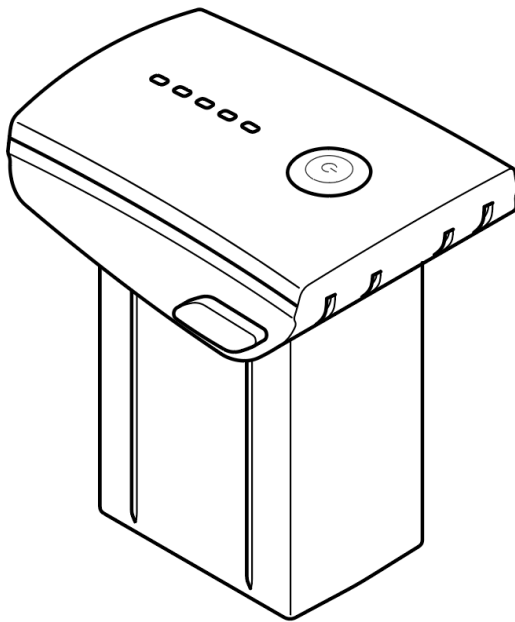


MOBULA

SMART BATTERY

User Manual & Safety Instruction

V2.0



Glossary

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

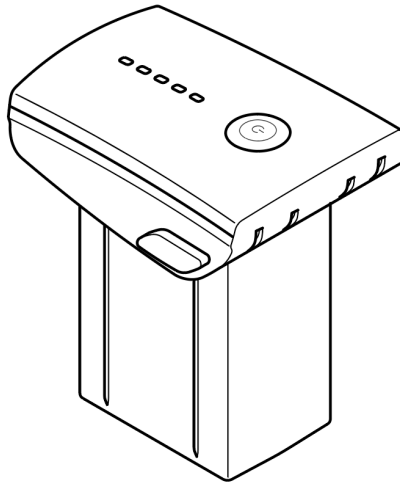
WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.

WARNING

Read the ENTIRE user manual to become familiar with the features of this product before operating. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This is a sophisticated product. It must be operated with caution and common sense and requires some basic mechanical ability. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the documents provided by Ningbo Pelican Drone Co., Ltd. These Safety Guidelines contain instructions for safety, operation and maintenance. It is essential to read and follow all of the instructions and warnings in the user manual, prior to assembly, setup or use, in order to operate the product correctly and avoid damage or serious injury. Ningbo Pelican Drone Co., Ltd will not take any responsibility for the problems caused by incorrect operation beyond the specification.

MOBULA Smart Battery User Manual

The MOBULA Smart Battery has a capacity of 10,000 mAh, and smart charge, discharge functionality. It should only be charged using an appropriate charger that has been approved by Rippton.



MOBULA Smart Battery Functions

1. **Battery Level Display:** The Battery Level Indicators will show the current battery level.
2. **Battery Life Display:** The LED display the current battery power cycle.
3. **Sleep Mode:** To save power, the battery enters sleep mode after 5 minutes of no communication or charge/discharge.
4. **Battery Auto Turn Off:** The battery turns off after 5 minutes of no operation or load. This will not activate during discharge.
5. **Battery Protection LED Display:** The battery will display a warning message when the error occurs.

Using The Battery

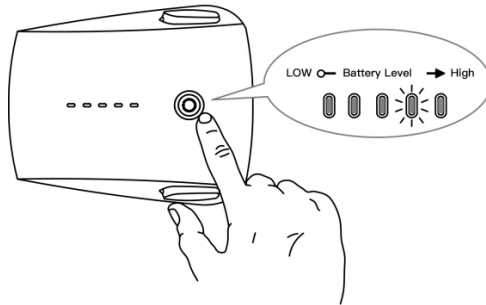
Turning ON/OFF

Turning ON: Short press and long press the battery power button.

Turning OFF: Short press and long press the battery power button.

Checking The Battery Level

Short press the MOBULA smart battery. The battery level indicator will light up and show the remaining battery level.



Battery Level Display

Battery Level	LED 1	LED 2	LED 3	LED 4	LED5
90%~100%	ON	ON	ON	ON	ON
70%~90%	ON	ON	ON	ON	FLASH
60%~70%	ON	ON	ON	ON	OFF
50%~60%	ON	ON	ON	FLASH	OFF
40%~50%	ON	ON	ON	OFF	OFF
30%~40%	ON	ON	FLASH	OFF	OFF
20%~30%	ON	ON	OFF	OFF	OFF
10%~20%	ON	FLASH	OFF	OFF	OFF
<10%	ON	OFF	OFF	OFF	OFF

Battery Life

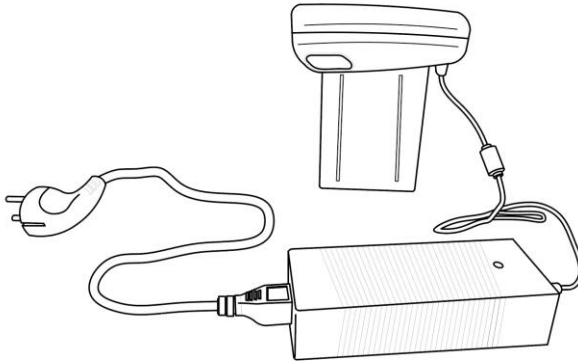
Battery life refers to how many more times the battery can be discharged and recharged before it must be replaced. When the battery is turned off, press the power button for 5 seconds to check the battery life. The battery level indicators will light up and/or blink for 5 seconds.

Batter Life Display

Battery Life	LED 1	LED 2	LED 3	LED 4	LED5
90%~100%	ON	ON	ON	ON	FLASH
80%~90%	ON	ON	ON	OFF	FLASH
70%~80%	ON	ON	OFF	ON	FLASH
60%~70%	ON	OFF	ON	ON	FLASH
50%~60%	OFF	ON	ON	ON	FLASH
40%~50%	ON	ON	ON	FLASH	FLASH
30%~40%	ON	ON	FLASH	FLASH	FLASH
20%~30%	ON	FLASH	FLASH	FLASH	FLASH
<20%	FLASH	FLASH	FLASH	FLASH	FLASH

Charging The MOBULA Smart Battery

1. Connect the charging adapter with power cord.
2. Connect the power cord to an earthed wall socket.
3. Connect the charging adapter to the MOBULA smart battery.



NOTICE

- Connect the battery charger to a power source (100-240 V).
- Make sure you only charge the battery when the temperature is between 10°C and 45°C. The charger will stop charging if the temperature is not within this range.

The battery charging time is approx. two to three hours. When the MOBULA smart battery is fully charged:

- Disconnect all cables from the MOBULA smart battery.
- Disconnect all cables from the battery charging adapter. Disconnect the power cord from the earthed wall socket.

Battery Level Display While Charging

Battery Level	LED 1	LED 2	LED 3	LED 4	LED5
Full Charged	OFF	OFF	OFF	OFF	OFF
80%~100%	FLASH	FLASH	FLASH	FLASH	FLASH
60%~80%	FLASH	FLASH	FLASH	FLASH	OFF
40%~60%	FLASH	FLASH	FLASH	OFF	OFF
20%~40%	FLASH	FLASH	OFF	OFF	OFF
0%~20%	FLASH	OFF	OFF	OFF	OFF

Battery Protection LED Display

The table below shows battery protection mechanisms and corresponding LED patterns.

Battery Protection Item	Blinking Pattern	Resolve
Discharge temperature higher than 80°C	Red light flash	Temperature lower than 60°C
Single cell voltage 3.6V while storing or button pressed	Orange light flash	Charging voltage > 3.6 V
Battery charging protection (Refer to table below)	Red light on	After 3 seconds

Battery Charging Protection	Blinking Pattern	Resolve
Over current detected	LED 2 flashes twice per second	After 3 seconds
Short circuit detected	LED 2 flashes three times per second	After 3 seconds
Over charge detected	LED 3 flashes twice per second	After 3 seconds
Over-voltage charger detected	LED 3 flashes three times per second	After 3 seconds
Charging temperature too low	LED 4 flashes twice per second	After 3 seconds
Charging temperature too high	LED 4 flashed three times per second	After 3 seconds

MOBULA Smart Battery Safety Instruction

NOTICE

- Do not put the battery within the reach of children or pets.
- The best temperature for shipment is $23\pm 5^{\circ}\text{C}$.
- Ensure to take the battery out of the MOBULA after each use.
- Never install or remove a battery from the MOBULA when it is turned on.
- Ensure to fully charge the battery before every flight.
- Use the battery at temperatures between -20°C and 60°C .
- Only use the supplied charger for battery charging to avoid potential damage. Rippton takes no responsibility if a battery is charged by a non-Rippton charger.
- Do not charge the battery immediately after flight until it cools down.
- Ensure to check the battery, cables and charger for any damage before charging.
- The battery might be in over-discharge status because of its self-discharged characteristics if no battery operation for a long time. To prevent over-discharge occurs, the battery should be charged regularly (every month) to maintain its power between 30%–60% at least even if it will not be used soon. Over-discharge will lead to the loss of battery function.
- Battery long-term storage process, the remaining capacity should be between 30 to 60%, about 50% at best status. High voltage storage conditions will accelerate the self-discharge, increase the side reaction products, and may damage the battery performance.
- Battery long-term storage temperature is $0^{\circ}\text{C} \sim 30^{\circ}\text{C}$. Do not left your battery non-charged for one month.
- Recommend to remain no less than 20% of the battery electricity after the end of using.

WARNING

- Stop using the battery immediately whenever it deforms, swells, leaks.
- The battery will fire, explode or leak if not strictly observing this item described below.

- Do not immerse the battery in water or seawater, and keep the battery in a cool dry environment during stands by period.
- Do not mix using the battery with one-off battery (such as dry battery) or different performance together.
- Keep all batteries out of the reach of little children. Consult a doctor immediately if a battery is swallowed.
- Do not use or leave the battery near a heat source such as fire or heater.
- Use the battery charger specifically for that purpose when recharging.
- Do not reverse the positive (+) and negative (-) terminals.
- Do not connect the battery to an electrical outlet.
- Do not dispose the battery in fire or heat.
- Do not short-circuit the battery by directly connecting the positive (+) and negative terminals with metal objects such as wire.
- Do not transport or store the battery together with metal objects such as necklaces, hairpins etc.
- Do not strike or throw the battery against hard surface.
- Do not directly solder the battery.
- Do not unpack the battery with a nail or other sharp object.
- Never disassembling the battery in any way.
- Ensure to take the battery out immediately and put it in a safe and open area when the battery falls into water during the flight. Maintain a safe distance from the battery until it is completely dry, and do not use damaged battery again.
- Do not clean a charger with denatured alcohol or other flammable solvents.
- Do not touch a mains plug with wet hands.

CAUTIONS

- Do not use or leave the battery at very high temperature (for example, at strong direct sunlight or in a vehicle in extremely hot weather). Otherwise, it can overheat or fire or its performance will be degenerate and its service life will be shortened.
- Do not use it in a location where static electricity is rich, otherwise, the safety devices may be damaged, causing a harmful situation.

- In case the electrolyte getting into the eyes due to the leakage of battery, do not rub the eyes! Rinse the eyes with clean running water, and seek medical attention immediately. Otherwise, it may injure eyes or cause a loss of sight.
- If the battery gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during use, recharging or storage, immediately remove it from the device or battery charger and place it in a contained vessel such as a metal box.
- In case the battery terminals are contaminated, clean the terminals with a dry cloth before use. Otherwise power failure or charge failure may occur due to the poor connection between the battery and the electronic circuitry of the instrument.
- Be aware discarded batteries may cause fire, 100%discharged the battery and tape the battery terminals to insulate them before disposal.
- Battery disposal: The scrapped cells or packs should be handed over to professional recycling battery companies or institution for disposal.
- Ensure to dispose the battery ONLY after a complete discharge.
- Ensure to place the battery in specific recycling boxes instead of regular trash containers.
- Ensure to strictly follow local regulations of battery disposal and recycling.

This content is subject to change.

If you have any questions about this document,
please contact Rippton by sending a message to support@rippton.com.

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