



User Guide & Warranty

LITHIUM AUTOMOTIVE BATTERIES

For more information & support please visit: <http://www.tykoolbattery.com>
Customer Service Email: aftersale@tykoolbattery.com
aftersale_amz@tykoolbattery.com

A Message to Our Customers

Dear Driver, Rider, and Powersports Enthusiast,

On behalf of the entire TYKOOL team, thank you for placing your trust in us. We know you have many choices when it comes to powering your machine, and we are truly honored that you chose TYKOOL.

Who We Are: The Lithium Starting Specialists

TYKOOL is more than just a battery manufacturer; we are a dedicated team focused exclusively on high-performance engine starting solutions. Our mission is simple: to deliver the extreme cranking performance and longevity of Lithium Iron Phosphate (LiFePO₄) technology, backed by dependable quality and dedicated customer support.

Unrivaled Compatibility & Choice

We take pride in offering one of the industry's most comprehensive SKU lineups, covering powersports vehicles, lawn equipment, passenger cars, light trucks, and marine craft. Whether you are starting a vintage V-twin cruiser, a modern track bike, a heavy-duty UTV, or a high-performance passenger car, TYKOOL is engineered to deliver a precise, direct-fit replacement for your machine.

Engineered for Your Specific Needs

To better serve our diverse community, we have developed tailored product lines:

The STD (Standard) Series: Specifically designed for everyday users looking to upgrade from traditional lead-acid batteries. It ends the frustrating cycle of annual battery replacements and significantly lowers your long-term cost of ownership.

A Message to Our Customers

The PRO Series: Built for professional users, heavy-duty applications, and modified vehicles that demand maximum Cold Cranking Amps (CCA) and extreme durability.

The Smart Automotive (Bluetooth) Series: Purpose-built for passenger vehicles and light trucks. Featuring smart Bluetooth monitoring and emergency BMS jump-start capabilities, it delivers faster engine cranking, stabilized system voltage, and optimal ignition efficiency for daily drivers and car audio enthusiasts alike.

Your Role in Peak Performance

To ensure your TYKOOL battery delivers thousands of reliable starts, we ask that you read this guide thoroughly. Critical performance depends on a healthy operating environment: please follow our instructions to verify your vehicle's charging system during installation and adhere to our recommended charging and maintenance protocols.

Thank you again for choosing TYKOOL. We remain committed to continuous innovation and look forward to supporting all your adventures—on the street, on the track, or off the road.

Drive safe and ride strong,

Kevin Hsiang

Operations Director @TYKOOL

Table of Contents

Content	Page
Warning Information	--- 4
Installation & Safety Verification	--- 5-7
Battery Technology Selection Guide	--- 8-9
Charging Instructions	--- 10-11
BMS Information Guide	--- 12
Critical Advisory about BMS Limitations	--- 13-14
Products Technical Specifications	--- 15
Bluetooth and App Guide	--- 16-25
Warranty Information	--- 26-29
Additional Important Safety Warnings	--- 30-33

Warnings:



BEFORE USING THIS PRODUCT, PLEASE CAREFULLY READ AND UNDERSTAND THE SAFETY INFORMATION. Failure to follow these safety instructions may result in ELECTRICAL SHOCK, EXPLOSION, FIRE, potentially leading to SERIOUS INJURY, DEATH, or PROPERTY DAMAGE.



Fire: Do not cover the battery or place objects on top. Keep away from flammables. Tighten terminals to right in-lbs value to prevent high-resistance overheating and fire risk.



Explosion: Use ONLY LiFePO4-compatible chargers. STOP USE IMMEDIATELY if constant charging voltage exceeds 15.0V. Do not charge/discharge if the battery is swollen, melted, frozen, or outside operating temperatures. Never allow voltage to drop below 8V. Do not short-circuit or incinerate.



Electrical Shock: This device can deliver a harmful shock. Do not submerge or expose to water.



Shipping: SHIPPING DAMAGED LITHIUM BATTERIES IS ILLEGAL. If the battery is swollen or melted, contact a local certified recycling center for disposal immediately.

Installation & Safety Verification

1. Pre-Installation Inspection & Verification (MANDATORY)

At TYKOOL, we want you to enjoy thousands of reliable, high-power engine starts. Because our advanced LiFePO4 automotive battery interacts differently with your vehicle's charging system than a traditional lead-acid battery, completing this Pre-Installation Checklist is MANDATORY before finalizing your installation. These quick checks ensure your vehicle's electrical system is healthy and ready to protect your investment.

Step 1: Physical & Terminal Inspection

Visual Check: Visually inspect the battery for any signs of shipping damage (e.g., cracks, dents, or case deformation).

Terminal Condition: Ensure the internal M8 terminal threads and included SAE brass post adapters are clean and completely free of dirt, oxidation, or corrosion.

Step 2: Charge Status Verification

Measure the resting open-circuit voltage with a digital multimeter before installation. Ensure the battery is fully charged (resting voltage $\geq 13.2V$).

Step 3: Vehicle Charging System Test (Multimeter Required)

Before locking the cable clamps permanently, you **MUST** verify your vehicle's alternator/regulator output. Connect a digital multimeter (set to 20V DC) across the battery terminals while performing the following tests

Installation & Safety Verification

Idle Test: Start the engine and run at Idle (~700–900 RPM) with all accessories turned OFF. Output voltage must read between 13.8V and 14.7V.

Load Test: Hold the engine speed at 2,000 RPM, then turn ON high-beam headlights and air conditioning (A/C). The voltage must remain stabilized between 13.5V and 14.7V.

CRITICAL OVER-VOLTAGE WARNING (Constant >15.0V)

If your multimeter reads constant above 15.0V at any engine speed, STOP IMMEDIATELY AND TURN OFF THE ENGINE. A voltage reading above constant 15.0V indicates a damaged or faulty voltage regulator/ alternator. Exposing this lithium battery to continuous voltage above 15.0V will cause severe thermal degradation, BMS protection lock, or casing melt. Damage caused by a faulty vehicle charging system (>15.0V) is considered improper operation and will VOID your warranty.

Note for Modern Vehicles (Smart Alternator / IBS System)

Many modern European and select American/Asian vehicles are equipped with an Intelligent Battery Sensor (IBS) or Smart Alternator. After installing this new lithium battery, a Battery Registration / BMS Reset via an OBD-II diagnostic tool is strongly recommended to reset the vehicle's charging memory algorithm and ensure optimal battery lifespan.

2. Physical Installation Steps

Orientation: The product can be installed in any horizontal or vertical orientation except with the terminals facing downwards.

Securement: Secure the battery firmly to the battery tray or case, ensuring the battery wires can easily reach both terminals.

Connection: Using the included fasteners, connect the POSITIVE (+) wire to the positive terminal and the NEGATIVE (-) wire to the negative terminal. Always ensure correct polarity.

Torque: Connections & Torque Specifications

Ensure all battery connections are clean and securely tightened. Torque requirements vary by terminal setup:

SAE Terminal Posts to Battery (M8 Threads): Torque to 100–120 in-lbs (11.3–13.5 Nm) to ensure a low-resistance connection between the post adapter and the internal battery busbar.

Vehicle Cable Clamps to SAE Posts: Torque the OEM vehicle cable clamp bolt to 50–70 in-lbs (5.6–8.0 Nm). Do not overtighten, as excessive torque may strain or snap the vehicle's cable clamp.

Direct Ring Terminals (M8 Bolts): Torque directly to 100–130 in-lbs (11.3–14.7 Nm).

CRITICAL WARNING: Loose connections create high electrical resistance during heavy engine cranking, leading to severe heat buildup. This can degrade battery performance, melt terminal posts/casing, or cause potential fire hazards. Terminal melting or physical damage resulting from loose connections or excessive torque constitutes improper installation and will VOID the warranty.

Battery Technology Selection Guide:

LiFePO4 vs. Lead-Acid

1. Underlying Technology: Chemical Buffer vs. Digital Management

In the powersports industry, transitioning from Lead-Acid to Lithium Iron Phosphate (LiFePO4) is a shift from Passive Chemistry to Active Digital Management.

Lead-Acid (Traditional): Rely on slow chemical reactions. Due to their chemical buffering effect, they possess a certain degree of "shock resistance," meaning that even when a vehicle experiences rectifier aging or failure that passively exposes the battery to constant voltages above 15V, the lead-acid battery may still appear to be functioning normally. However, this shock resistance comes at the cost of internal damage (sulfation) and a significantly shortened lifespan.

TYKOOL LiFePO4 (Advanced): Controlled by an integrated Battery Management System (BMS). It is a precision electronic device. The BMS acts as a "Digital Fuse," prioritizing the safety of the cells and your vehicle's expensive electronics over continuous operation during an electrical fault.

2. Why Choose TYKOOL LiFePO4?

High Performance & Consistency: Unlike lead-acid batteries that lose cranking power as they drain, TYKOOL lithium batteries provide a high, stable current until the battery is nearly empty.

Easy State-of-Charge (SOC) Monitoring: With a much flatter discharge curve, the battery voltage remains stable, allowing for more predictable and readable power levels through our integrated monitoring.

Superior ROI (Return on Investment): While the initial purchase price is higher, the extended lifecycle—lasting as long as 3 to 5 traditional batteries—results in a significantly lower "cost per start" and fewer maintenance hassles.

3. Mandatory Compatibility & Risk Warning

The "Safety vs. Inconvenience" Trade-off

A BMS-initiated shutdown is a protective action, not a product defect. When your vehicle's charging system fails (e.g., regulator failure pushing voltage too high), the BMS will "lock" the battery to prevent a fire or the destruction of your motorcycle's expensive ECU and electronics. While this causes a temporary loss of power, it saves you from catastrophic repair costs.

Vehicle Compatibility Check (CRITICAL: to protect your vehicles)

Over-Voltage Risk: You **MUST** ensure your vehicle's charging system does not output constantly more than 15.0V. Continuous exposure to high voltage can lead to cell swelling or casing melt.

Installation Torque: Terminals must be tightened to right in-lbs using proper tools (Refers to the information on Page 6). Loose connections in high-vibration environments can cause electrical arcing, leading to terminal melting and fire hazards.

Summary

Choosing TYKOOL means choosing a smarter, lighter, and more durable power source. However, this high-performance technology requires a healthy vehicle environment. By following our installation and voltage checks, you protect your investment and ensure thousands of reliable starts.

4. Compatibility Statement

TYKOOL batteries are NOT drop-in replacements for conventional, flooded or any dry charged lead acid battery series. These batteries may be designed for older AC or half-wave systems will damage the battery internal BMS. You **MUST** install a full-wave DC rectifier before use. Exposure to constant voltage exceeding 15.0V will result in "Over- Voltage" failure and damage the battery.

Charging Instructions

Routine Charging Notice

Under normal daily driving conditions, you do NOT need to use an external battery charger. Your vehicle's alternator automatically recharges and maintains the battery while the engine is running.

External third-party chargers are only necessary if the battery has been discharged due to extended vehicle storage, excessive parasitic drain, or if the BMS low-voltage protection has been triggered. Please refer to the guidelines below if external charging becomes necessary.

1. Charger Compatibility & Specifications

Required Charger: Use a dedicated 12V LiFePO4 DC charger featuring a CC/CV (Constant Current / Constant Voltage) profile with a regulated 14.60V output.

Lead-Acid Warning: DO NOT use standard lead-acid chargers unless they have a dedicated "Lithium" mode. Traditional chargers with automatic "Desulfation" or "Recovery" high-voltage pulses will trigger BMS protection lock or cause permanent damage.

2. The Charging Process

Preparation: Inspect battery terminals to ensure they are clean and free of oxidation or debris. Use only a dedicated 12V LiFePO4 DC charger with a CC/CV profile and a regulated 14.60V output.

Connection: Connect the positive (+) charger lead to the positive (+) terminal, then connect the negative (-) lead to the negative (-) terminal.

Torque Safety: If charging while the battery is installed in a vehicle, ensure terminals are properly torqued to prevent arcing or overheating caused by loose connections.

Cell Balancing: Allow the charger to complete the full cycle until it indicates a "Full" status. This final stage is critical as it allows the internal BMS to perform Cell Balancing, ensuring all four internal cells maintain equal voltage for a longer service life.

3. Environmental & Safety Constraints

Temperature: For optimal safety, do not charge the battery if the ambient temperature is below 0°C (32°F) or above 45°C (113°F).

Supervision: While TYKOOL batteries utilize advanced safety technology, it is recommended to charge the battery in a well-ventilated area away from flammable materials.

4. Recommended Charger Specifications

Selecting a charger with the correct output current (Amps) is vital for maintaining the internal health of the lithium-ion cells. Please select your charger based on the following technical requirements:

Regulated Voltage: The charger must provide a fixed and stable output of 14.60V DC.

Amperage Compatibility: Select a charger with an output current (Amps) that matches the recommended rating for your specific battery capacity. Refer to your battery's technical data label for the specific "Recommended Charging Current."

Heat & Longevity: Although lithium-ion technology allows for quick charging, utilizing a charger with an amperage significantly higher than recommended can generate excessive internal heat and may reduce the battery's total cycle life.

Smart Circuitry: Always use a "smart" lithium-specific charger that includes an automatic cut-off feature to prevent overcharging and to avoid triggering the BMS high-voltage protection lock.

BMS Information Guide

The product is equipped with an advanced Battery Management System (BMS) that monitors internal lithium-ion cells and manages critical safety parameters. The BMS is designed to disconnect the battery in the event of a fault to prevent electrical shock, explosion, fire, or property damage.

BMS Protective Functions

Safety Disconnection: The BMS prevents over-charging, over-discharging, over-current, and short circuits.

Advanced Cell Balancing: Automatically maintains voltage equilibrium among individual cells to ensure optimal battery performance and significantly extend service life.

Manual Fault Recovery Guide

If a protection event occurs, the BMS will lock the output. Please follow the manual recovery process below:

Protection Trigger	Correct Recovery Procedure	Diagnostic Requirement
Over-Charge Over-Voltage	Please apply an external electrical load for recovery.(e.g., turn on headlights)	CRITICAL: Check if system charging voltage exceeds 15.0V.
Over-Discharge	Please apply a charger for recovery.	Ensure voltage is above 12.8V before installation .If voltage remains at 0V after charging, ensure the original voltage was not below 8.0V.
Over-Current Short-Circuit	Please remove the external load for recovery.	Verify terminals are torqued to right in-lbs value.

CRITICAL ADVISORY:

BMS LIMITATIONS & EXTERNAL ELECTRICAL FAILURES

The Role and Limits of the Battery Management System (BMS)

This product is equipped with an advanced BMS designed to monitor internal cells and disconnect in case of a fault to prevent fire or catastrophic failure. However, the BMS is an electronic component with physical tolerance limits. It is NOT a substitute for a properly functioning vehicle charging system or correct installation.

Critical External Risk Factors:

1. Excessive Over-Voltage (Regulator Failure)

The Threshold: Detection of constant voltage over 15.0V indicates a potential issue with your vehicle's regulator.

The Risk: Continuous exposure to faulty charging systems (Constant >15.0V) can overwhelm the BMS protection circuits.

Consequences: Persistent over-voltage can lead to electrolytic breakdown within the cells, causing cell swelling, internal heat accumulation, or even melting of the battery enclosure. Such damage is caused by the vehicle's electrical system and is not a battery defect.

2. Vibration & Loose Connections

Arcing & Thermal Meltdown Risk:

In high-current automotive applications (e.g., cranking large displacement engines), loose terminal connections create extreme electrical resistance and electrical arcing. Arcing generates extreme localized heat that can melt the battery terminals and casing before the internal BMS can intervene, leading to sudden power loss, smoking hazards, or potential fire. Physical damage or terminal melting resulting from loose connections is considered improper installation and will VOID the warranty. Ensure terminals are torqued to specified limits.

BMS: IMPORTANT NOTICE REGARDING LIABILITY:

A BMS-initiated shutdown is a protective safety action triggered by external electrical faults (e.g., regulator failure, loose connections, or short circuits)

Such incidents are vehicle-side issues and are not battery manufacturing defects. Under no circumstances is TYKOOL responsible for consequential damages, including but not limited to towing fees, labor costs, or roadside assistance.

Products Technical Specifications

BCI Size	Specifications (Voltage/Capacity/Wh/CCA)	Weight (lb)	Dimensions (Inches)			BMS Protection threshold			
			Length	Width	Height	Maximum continuous discharge current (A)	Maximum continuous charge current (A)	Charge protection (V)	Discharge protection (V)
Group 51	12. 8V/28Ah/358. 4Wh/750CCA	9	9. 4	5. 1	8. 8	150	28	15. 6	8
Group 151	12. 8V/28Ah/358. 4Wh/700CCA	12. 1	9. 1	6. 8	8	150	28	15. 6	8
Group 151R	12. 8V/28Ah/358. 4Wh/700CCA	12. 1	9. 6	6. 9	6. 9	150	28	15. 6	8
Group 140R	12. 8V/30Ah/384Wh/700CCA	7. 7	8. 1	6. 9	7. 5	150	30	15. 6	8
Group 51R	12. 8V/30Ah/384Wh/750CCA	9	9. 4	5. 1	8. 8	150	30	15. 6	8
Group 86	12. 8V/40Ah/512Wh/1000CCA	12. 1	9. 1	6. 8	8	150	40	15. 6	8
Group 47	12. 8V/40Ah/512Wh/1000CCA	12. 1	9. 6	6. 9	7. 5	150	40	15. 6	8
Group 35	12. 8V/40Ah/512Wh/1000CCA	12. 1	9. 1	6. 9	8. 9	150	40	15. 6	8
Group 25	12. 8V/40Ah/512Wh/1000CCA	12. 1	9. 1	6. 9	8. 9	150	40	15. 6	8
Group 40R	12. 8V/40Ah/512Wh/1000CCA	12. 8	11	6. 9	6. 9	150	40	15. 6	8
Group 48	12. 8V/60Ah/768Wh/1350CCA	17. 4	11	6. 9	7. 5	200	60	15. 6	8
Group 24R	12. 8V/60Ah/768Wh/1350CCA	17. 4	10. 3	6. 8	8. 9	200	60	15. 6	8
Group 24	12. 8V/60Ah/768Wh/1350CCA	17. 4	10. 3	6. 8	8. 9	200	60	15. 6	8
Group 65	12. 8V/60Ah/768Wh/1350CCA	17. 7	12	7. 5	7. 6	200	60	15. 6	8
Group 92	12. 8V/60Ah/768Wh/1350CCA	22	12. 4	6. 9	6. 9	200	60	15. 6	8
Group 94R	12. 8V/80Ah/1024Wh/1600CCA	22	12. 4	6. 9	7. 5	200	80	15. 6	8
Group 27R	12. 8V/80Ah/1024Wh/1600CCA	22	12. 1	6. 8	8. 9	200	80	15. 6	8
Group 27	12. 8V/80Ah/1024Wh/1600CCA	22	12. 1	6. 8	8. 9	200	80	15. 6	8
Group 49	12. 8V/80Ah/1024Wh/1600CCA	22. 7	13. 9	6. 9	7. 5	200	80	15. 6	8
Group 95R	12. 8V/80Ah/1024Wh/1600CCA	23. 3	15. 6	6. 9	7. 5	200	80	15. 6	8

Bluetooth App Guide



iOS Terminal Devices



Android Terminal Devices

Depending on your mobile device type, you can scan the QR code shown above to download the TYKOOL APP, connect your TYKOOL battery, and view and manage the battery status.

Bluetooth App Guide

TYKOOL® App: Smart Control & Real-Time Monitoring

RO

The TYKOOL Lithium APP is your ultimate companion for managing your automotive lithium starter battery. Connect via Bluetooth to access real-time BMS data and take full control of your battery's power management.

Interactive Controls (Take Action)

- **Storage Mode (Manual Discharge Cut-off):** Planning to park your vehicle for an extended period? Manually disable the battery's external discharge via the APP. This halts all parasitic draw from the vehicle's electronics and preserves a safe minimum capacity for your return.
- **Emergency Jump Start:** When you return from long-term parking, simply tap the "Jump Start" button in the APP. This instantly reconnects the battery's power output, releasing the reserved energy to crank your engine effortlessly.

Real-Time Telemetry (Monitor Your Status)

- **Battery Capacity:** View total capacity specifications (Ah / Wh).
- **Battery Voltage:** Monitor real-time voltage levels (V).
- **Battery Current:** Track live charge and discharge rates (Amps).
- **State of Charge (SOC):** Check your remaining battery percentage.
- **State of Health (SOH):** Assess the overall lifespan and condition of your battery.
- **Operating Condition:** Verify if the BMS is in a normal state or triggering safety protections.
- **Internal Temperature:** Monitor cell temperature to prevent thermal issues (°C / °F).

Bluetooth & App Guide

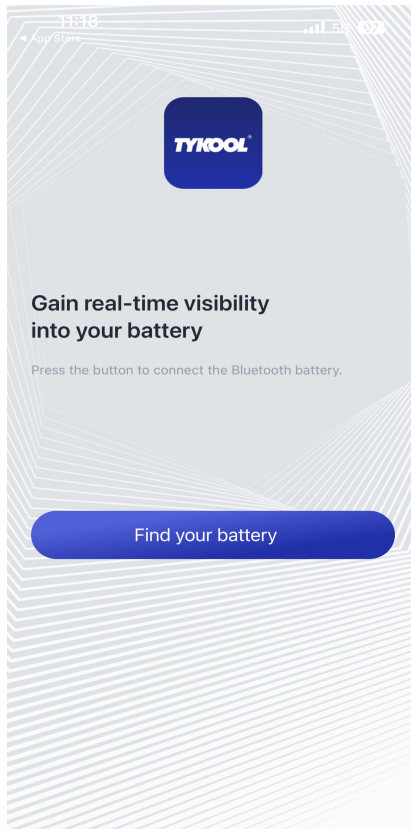
TYKOOL® App: Storage Cut-off Mode (Power Switch)

- **Long-Term Storage:** Use this function to manually cut off battery output when your vehicle will be parked for an extended period. This eliminates parasitic vehicle draw and preserves reserve power.
- **Daily Operation:** For regular daily driving, keep the battery output ON. You can skip this setting.



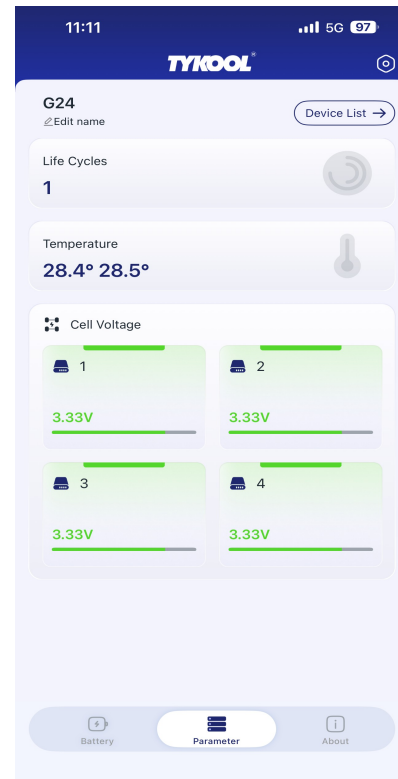
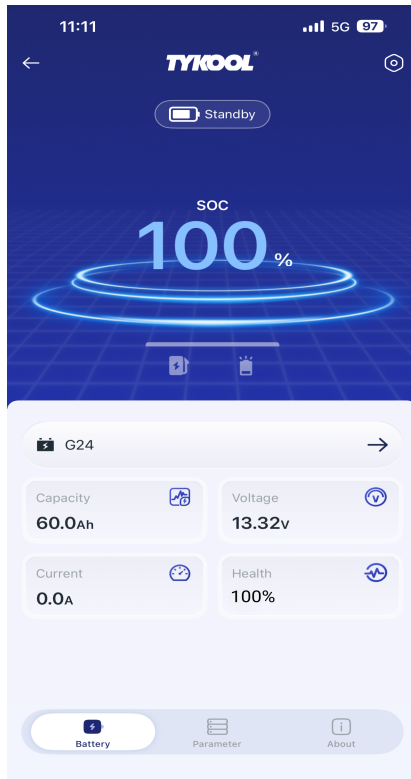
Bluetooth & App Guide

1.Find & Connect your TYKOOL Battery Model:



Bluetooth & App Guide

2. Check the statues of your TYKOOL battery:



Bluetooth & App Guide

Dashboard Interfaces & Emergency Jump Start

[Interface 01] Main Telemetry Display

Displays real-time capacity (Ah), voltage (V), current (A), and State of Charge (SOC%).

Green Accent: Battery is charging.

Yellow Accent: Battery is discharging.

Blue Accent: Battery is in standby mode.

[Interface 02] System Health & BMS Protection Status

Displays total charge/discharge cycles, short-circuit protection status, BMS/cell temperatures, and individual cell voltages.

Cell Voltage Alert: When an individual cell reaches 3.65V, the indicator changes from Green to Red.

Overcharge Protection: If any cell voltage exceeds 3.9V, the BMS automatically stops charging.

Over-Temperature Protection: If the internal BMS temperature reaches 85°C (185°F), power-off protection triggers automatically to prevent thermal damage.

[Interface 03] Emergency Jump Start Feature

When the vehicle is parked for an extended period and battery capacity drops to 20%, the BMS automatically shuts off output to reserve essential cranking energy.

The JUMP START interface will automatically appear on your screen.

Tap the JUMP START button in the APP to temporarily restore power output and start your engine immediately.

Bluetooth & App Guide

3. TYKOOL® APP: Storage Cut-off Mode (Power Switch):

Long-Term Storage: Use this function to manually disconnect the battery's power output whenever your vehicle will be parked or stored for an extended period. This completely eliminates parasitic draw from the vehicle's electrical system, locking in your reserve battery power.

Daily Driving: For regular daily use, keep the power output switched ON. No adjustments are necessary.

4. How to Turn Off Power Output of your TYKOOL battery:

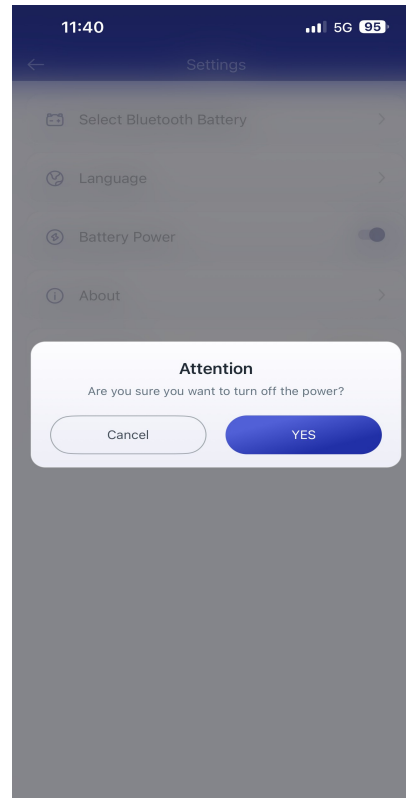
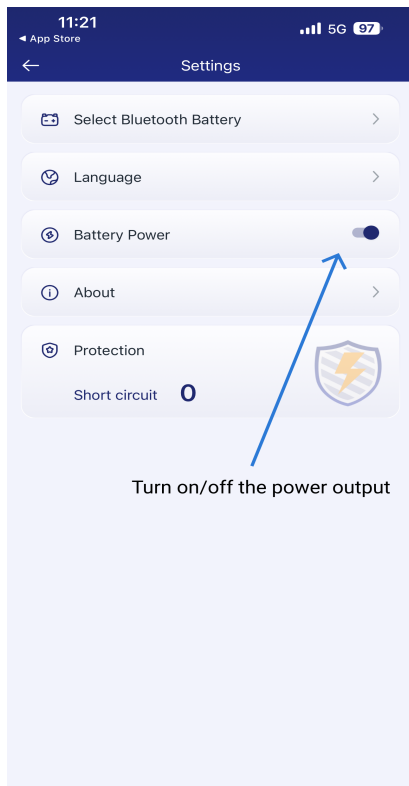
How to Turn Off Power Output:

Tap the Settings icon in the upper-right corner of the main dashboard.
Locate the **Battery Power (Output Switch)** and toggle it OFF.

A confirmation window will pop up: "Attention: Are you sure you want to turn off the power?"
Tap Yes to proceed.

Please refer to the illustration on the next page.

Bluetooth & App Guide



Bluetooth & App Guide

5. Password Verification & Password Management:

Enter Password: When prompted, enter the factory default password 666666 to continue.

Change Password: A password prompt will appear:

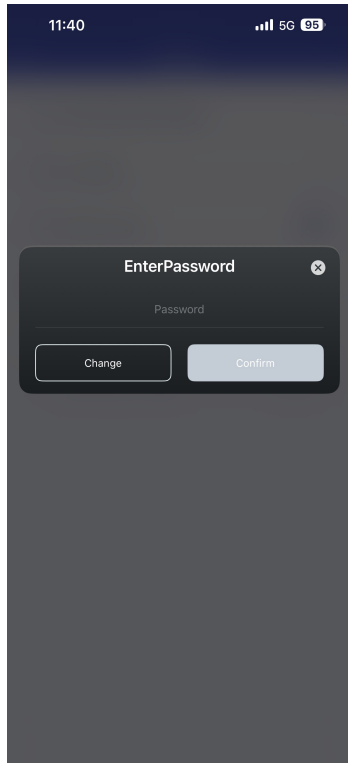
- To keep the default password, tap Cancel.
- To set a custom password, tap Change, enter the default password (666666), input your new password, and tap Save.
- **Note: You can change your password anytime under Settings.**

If you forget your password, please contact TYKOOL customer support.

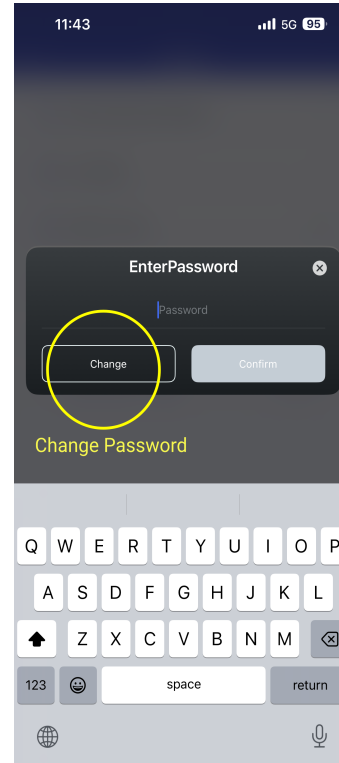
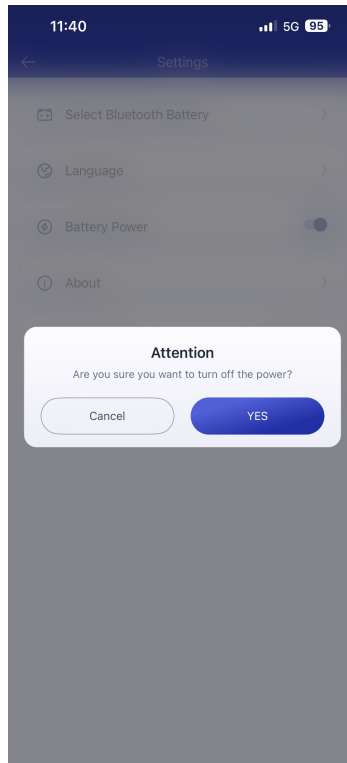
Disconnection Complete: When the power toggle button turns gray and the "Power Output Disconnected" prompt appears, power output has been successfully turned off.

Please refer to the illustration on the next page.

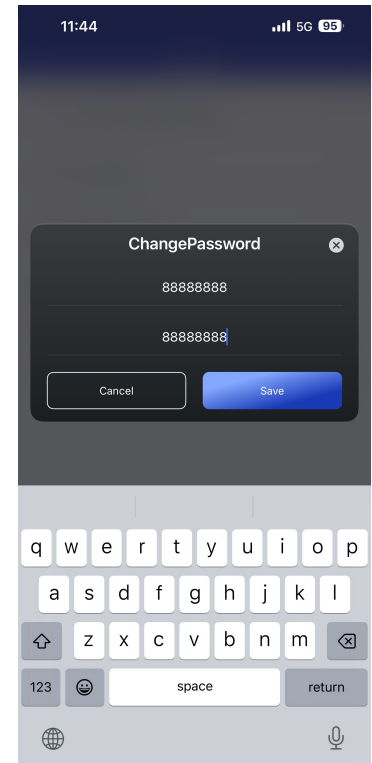
Bluetooth & App Guide



Turn off the power output



Change the password of power switch if you want



Part I: Warranty Policy (English)

TYKOOL Powersports Battery 3-Year Limited Prorated Warranty

1. Warranty Statement

TYKOOL warrants to the original purchaser that this lithium iron phosphate (LiFePO₄) battery product (the "Product") will be free from defects in materials and workmanship for a Prorated Term of 3 Years from the date of purchase. This warranty is valid only for the original purchaser and is non-transferable.

2. Coverage Structure & Term

The warranty coverage follows a prorated schedule based on the duration of ownership. In the event of a confirmed **manufacturing defects**, the remedy is provided as follows:

Year 1 & 2 (Months 1 - 24): Free Replacement. TYKOOL will replace the defective battery free of charge.

Year 3 (Months 25 - 36): Limited warranty policy: For products with manufacturing defects, TYKOOL will offer users a 50% discount, meaning users can purchase the same new product at 50% of the standard price in this warranty period.

Note: The replacement unit assumes the remainder of the original warranty period. It does not start a new 1-year term.

3. Validation & Eligibility

To ensure warranty validity, one of the following conditions must be met:

Proof of Purchase (Primary): The warranty period commences on the Date of Purchase shown on a valid receipt or Order ID.

No Receipt Protocol (Secondary): In the strict absence of a receipt, the warranty period commences on the Manufacturing Date laser-coded on the battery casing.

4. Warranty Exclusions & Eligibility Limits

To maintain your warranty eligibility, please avoid the following conditions, as they are excluded from coverage:

4.1. Electrical System Failures & Over-Voltage (Constant >15.0V)

The "15V Rule": Damage caused by a faulty vehicle charging system is NOT a battery defect.

Operation under constant charging voltages exceeding 15.0 Volts falls outside the scope of this limited warranty. This limit is set to safeguard your vehicle's expensive electronic components from power surges.

Evidence: This is identifiable by melted casings, bulging, or thermal oxidation (discoloration) of the battery terminals.

4.2. Improper Charging & Maintenance

Incompatible Chargers: Use of lead-acid chargers with "Desulfation" or "Pulse" modes, or any charger exceeding 14.6V Voltage output or exceeding maximum charging current written on the technical specification chart on this user guide.

Over-Discharge (<8V): Allowing voltage to drop below 8V due to lack of maintenance or parasitic drain (e.g., alarms, clocks). This causes irreversible chemical damage.

4.3. Unreasonable electrical modifications to vehicles.

4.4. Product malfunctions caused by use other than starting vehicles.

4.5. Installation & Physical Damage

Torque: Please refer to the battery terminal torque data on page 6, resulting in loose connections and heat damage.

Physical Abuse: Cracks, dents, or stripped terminals from impact or overtightening.

Modifications: Opening the case, bypassing the BMS, or removing the laser-coded serial No. on the battery case.

5. Compatibility Statement

TYKOOL batteries are NOT drop-in replacements for any flooded type, conventional type or dry charged lead acid car battery series.

Because these original batteries may be designed for older AC or half-wave systems with the vehicles. Battery damage may be caused by the AC or half-wave charging system.

6. Limitation of Liability

TYKOOL's liability is strictly **limited to the replacement** of the battery per these terms. TYKOOL shall NOT be liable for any special, indirect, incidental, or consequential damages, including but not limited to towing fees, roadside assistance, labor costs, loss of time, or damage to other vehicle components.

7. Warranty claim Process

TYKOOL employs a streamlined digital process to minimize shipping costs and handle hazardous materials safely.

Initiate Claim:

Amazon Customers: Email aftersale_amz@tykoolbattery.com with your Order ID or a valid receipt.

Official Site Customers: Email aftersale@tykoolbattery.com with your Order ID or a valid receipt.

Digital Evidence: Provide a video showing the laser-coded number and a live voltage reading, plus clear photos of the terminals, sometimes clear photos of the battery charger used by user will be required to be provided.

Safe Decommissioning & Disposal Authorization

Process: Upon initial approval of your claim, you will be instructed to perform Safe Decommissioning or Certified Recycling. TYKOOL prioritizes your safety and environmental protection.

Required Action: You must provide one of the following as proof of decommissioning:

Certified Recycling: A video or photo showing the battery being handed over to a local certified battery recycling center, or a scan of the recycling receipt.

Authorized Terminal Decommissioning: If recycling is unavailable, our team may instruct you to record a video of "Safe Terminal Decommissioning" (e.g., clipping the terminal tabs or marking the serial number as 'VOID' as per specific support instructions).

CRITICAL SAFETY WARNING: DO NOT drill into the battery casing, puncture, or incinerate the unit. DO NOT ship hazardous or damaged lithium batteries via standard mail.

Additional Important Safety Warnings

Operation. Operating temperature range is -4°F(-20°C) to 140°F(60°C). Charging temperature range is 14°F(-10°C) to 122°F(50°C). Do not operate outside the recommended temperature ranges.

Storage. Recommended storage temperature range is -4°F(-20°C) to 140°F(60°C). Do not exceed 140°F(60°C) under any circumstances. For optimal lifespan, store at 25°C and maintain a state of charge above 70%. Self-discharge rate is less than 1%/month. Storing the battery for more than 6 months without charging is not recommended.

Charging. This product is a 12V lithium-ion battery. Do not use chargers with pulse charging or desulfation features. For optimal performance, we recommend using only the 12V lithium battery mode of DC charging. If using a third-party charger, it must be compatible with 12V LiFePO4 batteries, have a charging voltage of 14.6V. Use caution with low-quality chargers, as they can pose severe electrical risks, leading to personal injury, property damage, shortened product life, and product failure. TYKOOL is not responsible for the safety of using accessories or chargers not approved by TYKOOL. If the battery overheats, deforms, swells, or emits smoke or odor during charging, stop using it immediately and contact support.

Connections. Ensure all connections to the product are secure. Use 70-90 inch-pounds of torque to properly secure connections. Loose connections can lead to performance degradation and overheating due to resistance, potentially causing the enclosure to melt or potentially leading to a fire.

Retrofit. Lithium-ion batteries are significantly lighter than lead-acid batteries of comparable capacity. Some equipment is designed to utilize the weight of lead-acid batteries for weight distribution. Using this product as a replacement battery may affect the weight distribution of the equipment.

Understand the consequences of changing the weight distribution and ensure safe weight distribution. You assume full responsibility and liability for any damage, injury, or accident resulting from decreased stability.

Handle this product with care. Damage from impact may occur. Do not use a damaged product, including a cracked enclosure. Moisture and liquids can damage the product. Do not handle the product or any electronic components near liquids. Store the product in a dry location. If the product becomes wet, do not operate it. If the product is running and becomes wet, stop using it immediately. Modifications. Do not attempt to alter, modify, or repair any part of the product. Disassembling the product may result in injury, death, or property damage. If the product is damaged, malfunctions, or comes into contact with any liquids, stop using it and contact TYKOOL. Never disable the internal Battery Management System (BMS) for any reason. Any modifications will void your warranty.

Cleaning. Disconnect and remove this product before cleaning. If exposed to liquids or any contaminants, immediately dry the product. Use a soft, lint-free (microfiber) cloth. Do not use high-pressure water to clean the battery.

Personal Protection. Use this product only as intended. In case of an emergency, have someone present when using this product. When working near batteries, wear full protective gear, including eye protection and protective clothing. Wash hands after handling batteries and related materials. Do not wear any metal objects, including tools, watches, or jewelry, when handling batteries, as they can cause sparks or short circuits, leading to electric shock, fire, explosion, and resulting injury, death, or property damage.

Proposition 65. The battery terminals, and related accessories contain chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm.

Minors. If the "Purchaser" intends for a minor to use the product, the adult Purchaser agrees to provide detailed instructions and warnings to any minor prior to use. The "Purchaser" agrees to indemnify TYKOOL for any accidental use or misuse by a minor.

Choking Hazard. Product accessories may pose a choking risk to children. Keep children away from unsupervised access to this product or any accessories. This product is not a toy

Ventilation & Mounting. This product is fully sealed and produces no gases during normal operation, requiring no external vent tubes. Always secure the battery properly in the OEM battery tray using appropriate hold-down clamps. Do not cover or seal the battery in a completely airtight container, as adequate thermal airflow is required for heat dissipation during vehicle operation.

Medical Devices. This product may emit electromagnetic fields. It contains magnetic components that may interfere with pacemakers, defibrillators, or other medical devices. Consult your doctor before use. If you suspect this product is interfering with medical equipment, stop using it immediately and consult your doctor.

Disposal. This product must be recycled or disposed of separately and not with household waste. Discarding this product in household trash is illegal under state and federal environmental laws. Please take this product to a local battery recycling center.

Explosive Environments. Observe all signs and instructions. Do not operate this product in any area with potential explosive environments, including fueling areas or areas containing chemicals or particulates (such as grain, dust, or metal powders)

Radio Frequency Interference. This product complies with regulations governing radio frequency emissions. Radiation from this product may negatively affect the operation of other electronic equipment, potentially causing them to malfunction.

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