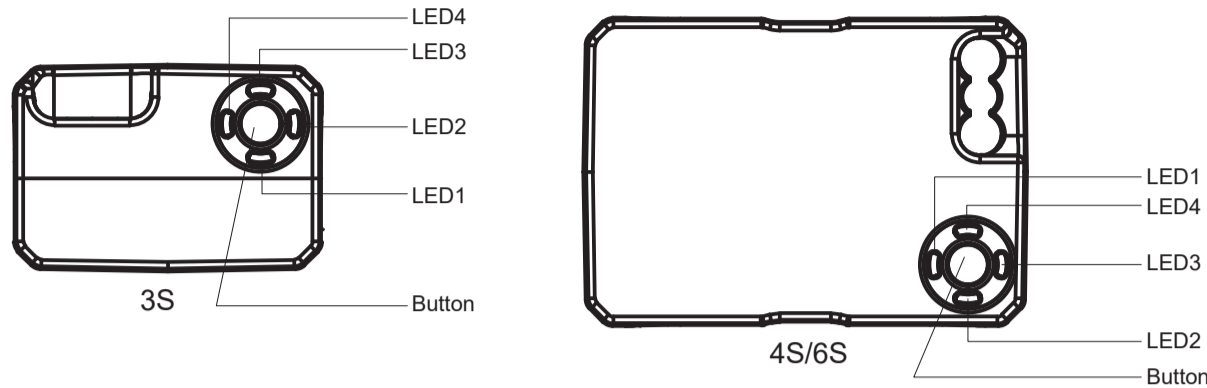




All instructions and precautions must be read carefully and followed exactly before use. Warning: With improper operation, it is possible to create a serious fire, damage your device, create property and collateral damage and serious injury. If an unexpected error occurs, please take immediate action to reduce possibly bodily harm and/or property damage.

This product contains a circuit board, which utilizes a small amount of power in order to monitor the battery's condition. As a result, it is recommended to check the battery's power level every 3 months. If you plan to store the battery for a prolonged period of time, it is recommended to keep the lower level at 3 bars.

**Product overview:**



**Circuit Board Functions:**

The circuit board measures the remaining power level of the battery according to its cell voltages and displays the remaining power left with 4 indicator lights around the button. A short press of the button will display the remaining battery power. See the table below for specific display details. Please note that the battery indicator lights are used for reference only and may not be perfectly accurate. For exact voltage values, it is recommended to use a more accurate measuring instrument.

LED Indicator Lights - Status Details				
Status	LED1 (Red/Blue)	LED2 (Blue)	LED3 (Blue)	LED4 (Blue)
Capacity 1-10% (3.21-3.4V/cell)	● Solid Blue	/	/	/
Capacity 11-40% (3.41-3.755V/cell)	● Solid Blue	● Solid Blue	/	/
Capacity 41-70% (3.755-4.0V/cell)	● Solid Blue	● Solid Blue	● Solid Blue	/
Capacity 71-100% (4.0-4.35V/cell)	● Solid Blue	● Solid Blue	● Solid Blue	● Solid Blue

This battery has a built-in mechanism that prevents the product from overcharging. When the battery's circuit board detects the voltage of any cell being greater than or equal to  $4.4 \pm 0.025V$ , the circuit board will trigger overcharge-prevention mechanism, which will send a signal to the battery charger to disrupt and stop the charging. The charger will then display: "Connection Break / Connection Error" or something similar to indicate the issue. Please note that this prevention mechanism can only be triggered when the main battery's charging cable and balance connector are connected correctly into a LiPo battery charger. In addition, the LiPo charger being used must have the ability to detect the connection status of the battery by reading its cell voltages.

The circuit board will not work, thus not triggering the prevention mechanism, in the following conditions:

1. The battery is incorrectly connected to the charger
2. The battery's balance connector is not connected to the charger
3. The charger does not have the ability to detect whether the charging cable and balance connector are properly connected

Please note: This battery does not have an overcharge protection circuit that will automatically cut off the internal battery power. This battery is not recommended for those looking for a built-in active overcharge-protection circuit board.

**This battery contains a function that warns against abnormal voltages. See the table below for more details:**

LED Abnormal Indicator Lights - Status Details				
Status	LED1 (Red/Blue)	LED2 (Blue)	LED3 (Blue)	LED4 (Blue)
Large cell voltage difference warning (greater than 3.0V)	⚡ red and blue flashing	/	/	/
Overcharge warning (greater than or equal to $4.4 \pm 0.025V/cell$ )	⚡ flashing red	/	/	/
Low voltage warning (lower than 3.2V/cell)	● solid red	/	/	/

**LED1 solid red → Low voltage warning**

When the battery cell voltage is lower than 3.2V, the low voltage warning will be triggered. LED1 light will always be solid red. Please stop using this battery as it has been over discharged. Please use a voltage checker or a charger with voltage detection function to check the voltage of each cell. If the voltage of each cell is higher than 3.0V, please try using a LiPo charger for balance charging. The recommended charging current is 0.2C. If charging doesn't work, please stop using this battery. If the battery cell voltage is lower than 3.0V, it means that the battery has been extremely over-discharged and maybe internally damaged and it is not recommended to continue use.

**LED1 alternating red and blue flashing → Large cell voltage difference warning**

When the voltage difference between the cells is greater than 300mV, the warning against a large cell-voltage difference will be triggered, and LED1 will alternate between flashing red and blue. Please stop using this battery and contact the manufacturer.

**LED1 flashing red → Overcharge warning**

When a charger fails, the battery can be overcharged. If the battery cell voltage is greater than or equal to  $4.4 \pm 0.025V$ , it will trigger the overcharge warning. Please stop charging the battery immediately and disconnect all charging cables from the battery. Do not use the charger to charge other batteries. The charger may be faulty. If you continue to use this charger it may cause an overcharge condition of any battery and a fire may result.

Please note: when the overcharge prevention mechanism is triggered, LED1 will keep flashing red until the prevention mechanism is cancelled. During overcharge, it will not be possible to read the battery cell voltage using the battery's balancing connector. If you need to read the voltage from the battery's balancing connector, you will need to cancel the battery overcharge prevention mechanism. There are two ways to clear this condition:

1. Automatic cancellation mechanism: When the voltage of all battery cells is lower than 4.35V, the overcharge prevention mechanism will be automatically cleared.
2. Manual cancellation: If you need to manually cancel the overcharge prevention mechanism, you will need to press and hold the button for 5 seconds. After pressing the button for 5 seconds, the overcharge prevention mechanism will be cancelled. After the prevention mechanism is manually cancelled, please do not recharge the battery. If you short press the button again and the battery cell voltage is still greater than or equal to 4.4V, the red light of LED1 will flash again, and it will automatically go out after flashing for five seconds. If the voltage is lower than 4.4V, the LED indicator will display the normal power level.

**Discharging**

- Never discharge Batteries at amperage rates higher than specified on Batteries' labels.
- Never allow the temperature of batteries to exceed 140°F during discharge. Adequate cooling for batteries is required, especially when discharging at or near maximum rates.
- Never discharge batteries a voltage below that which is recommended by the manufacturer when measured under load (i.e. connected to a vehicle or charger capable of discharge). Batteries discharged to lower than the lowest approved voltage provided by the manufacturer may be damaged, resulting in a loss of performance and/or potential fire.
- Never discharge batteries below 3V per cell under load. For Tattu series batteries which are used for Unmanned Aircraft system, The recommended cut off voltage is 3.5V per cell
- Never leave batteries unattended during the discharge process. During the discharge process, the user should constantly monitor the process in case any potential issues occur.
- In case of emergency, discontinue the process immediately, disconnect the battery, place it in a safe area, and observe it for approximately one hour. This may cause the battery to leak and the reaction with air may cause the chemicals to ignite, resulting in a fire. A safe area should be outside of any building or vehicle and away from any combustible materials. A battery can still ignite even after one hour.
- The user must check the battery condition before use or discharge. Immediately stop using the battery if cells are discovered to be imbalanced or if cells are puffed or leaking.

## Before Charging

- Please read the charger instruction book before charging.
- Always check the voltage of Batteries before each charge session in order to ensure they are at or above the minimum safe starting voltage. If starting voltage is below recommended levels then Batteries have been over discharged or have experienced a failure and should NOT be charged.
- Always check the battery before charging for any type of damage. Check the battery packaging, wires and connectors for defects, which may cause a short circuit and eventual battery failure.
- Make sure you are using charge leads which are compatible with the battery connectors.
- User should check the polarity of the battery cable and charger lead carefully before the connection to avoid any short circuit.
- Always verify the charger is in good condition. A poor quality charger can be dangerous.

It is solely your responsibility to assure that the charger you use works properly. Always monitor the charging process to assure batteries are being charged properly. Failure to do so may result in a fire.

## Charging

- Only use chargers designed for lithium polymer/Li-ion battery. Do not use a NIMH/NICD/LIFEPO4/LEAD ACID charger. Be absolutely sure to select the Lithium polymer(Lipo) mode on the charger. Failure to do so may cause a fire, which may result in personal injury and property damage.
- User should Always charge Batteries in an open area away from flammable materials, liquids and surfaces.
- Never charge Batteries inside of the model.
- Never charge Batteries that are hot to the touch (above 100° F). DO NOT handle Batteries until they are cool.
- User should Always set the charger to the proper cell count and/or voltage listed on Batteries' labels.
- User should Always set the charger to the amp charge rate as listed on Batteries' labels.

The charger should never be set to charge Batteries at a rate greater than 1C (One (1) times the capacity of Batteries in amp hours) unless another C rate is specified in the manufacturer's product documentation or the rate is preset as part of a specific battery and charger combination. DO NOT alter the charge rate once charging has begun.

- Never overcharge Batteries beyond the capacity listed on Batteries' labels.
- Never overcharge batteries over their rated maximal voltage (4.35V/cell for LiPo).
- It must choose series charging if two or more battery packs be connected in series for using.
- Use suitable and good quality chargers, please don't use cheap and low quality chargers, use the professional Lithium polymer charger to charge the Gensace& Tattu battery. When charging, please make sure the surroundings is clean, without sundries around. Don't charge without monitoring. Using lipo sack is suggested when charging to ensure the charging safety. Stop charging timely when the battery is fully charged. Do not connect the charger and the battery for a long time when the battery is fully charged. We will not be responsible for any personal injury and property lost or any kind accident that caused by improper charging.

## Storage

- Do not directly connect the terminals with metal objects. This will short-circuit Batteries, resulting in heat and electrical discharge.
  - Never store loose Batteries together, the Batteries' terminals may contact one another causing a short circuit.
  - Never storage Batteries to extreme temperatures or direct sunlight. The battery should be stored within -10 C~45 C range environmental condition. If the battery has to be stored for a long time (Over 3 months), the environmental condition should be: Temperature: 23±5 C Humidity: 65±20%RH
  - The voltage for a long time storage should be 3.6V~3.9V range per cell.
  - Always disconnect Batteries when not in use and store Batteries in a non-conductive and fireproof container.
- Never alter, puncture or impact Batteries or related components.

## Safety

- Do not reverse charge. The cells must be connected correctly. The polarity has to be confirmed before wiring, In case of the cell is connected improperly, the cell cannot be charged. Simultaneously, the reverse charging may cause damaging to the cell which may lead to degradation of cell performance and damage the cell safety, and could cause heat generation or leakage.
- Do not strike the battery with anything that has sharp edges.
- Trim your nails or wear gloves before handling the battery.
- Do not attempt to open or deform any folded edges of a cell.
- Do not drop, hit, or bend the battery.
- Never disassemble the cells. The disassembling may generate internal short circuit in the cell, which may cause gassing, firing, or other problems
- LiPo batteries should not have electrolytes flowing or leaking out; in the case the electrolytes come into contact with the skin, or eyes, physicians shall flush the electrolyte immediately with fresh water and medical advice is to be sought.
- Do not incinerate the cells, and do not dispose of the cells in fire. These many cause the cells to catch on fire, which is very dangerous. Do not soak the cells with any liquid, such as water, soft drinks, juices, coffee, etc.
- The battery replacement shall be done only by either cells supplier or device supplier and never be done by the user.
- The cells might be damaged during shipping by shock. If any abnormal features of the cells are found such as damages in a plastic envelop of the cell, deformation of the cell package, smelling of electrolyte, electrolyte leakage and others, the cells shall never be used any more.
- The cells with a smell of the electrolyte or a leakage shall be placed away from fire to avoid firing.
- If at any time the battery becomes damaged, hot, begins to balloon or swell, discontinue charging or discharging immediately. Quickly and safely disconnect the battery from the charger or model. Then place the battery and/or charger in a safe, open area, away from flammable materials inside a fireproof container (such as a LiPo safety bag). After one hour, if the battery condition has stabilized, remove the battery from service. Do not continue to handle, attempt to use, or ship the battery. Failure to follow these procedures can cause damage to the battery, personal property or cause serious injury.

## Damage Limits

Gens Ace/Tattu will not be liable for special, indirect or consequential damages, loss of profits or production or commercial loss in any way connected with the product, whether claim is based in contract, warranty, negligence, or strict liability. Further, in no event shall the liability of Gens Ace/Tattu exceed the individual price of the product on which liability is asserted. As Gens Ace/Tattu has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly the user accepts all resulting liability.

If you, as the purchase or user, are not prepared to accept the liability associated with the use of this product, you are advised to return this product immediately in new and unused condition to the place of purchase.

## Limited Warranty

Gens Ace/Tattu reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

This warranty is limited to the original purchaser and is not transferable. Replacement as provided under this warranty is the exclusive remedy of the purchaser. This warranty covers only the products purchased from an authorized dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims.

Gens Ace/Tattu makes no warranty or have determined that the product will suitably meet the requirements of the purchaser's intended use.

Gens Ace/Tattu's sole obligation here under shall be that it will, at its option, replace any product determined by Gens Ace/Tattu to be defective in the event of a defect, this is the purchaser's exclusive remedy. Replacement decisions are at Gens Ace/Tattu's sole discretion.

This warranty does not cover cosmetic damage or damage due to accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance or attempted repair by anyone.

## Questions And Assistance

If further assistance is needed, please contact your local hobby store or place of purchase. If they cannot provide support, contact Gens Ace at [info@gensace.com](mailto:info@gensace.com).

## Instructions For Disposal By Users

This product must not be disposed of along with other waste. It is the user's responsibility to dispose of the product by handing it over to a designated collection facility according to state and county regulations.

The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.