Guide for Usage, Maintenance, and Activation of Electric Bike Lithium Batteries (60V 16S Ternary Lithium)

I. Core Precautions for Daily Use (Extend Lifespan + Prevent "Starvation")

1. Charging: Recharge the battery promptly when the level drops to 20%-30% (when the dashboard displays 1-2 bars or a low-power alert). Do not ride if the bike shuts down due to complete power loss—this is a critical risk point. If the bike's battery dies and is left unused for over a week, it is likely to become "starved."

Expert Advice: "Starvation" of lithium batteries (failure to charge caused by prolonged over-discharge) is strictly classified as human-induced damage, not a manufacturing defect. Such damage is 100% excluded from the manufacturer’s warranty. This is an industry-wide quality assurance standard, as it results directly from improper user maintenance (neglecting timely charging) rather than inherent product flaws.

Whenever the bike is not in use, charge it immediately—do not wait, under any circumstances. After full charge, float charge for 1-2 hours. Do not leave it plugged in overnight (to avoid overcharge damage).

2. Charging Specifications: Only use the original 67.2V dedicated charger. Avoid mixing chargers of different voltages or brands. Charge in a well-ventilated, dry environment, away from high temperatures (>35℃), humidity, or flammable materials. Immediately disconnect the power if the battery swells or heats abnormally during charging.
3. Discharging Taboos: Avoid long-term high-speed riding, climbing, or other heavy-load use to prevent high-current discharge of the battery. In winter, low temperatures (<0℃) will naturally reduce the driving range, which is a normal phenomenon. Do not forcibly drain the battery until it shuts down.

II. Storage and Maintenance Key Points (Critical for Preventing "Starvation")

1. Short-term Storage (Within 1 Week): Charge to 50%-70% (corresponding to a voltage of approximately 52-56V) immediately after use, and store in a cool, dry place. Avoid direct sunlight, proximity to heaters, or low-temperature damage (<-10℃).
2. Long-term Storage (More Than 1 Week): Recharge once a month to maintain the voltage above 48V. Be sure to charge to 50%-70% before storage; never leave it in a depleted state (especially after forced shutdown) below 48V for long periods.

3. Environmental Requirements: Do not store in high-temperature enclosed spaces such as car trunks or balconies for extended periods. High temperatures accelerate self-discharge, potentially reducing the original 1-month safety window to 2 weeks.

III. Judgment and Activation Methods for "Starved" Batteries (Only Applicable to Batteries with Voltage Below 48V, But Not Completely Damaged)

(I) "Starvation" Judgment Criteria

1. No response when the charger is plugged in, or the charger only lights up green and does not charge.
2. Measuring the total battery voltage with a multimeter shows it is below 48V (the danger line for 16S ternary lithium batteries) but not below 40V (batteries below 40V are mostly irreparably damaged).

(II) Professional Activation Steps (Non-professionals are advised to consult a repair shop; self-operation involves risks)

1. Prepare Tools: A matching original 67.2V charger, a multimeter (optional for voltage measurement), and a specialized lithium battery activator. Do not attempt to operate without the activator.
2. Safety Prerequisite: Check the battery appearance before activation. If there is swelling, leakage, or damage, stop immediately. Do not activate; replace the battery instead.
3. Activation Operation:
    - Prioritize the Use of "Specialized Lithium Battery Activator": Connect to the positive and negative terminals of the battery, select a low current (0.1C-0.2C, e.g., 3-6A for a 30Ah battery) for pre-charging, raise the voltage above 48V, and then switch to the original charger for normal charging for 8-10 hours.
    - Emergency Method Without Activator: Connect directly with the original charger. If the charger’s green light flashes or it heats slightly, it may be pre-charging slowly. Keep it connected for 2-4 hours and observe if it switches to red light charging. If there is no response, stop the operation to prevent damaging the charger or battery.
4. Post-activation Inspection: After charging, test the driving range during riding. If the range is significantly reduced (less than 50% of the original range) or the battery loses power quickly again, the battery may be partially damaged. It is recommended to check whether the cell voltages are balanced.

(III) Activation Taboos

1. Do not use a charger with a voltage higher than 67.2V for forced charging, as this may cause the battery to overvoltage, swell, or catch fire.

2. Do not disassemble the battery case, as short circuits may lead to hazards.
3. If the battery voltage is below 40V, still cannot be charged, or emits an odor after activation, discard it immediately and do not continue using it.