battery that is already fully charged or just slightly dis charged.
- Non-rechargeable batteries (Explosion hazard).
- A faulty or damaged battery.
- A battery fitted with an integral charge circuit or a protection circuit.
- Batteries installed in a device or which are electrically linked to other components.
- Batteries that are not expressly stated by the manufacturer to be suitable

⚠ for the currents the charger delivers during the charge process.

Please bear in mind the following points before commencing charging:

- Did you select the appropriate program suitable for the type of battery you are charging?
- Did you set up adequate current for charging or discharging?
- Have you checked the battery voltage? Lithium battery packs can be wired in parallel and in series, i.e. a 2 cell pack can be 3.7V (in parallel) or 7.4V (in series).
- Have you checked that all connections are firm and secure? Make sure there are no intermittent contacts at any point in the circuit.

※ Standard Battery Parameters

	LiPo	LiIon	LiFe	LiHV	NiCd	MiMH	Pb
Nominal Voltage	3.7V/cell	3.6V/cell	3.3V/cell	3.7V/cell	1.2V/cell	1.2V/cell	2.0V/cell
Max Charge Voltage	4.2V/cell	4.1V/cell	3.6V/cell	4.35V/cell	1.5V/cell	1.5V/cell	2.46V/cell
Storage Voltage	3.8V/cell	3.7V/cell	3.3V/cell	3.85V/cell	n/a	n/a	n/a
Allowable Fast Charge	≦1C	≦1C	≦4C	≦1C	1C-2C	1C-2C	≦0.4C
Min.Discharge Voltage	3.0-3.3V/cell	2.9-3.2V/cell	2.6-2.9V/cell	3.1-3.4V/cell	0.1-1.1V/cell	0.1-1.1V/cell	1.8V/cell

⚠ Be very careful to choose the correct voltage for different types of battery otherwise you may cause damage to the batteries. Incorrect settings could cause the cells to fire or Explode.

Charging

During charge process, a specific quantity of electrical energy is fed into the battery. The charge quantity is calculated by multiplying charge current by charge time. The maximum permissible charge current varies depending on the battery type or its performance, and can be found in the information by the battery manufacturer. Only batteries that are expressly stated to be capable of quickcharge are allowed to be charged at rates higher than the standard charge current.

Connect the battery to the terminal of the charger: red is positive and black is negative. Due to the difference between resistance of cable and connector, the charger can not detect resistance of the battery pack, the essential requirement for the charger to work properly is that the charge lead should be of adequate conductor cross-section, and high quality connectors which are normally goldplated should be fitted to both ends.

Always refer to the manual by battery manufacturer about charging methods, recommended charging current and charging time. Especially, the lithium battery should be charged according the charging instruction provided by the manufacturer Strictly.

Attention should be paid to the connection of lithium battery especially. Do not attempt to disassemble the battery pack arbitrarily. Please get highlighted that lithium battery packs can be wired in parallel and in series.

In the parallel connection, the battery's capacity is calculated by multiplying single battery capacity by the number of cells with total voltage stay the same. The voltages imbalance may cause fire or explosion .Lithium battery is recommended to charge in Series.

Discharging

The main purpose of discharging is to clean residual capacity of the battery, or to reduce the battery voltage to a defined level. The same attention should be paid to the discharging process as charging. The final discharge voltage should be set up correctly to avoid deep-discharging. Lithium battery can not be discharged to lower than the minimum voltage, or it will cause a rapid loss of capacity or a total failure.

Generally, lithium battery doesn't need to be discharged. Please pay attention to the minimum voltage of lithium battery to protect them.

Lithium batteries are recommended to be discharged partially rather than fully. Frequent full discharging should be avoided if possible.

Battery type	Operation Program	Description
LiPo LiIon LiFe LiHV	Balance Charge	This charging mode is for charging LiPo/ LiFe/ LiIon/ LiHV battery in normal mode.
	Storage	This program is for discharging LiPo/ LiFe/ LiIon/LiHV battery which will not be used for long time.
	Discharge	This mode is for discharging LiPo /LiFe /LiIon /LiHV battery.
	Fast charge	This charging mode is for charging LiPo /LiFe /LiIon /LiHV battery in normal mode without balancing.
NiMH NiCd	Auto mode	Charger automatically detects the connected NiMH/NiCd battery and control the charging current in the affordable range, and limit the maximum current does not exceed the setting value. Attention: Ensure to set the maximum charging current, or it may overcharge and damage the battery.
	Man mode	Charger will charge the battery with setting current.
	Discharge	Charger will discharge the battery with setting current, operation same as lithium battery.
	Cycle	To increase the remaining usable battery life, cycling is strongly recommended. charger supports 1-5 times of charge › discharge or discharge › charge cycle.
Pb	Charge	This mode is for charging Pb battery
	Discharge	This mode is for discharging Pb battery.

Explanation of Buttons
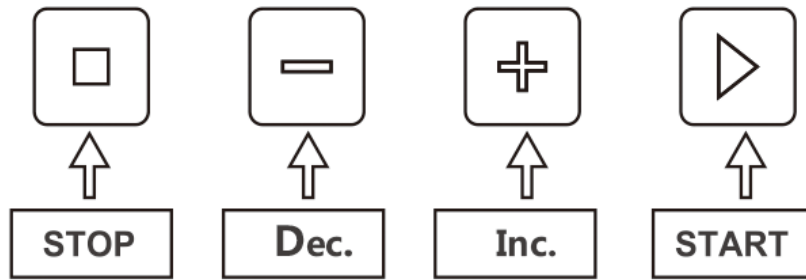
"STOP" button
It is used to stop the process or go back to the previous step.

"Dec./-"button
It is used to go through the menus and decrease the parameter value.

"Inc./+"button
It is used to go through the menus and increase the parameter value.

"START"button
It is used to enter parameter or start program.

When you want to alter the parameter value in the program, press the START/ENTER button to make it blink and then change the value by pressing DEC and INC button. The value will be stored by re-pressing the START/ENTER button. If there is another parameter which can be altered in the same screen, on confirming the first parameter value, the next parameter value will start to blink and you can set it.
When you are ready to start to program, press and hold the START/ENTER button for 3 seconds.
When you want to stop the program or go back to the previous step/screen, press the BATT PROG/STOP button once.

Here are the detailed procedures to make the charger work. All the screens and operations will take LiPo-CHARGE program for example

Connection

Ensure to connect the battery to balance port when charging LiPo,LiIon, LiFe and LiHV battery under balance mode.

OPERATION PROGRAM

1).Connecting to Power Source
2) Connecting The Battery
3).Balance Socket

Gannet Charger comes with the built in switching power supply. You can connect the AC power cord directly to the main AC socket (100-240V AC) or attaching directly to 12V car batteries. It is critically important that you use a fully charged 13.8V car battery.

Important!!! Before connecting a battery it is absolutely essential to check one last time that you have set the parameters correctly. If the settings are incorrect, the battery may be damaged, and could even burst into flames or explode.
To avoid short circuits between the banana plugs, always connect the charge leads to the charger first, and only then to the battery. Reverse the sequence when disconnecting the pack.

The balance wire attached to the battery must be connected to the charger with the negative marking. Take care to maintain correct polarity!(See the wiring diagram below.)

This diagram shows the correct way to connect your battery to the AC while charging in the balance charge program mode only.

⚠ **Ensure to connect the battery to balance port when charging LiPo,LiIon, LiFe and LiHV battery under balance mode.**

Balance - Board
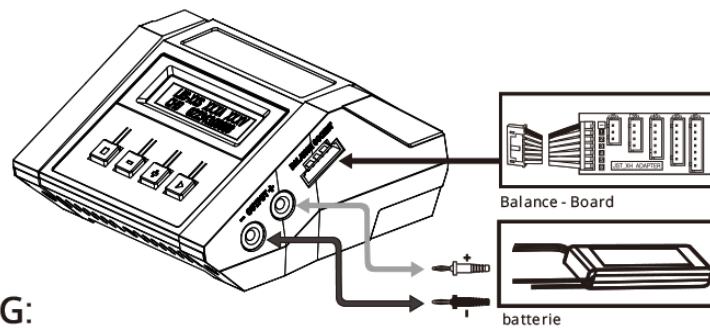
batterie

WARNING:
⚠ Failure to connect as shown in this diagram will damage this charger. To avoid short circuit between the charge lead always connect the charge cable to the charger first, then connect the battery. Reverse the sequence when disconnecting.

Charge program

```
┌─────────────────────┐
│ PROGRAM  SELECT     │
│    LiPO Battery     │
└─────────────────────┘
```
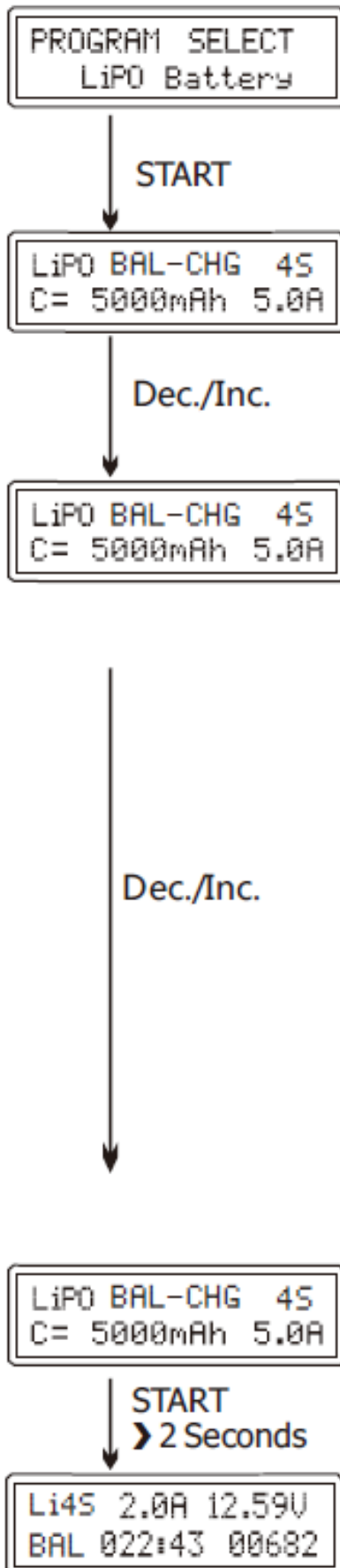
↓ START

```
┌─────────────────────┐
│ LiPO BAL-CHG   4S   │
│ C= 5000mAh  5.0A    │
└─────────────────────┘
```

↓ Dec./Inc.

```
┌─────────────────────┐
│ LiPO BAL-CHG   4S   │
│ C= 5000mAh  5.0A    │
└─────────────────────┘
```

↓ Dec./Inc.

```
┌─────────────────────┐
│ LiPO BAL-CHG   4S   │
│ C= 5000mAh  5.0A    │
└─────────────────────┘
```

↓ START
❯ 2 Seconds

```
┌─────────────────────┐
│ Li4S  2.0A  12.59U  │
│ BAL 022:43  00682   │
└─────────────────────┘
```

BATT/PROGRAM Select

Press "STOP" and "-"to go through all the programs and press "START/ENTER to enter LiPo BATT program.

Mode Select

Press "+" and "-" to go through all the modes (balance charge mode,storage mode, discharge mode and fast charge mode).

Battery Setting

Press START, the present value will start to blink. Press "+" and "-" to set the battery cells. And press START to confirm your setting. At the same time, Press START, the present value will start to blink. Press "+"and "-"to change the value and press START to confirm your setting. Charger automatically recommend charging current according the capacity and cell count setting value, Press START to confirm if no objection, or manually set the current by pressing "+"or"-"button, then press START to confirm.

Program Start

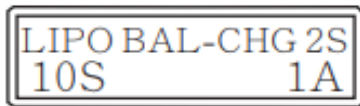Press and hold START for 2 seconds to start the program.

Charging Status

It show the real-time data during charging.

Error Message

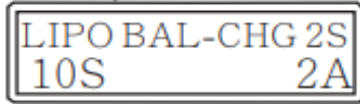|	
REVERSE POLARITY	⇒ Incorrect polarity connected.
CONNECTION BREAK	⇒ Charger and battery connection is wrong.
SHORT ERROR	⇒ Input short circuit
INPUT VOL ERR	⇒ Input voltage less than required value
BATTERY CHECK LOW VOLTAGE	⇒ Battery total voltage is lower than setting value, please check the cell count.
BATTERY CHECK HIGH VOLTAGE	⇒ Battery total voltage is higher than setting value, please check the cell count.
BATTERY VOLTAGE CELL LOW VOL	⇒ Voltage of one cell in the battery pack is too low.
BATTERY VOLTAGE CELL HIGH VOL	⇒ Voltage of one cell in the battery pack is too high.
BATTERY VOL ERR CELL CONNECT	⇒ The battery balance connection is wrong. Please check the connector and cable.
TEMP OVER ERR	⇒ Temperature too high, please check the temperature sensor and take cooling measures.

Operation Instructions

```
LIPO BAL-CHG 2S
10S             1A
```

1. Standby
After the charger is powered on, it will enter standby mode. Connect the battery and the balance port. The charger will automatically detect the connected battery type.

```
LIPO BAL-CHG 2S
10S             2A
```

2. Charging Current selection
After entering the main interface, you can press the "INC" and "DEC" buttons to set the charging current value. Check that the selected current does not exceed the battery specifications.
Then press the "START" button to confirm the set value.
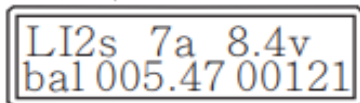
If there is no action in 10 seconds the program will automatically recommend a charging current according to the number of cells and capacity. The 10 second countdown will be displayed in the lower left corner of the current setting interface. The settings buttons will reset the countdown timer.

```
START
> 2 Seconds
```

3. Start charging
Press and hold the "START" button for 2 seconds to start the charging program. When in charging mode, the "INC", "DEC" and "ENT" buttons are not available. Press the "ESC" to stop charging.

```
LI2s  7a  8.4v
bal 005.47 00121
```

Charging Procedure

5000 LiPo

Select Program (LiPo) -> Press Start
Select Balance Charge -> Press Start
Input Cell Count (4s) -> Press Start
Select Current (5000 mAh) -> Press Start
Select Charge Current (Max 5.5A) -> Press Start
Press and hold Start for 2 Seconds

6600 LiHV

Select Program (LiHV) -> Press Start
Select Balance Charge -> Press Start
Input Cell Count (6s) -> Press Start
Select Current (6600 mAh) -> Press Start
Select Charge Current (Max 5.5A) -> Press Start
Press and hold Start for 2 Seconds

8000 LiHV

Select Program (LiHV) -> Press Start
Select Balance Charge -> Press Start
Input Cell Count (4s) -> Press Start
Select Current (8000 mAh) -> Press Start
Select Charge Current (Max 5.5A) -> Press Start
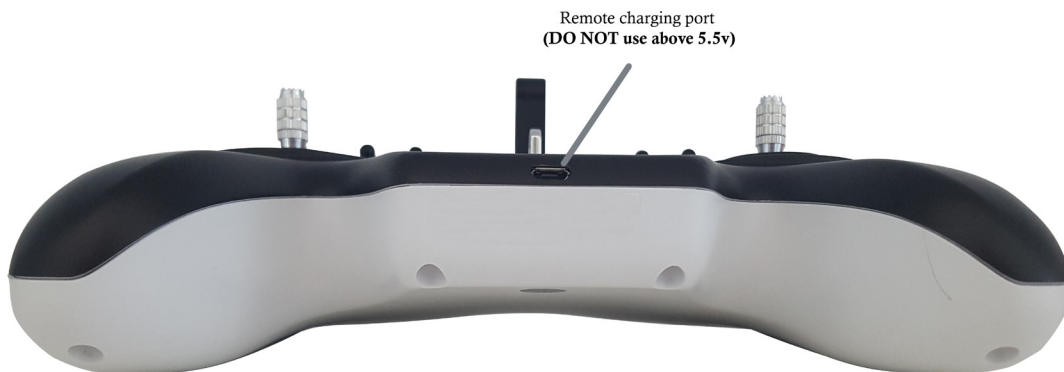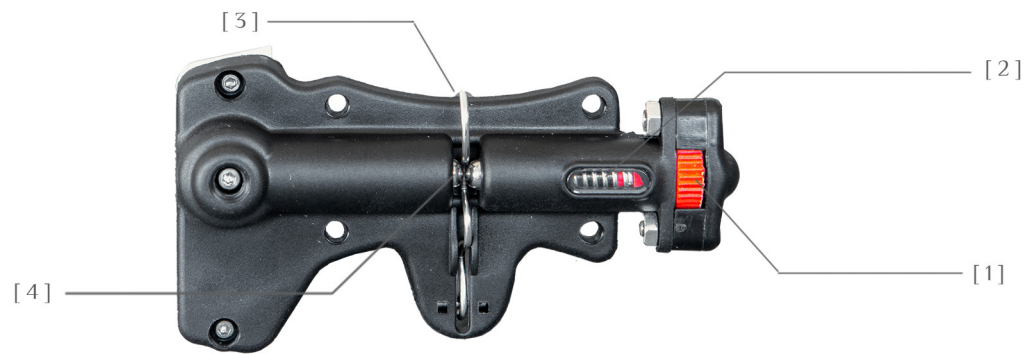Press and hold Start for 2 Seconds

Charging the remote

Remote charging port
(DO NOT use above 5.5v)

⚠ **Do not charge your remote with a charger rated above 5V**

Payload Release System

[3]
[2]
[4]
[1]

1. Tension Adjustment Wheel
2. Tension Adjustment Indicator
3. Easy Release Arm (for baits over 800g)
4. Release balls

Operation Instructions

1. Put the release switch into the on position.
2. Load bait, sinker and 2 additional 7 ounce sinkers.
3. Adjust tension wheel until the load drops.
4. Reload the bait with the sinker, excluding the 2 sinkers for setup.
5. When in position, flip the release switch into the unlocked position to release your payload.

⚠ Drop Loop

A drop-loop is an essential part that has saved countless drones from failure. By utilising a drop-loop, the main line is kept far away from drones props.

We recommend using a long running drop loop of at least 60 - 80 cm with the bait hanging a further 3-10m below that.

By having the bait (weight) far away from the drone, the swinging of the bait (pendulum effect) is allot slower and less violent, by doing this, It greatly increases drones stability.

The pendulum effect this is magnified with a short drop line and has also caused drones to crash. Short drop loops are known to swing up and cause crashes.

The correct way to rig a single bait

Nail knot
Leader to mainline knot
Drop-Loop 60-80cm
Main line to rod
Leader line minimum 3m, 6 to >10m prefered
3 way swivel or sliding lead
Trace
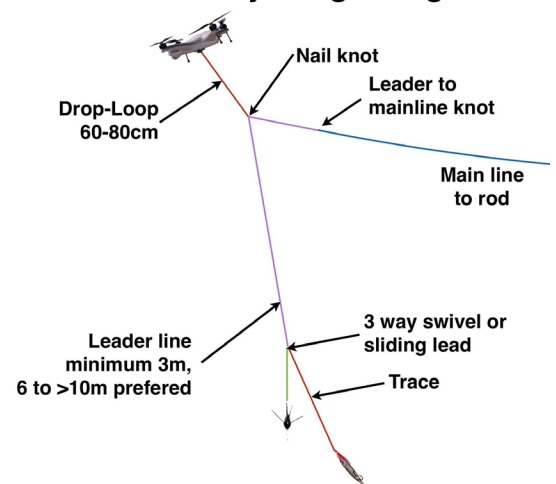
Flight Modes

GPS Mode : This mode uses the GPS module to achieve accurate and stabilized hovering, braking, intelligent flight, intelligent return and other intelligent flight mode functions.

ATTI Mode : This is a more advanced flight mode which does not use the GPS positioning function but still maintains altitude stabilization. The drone will drift with any wind when hovering and will not brake when the joysticks are released.

RTH Mode : The Gannet Pro / Pro+ has an Auto Return Home function if the GPS successfully recorded the home point before takeoff. If the remote controller and the aircraft loose communication with each other, the drone will automatically return to the take off point and land. The Return Home function can also be manually initiated from the remote controller by using the Return Home switch.

C - L Mode : In course lock flying, the forward direction is the same as a recorded nose direction. All the following requirements are met: the autopilot system is in ATTI. Mode or GPS ATTI. Mode.

H - L Mode : In home lock flying, the forward direction is the same as the direction from home point to multi-rotor. All the following requirements are met: 6 or more GPS satellites are found, in GPS ATTI. Mode, and the aircraft is further than 10m away from the home point.

	Course Lock	Home Lock
Automatically	30 seconds after you power on the autopilot system.	Before takeoff, the current position of the aircraft will be saved as home point when you start the motors for the first time after 6 or more GPS satellites have been found for 10 seconds.
Manually	30 seconds after you power on the autopilot system. Toggle the IOC switch from Off to Course Lock, and back to Off quickly 3 to 5 times.	After 6 or more GPS satellites have been found. And the aircraft can be hovering. Toggle the IOC switch from Course Lock to Home Lock, and back to Course Lock quickly 3 to 5 times.
⚠️	DO NOT toggle the switch between Off to Home Lock, since it may change the recording of the Forward Direction of Course Lock.	

⚠ In both ATTI and GPS mode, it is recommended to wait for at least 9 GPS satellites before take-o to ensure that the home point is correctly registered for the Return Home function to operate.

⚠ In ATTI mode the drone's speed is faster and auto braking is disabled. Ensure the drone has sufficient space for the pilot to turn or brake. For emergency braking, with sufficient GPS coverage in ATTI mode, switch to GPS mode and release the joysticks.

⚠ If the GPS signal is poor (fewer than 5 satellites) or GPS doesn't work, the Return Home function will not be available.

⚠ During the return process, only the right (steering) stick is active. When the drone returns to the Home Point and commences its descent, the left joystick will only control the direction (Heading) of the drone, the right joystick controls the forward/back and sideways functions to re-tune the landing site.
At any point, the return home function can be canceled by returning the Return Home switch to the Normal position.

FailSafe
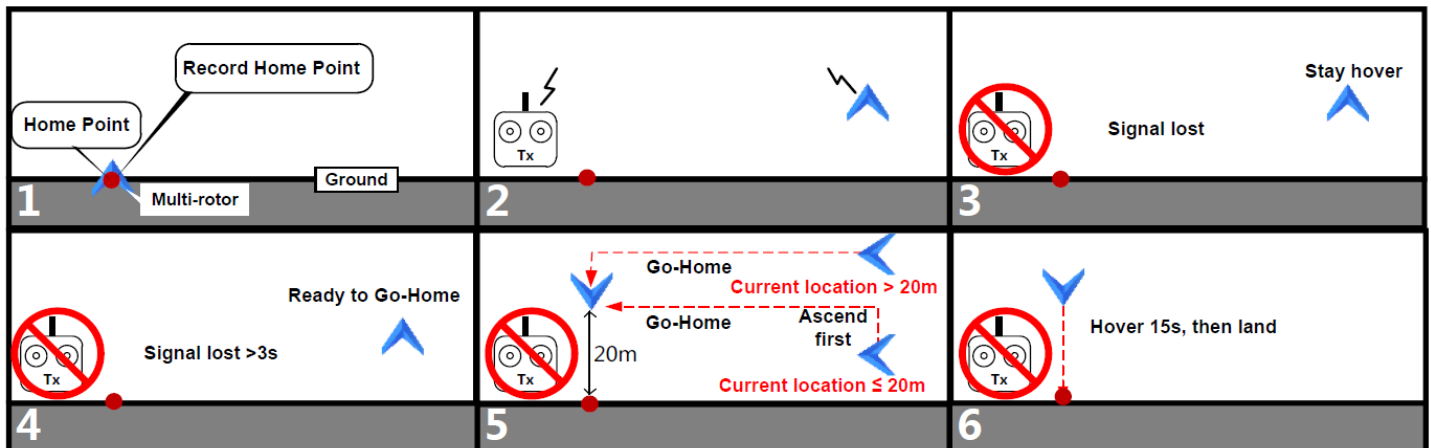
Home-point: Before takeoff, current position of multi-rotor will be saved as home-point by MC automatically when you start the motors for the first time after 6 or more GPS satellites are found (red light blinks once or no blinking) for 10 seconds.

The flowchart of failsafe and how to regain control
This section will demonstrate the working logic of failsafe and how to regain control.
The following description is effective only when:
1. The aircraft is in flight.
2. The GPS works normally and signal is good (≥6 satellite, the LED blinks a single red light or no red light).

| — What triggered failsafe |
| — The aircraft behavior after failsafe |
| — How to regain control |
| — Precautions |

(1) The aircraft flies far away, TX is on but the signal is weak.	Attitude Mode: (1) the aircraft will level its attitude immediately (2) 3 seconds later, failsafe is triggered and aircraft will start to go home. (3) If signal is regained during (1) or (2), it will resume normal flight immediately.	Attitude Mode: In Attitude Mode as soon as you get signal you can regain control.
	GPS Mode: (1) the aircraft will slow down and hover. (2) if the signal is restored within 3 seconds (TX and receiver connected), the system will immediately return to normal operation; does not enter failsafe. (3) if not reconnected within 3sec, the system will enter failsafe, then even if the signal is restored, the system will not exit failsafe.	GPS Mode: switch the TX mode switch to ATTI, if the receiver is connected, then you will regain control.
(2)Turn off the TX (we assume you want to trigger failsafe)	In this case, the behavior of the aircraft is the same as in the above condition. If you want the aircraft to Return Home, please do not turn the TX back on within 3 seconds*, otherwise the aircraft will exit failsafe mode immediately.	If you choose to turn off the TX, you must be pretty sure that you know how to regain control. Here we offer a method, please read carefully.

We strongly recommend you DO NOT try this, because there are three types of risk:
(1) You must be pretty clear whether the Home-point is OK for landing or not. (You have to understand the definition of Home-point well and the working process of failsafe)
(2) If there are tall buildings around, the aircraft may be obstructed on the way.
(3) When GPS signal is bad or GPS is not working, failsafe will not work.

When you turn off the TX, use the following method to regain control:
(1) Switch the TX switch to GPS.
(2) and then put throttle to the center position(greater than 3sec after switching off, important), you can now turn the TX back on.
(3) then you can switch the TX Control mode switch to ATTI to regain control.

Note: if you start the motors, but do not push the throttle to take-off the aircraft, in this case it is very dangerous to turn off the TX, because the aircraft will take off automatically, so do not try this.