TURBOSTAR

Lithium Battery Solutions

Powering the Future with Lithium Energy Storage

TurboStar lithium-powered batteries are the ideal choice for Energy Storage Systems, delivering reliable, long-lasting performance with high efficiency and sustained energy output.

Introduction of TurboStar LiFePO4 Battery for ESS

Energy Meets Intelligence

TurboStar lithium batteries are purpose-built for Energy Storage Systems, delivering smart energy management, high efficiency, and exceptional cycle life. From datacenters to commercial facilities and renewable integration, they ensure uninterrupted performance with stability and intelligence—without compromise.

Renewable Integration

Solar + Storage
Store daytime solar energy and use it at night or during peak demand.

Wind + Storage
Smooths out fluctuations in wind energy generation.

Commercial & Industrial (C&I)

Peak Shaving
Reduce electricity costs by cutting demand during peak tariff hours.

Backup Power
Provides instant backup during outages for factories, malls, hospitals, and offices.

Load Shifting
Shift energy usage to off-peak hours to save costs.

Microgrids & Off-Grid

Remote Areas
Power for islands, villages, or mining operations without reliable grid.

Military / Disaster Relief
Rapid deployment for emergency power.

Data Centers

Uninterrupted Power Supply (UPS)
Ensures zero downtime for servers.

Grid Stabilization
Helps manage high energy consumption demands.

Residential

Home Backup
Keep lights and appliances running during power cuts.

Energy Independence
Combine with rooftop solar for self-sufficiency.

Smart Energy Management
Optimize usage with IoT and smart meters.

Utility-Scale / Grid Applications

Frequency Regulation
Maintain stable grid frequency.

Voltage Support
Enhance power quality and reliability.

Capacity Firming
Deliver consistent power from renewables.

Black Start
Restart power stations after a grid failure.

E-Mobility & Charging Infrastructure

EV Charging Stations
Store energy for peak EV charging demand.

Grid Relief
Reduce stress on grid during simultaneous vehicle charging.

Customized battery modules are available for niche and specialized applications, ensuring optimal performance and seamless system integration.

Engineered Energy for Every Demand

TurboStar LiFePO4 batteries deliver advanced technology built for durability, consistency, and maximum efficiency—so your energy storage systems stay unstoppable.

Rack Battery Series

TurboStar RACK series lithium battery inherits the classic modular design for easy rack installation. It utilizes proven lithium iron phosphate cells with built -in smart BMS. Ensuring great safety and high efficiency to store solar energy, bringing seamless backup power to keep your household appliances running during a power outage.

Key Features

- Compatible with 20+ inverter brands for seamless communication
- Support 15 Pcs in parallel connection for flexible energy expansion
- 3U,4U,5U sizes available with max. 200A high current.

Rack Solar Series

TurboStar RACK SOLAR series lithium battery is available in capacities of 30KWh, 50KWh and 70 KWh, allowing you to store sufficient solar energy to power your home ,significantly reduce dependence on the grid during peak demand time, and keep your home appliance in normal operation when the grid goes down.

Key Features

- Compatible with 20+ inverter brands for seamless communication
- Support 15 Pcs in parallel connection for flexible energy expansion
- Integrated custom design of the battery module and cabinet makes installation easier.

Commercial Energy Series

TurboStar COMMERCIAL ENERGY series storage system is a high - performance solution specifically designed for outdoor environments. Its modular design integrates all essential components, ensuring full compatibility with solar panels and wind energy systems. This advanced configuration provides a stable and reliable power supply for commercial and industrial facilities, guaranteeing continuous, uninterrupted operation.

Key Features

- Pre-Installed system comes with all necessary components integrated for quick and efficient deployment.
- Modular design simplifies maintenance procedures and helps reduce long term operational costs.
- The robust structure is equipped with multiple safety protections, ensuring safe and stable operation in outdoor environments.

High Voltage Series

TurboStar HV series is a safe energy storage lithium battery system, suited for residential or commercial buildings powered by high voltage. the battery system is created at an automotive grade craft, bringing a highly reliable power source to ensure the normal operation of the appliances.



Key Features

- High safety and reliability for energy storage
- Automotive grade quality standard provides far superior performance
- Support series connection for flexible energy expansion

Containerised Battery Series

TurboStar containerized battery series offer flexibility by utilizing stored energy during peak demand periods. These plug and play solutions are fully manufactured, pre-configured, commissioned, and tested at our facilities, enabling quick deployment with minimal on-site impact. The system is equipped with LiFePO4 batteries, a power conversion system, an intelligent controller, and all associated safety equipment, including fire suppression and battery management systems.



Key Features

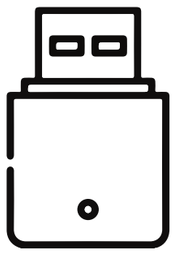
- All- in-one containerized design for quick and easy installation and maintenance
- Maximum safety utilizing the safest LiFePO4 battery combined with intelligent BMS and other associated safety equipment.
- Outstanding performance and long lifespan, optimized for both on-grid and off-grid applications

Communications

Equipped with advanced WiFi, Bluetooth, CAN and RS485 communication, our system keeps every component in perfect sync.
Enjoy real-time updates, intelligent energy management, and effortless integration with leading inverter brands.

Bluetooth

Wifi



CAN/RS485

IoT

LiFePO4 Benefits OVER Lead-Acid Batteries

All the powerful benefits make the TurboStar LiFePO4 battery an ideal replacement for traditional lead-acid batteries.

5 years Warranty
Extented warranty for greater peace of mind.

Eco-Friendly
Non-toxic and non-polluting. Good to you and the planet.

High Compatibility
Designed to support a wide range of inverters and energy systems, ensuring smooth integration across diverse ESS applications.

Features	TURBOSTAR	Lead-Acid
Cycle Life	4000+ cycles (10+ years design life)	500–800 cycles (2–3 years)
Energy Density	High – compact footprint, more energy per unit space	Low – bulky, requires more space
Efficiency	>95% round-trip efficiency	~70–80% efficiency
Charging Time *Time varies depends on number of batteries	Fast & opportunity charging – full in ~1–2 hours	Slow – 6–8 hours
Maintenance	Maintenance-free	Requires regular maintenance
Weight	60–70% lighter	Heavy, adds structural load
Safety	Stable LiFePO4 chemistry with advanced BMS	Risk of leakage, overheating, gassing
Environmental Impact	Eco-friendly, no toxic gases, recyclable	Contains lead & acid, hazardous waste
Total Cost of Ownership	Lower (long life, low maintenance, high efficiency)	Higher (frequent replacement, upkeep)
Warranty	5 Years	1–2 Years

Ultra Performance
Delivers consistent high-efficiency energy output with superior cycle stability—ideal for datacenters, commercial facilities, and renewable integration.

No Maintenance
Zero maintenance design saves operational costs and downtime.

Fast & Opportunity Charging
Supports fast and opportunity charging to ensure maximum uptime and availability.

5-Year Warranty
Your investment is secured with a reliable 5-year warranty.

Long Lifetime
10-year design life with up to 4000 cycles—over 4x longer than lead-acid solutions.

Smart & Easy Control
Advanced monitoring system allows real-time tracking of battery status, health, and performance.

Certified & Safe
Compliant with UN 38.3 and MSDS standards, ensuring global safety and transport compliance.

Eco-Friendly
No toxic gases during charging 4x longer lifespan than lead-acid, reduced

Advanced Safety
Built-in self-protecting battery management system ensures stability, thermal protection, and secure operation.

CE UN 38.3 MSDS

Technical Specifications

Rack Series

MODEL NO.	TE-RB48100	TE-RB48200	TE-RB48280	TE-RB51100	TE-RB51200	TE-RB51280
Nominal Voltage	48V	48V	48V	51.2V	51.2V	51.2V
Nominal Capacity	100Ah	200Ah	280Ah	100Ah	200Ah	280Ah
Energy	4.8 KWh	9.6 KWh	13.44 KWh	5.12 KWh	10.24 KWh	14.336 KWh
Charge Cut-off Voltage	54.75V	54.75V	54.75V	58.4V	58.4V	58.4V
Standard Charge Current	20A	40A	40A	20A	40A	40A
Max. Charge Current	100A	200A	200A	100A	200A	200A
Discharge Cut -off Voltage	40.5V	40.5V	40.5V	43.2V	43.2V	43.2V
Constant Discharge Current	100A	200A	200A	100A	200A	200A
Peak Discharge Current	200A@5s	300A@5s	200A@5s	200A@5s	300A@5s	300A@5s
Max. Modules in Parallel	15 pcs in parallel	15 pcs in parallel	15 pcs in parallel	15 pcs in parallel	15 pcs in parallel	15 pcs in parallel
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN
Dimension (mm)	550*482*133	812*513*205	772*460*237	550*482*133	812*513*205	772*460*237
Weight (Kg)	45 Kg	84 Kg	108 Kg	47 Kg	88 Kg	114 Kg
Temperature		Charge :0~45°C ;	Discharge : 20~55°C ;	Storage : 10~45°C		

Technical Specifications

Rack Solar

MODEL NO.	SOLAR 30	SOLAR 50	SOLAR 70
Nominal Voltage	51.2V	51.2V	51.2V
Nominal Capacity	600 Ah	1000 Ah	1400 Ah
Energy	30.72 KWh	51.20 KWh	71.68 KWh
Charge Cut-off Voltage	58.4 V	58.4 V	58.4 V
Standard Charge Current	40 A	40 A	40 A
Max. Charge Current	200 A	200A	200A
Discharge Cut -off Voltage	43.2 V	43.2 V	43.2 V
Constant Discharge Current	200 A	200A	200A
Peak Discharge Current	300 A@5s	300 A@5s	300 A@5s
Battery Modules	3 pcs *51.2V 200Ah	5 pcs *51.2v 200Ah	6 pcs *51.2v 280Ah
Dimension (mm)	630*1100*1080	630*1100*1500	630*1100*1710
Weight (Kg)	420 Kg	610 Kg	720 Kg
Temperature	Charge :0~45ºC ;	Discharge : 20~55ºC ;	Storage : 10~40ºC

Technical Specifications

Commercial Energy

MODEL NO.	TE-CE107	TE-CE180	TE-CE197	TE-CE215
Rated Voltage	384 V	640 V	704 V	768 V
Rated Capacity	280 Ah	280 Ah	280 Ah	280 Ah
Energy	107.52 KWh	179.20 KWh	197.12 KWh	215.04 KWh
Combination Mode	120S1P	200S1P	220S1P	240S1P
Voltage Range	350 -425 V	580 - 710 V	640 - 770 V	695- 840 V
Max. Charge Current	0.5C	0.5C	0.5C	0.5C
Max. Continuous Discharge Current	1C	1C	1C	1C
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN
Cycle Life	≥6000 cycles @ 25ºC 80% DOD			
Rated AC Output Power	50 KW	100 KW	100 KW	100 KW
Max. AC Current	72 A	140 A	140 A	140 A
Rated AC Voltage	400 V (3W+N+PE/3W+PE)			
AC Voltage Range	154 V - 276 V	154 V - 276 V	154 V - 276 V	154 V - 276 V
Rated Grid Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
Grid Type	3 Phase	3 Phase	3 Phase	3 Phase
IP Rating	IP54	IP54	IP54	IP54
Display	LCD touch screen	LCD touch screen	LCD touch screen	LCD touch screen
Cooling Mode	Forced Air	----------	----------	----------
Noise Emission	≤70dB	≤70dB	≤70dB	≤70dB
Temperature	Minus 20ºC to 55ºC (derating above 45ºC)			
Relative Humidity	0- 95% (non - condensing)			
Altitude	3000m (derating above 2000m)			
Weight	820 Kg	1350 Kg	1500 Kg	1650 Kg
Dimension	1200*1355*2150mm	1200*1355*2150mm	1850*1355*2150mm	1850*1355*2150mm

Technical Specifications

High Voltage

MODEL NO.	TE-HV204100	TE-HV307100	TE-HV409100	TE-HV512100
Nominal Voltage	204.8 V	307.2 V	409.6V	512 V
Nominal Capacity	100 Ah	100 Ah	100 Ah	100 Ah
Energy	20.48 KWh	51.20 KWh	71.68 KWh	71.68 KWh
Charge Cut-off Voltage	233.6 V	350.4 V	467.2.6 V	584 V
Standard Charge Current	50 A	50 A	50 A	50 A
Max. Charge Current	100 A	100 A	100 A	100 A
Discharge Cut -off Voltage	160 V	240 V	320 V	400 V
Constant Discharge Current	100 A	100A	100A	100A
Peak Discharge Current	200 A	200 A	200 A	200 A
Dimension (mm)	600*500*1040	600*500*1360	600*500*1680	600*500*2000
Weight (Kg)	420 Kg	610 Kg	720 Kg	500 Kg
Temperature	Charge : 0~45ºC ;	Discharge : 20~55ºC ;	Storage : 10~400C	
Communication	420 Kg	610 Kg	720 Kg	720 Kg

Technical Specifications

Containerised Battery Energy

MODEL NO.	TE-CB2150
Rated Voltage	384 V
Energy	280 Ah
Configuration	107.52 KWh

PCS PARAMETERS

DC Side	
voltage range	600 - 900 V
DC Channel	5
Single Channel Rated System	85A

AC On Grid Side	
Output Line System	3W+N+P / 3W+PE
Rated Power	250KW
Rated Voltage	380 VAC/400 VAC
Rated Frequency	50Hz/ 60Hz
voltage range	-15% - 10%
Rated Current	100 - 200A
Power Factor	1
Output Harmonic	3%

AC Off Grid Side	
Output Line System	3W+N+P / 3W+PE
Rated Power	250KW
Rated Voltage	380 VAC/400 VAC
Rated Frequency	50Hz/ 60Hz
voltage range	-15% - 10%
Rated Current	100 - 200A
Power Factor	1
Output Harmonic	3%

GENERAL PARAMETERS

Environment	
Working Temperature	Minus 20ºC to 55ºC (derating above 45ºC)
Storage Temperature	Minus 20~55ºC
Relative Humidity	0 -95% (Non-Condensing)
Working Altitude	2000m@45ºC(derating 2000-4000m)
Noise	≤70dB

Others	
Communication	RS485/CAN
Isolation	Isolation Transformer
IP Rating	IP54
Cooling Method	Air Cooling
Max. Efficiency	98.5% (exclude the isolation transfrormer)
Fire Protection	HFC -ea
Dimension (mm)	12196*2438*2591

Power Solutions for Various Applications

From homes to heavy industries, our advanced power solutions deliver performance, safety, and sustainability across every application.

Industrial & Infrastructure

- Datacenter
- Industrial UPS and automation systems
- Mining and construction equipment
- Oil & gas field power supply
- Telecom base stations and 5G towers
- Remote monitoring and control stations

Residential & Commercial

- Home energy backup and solar integration
- Smart homes and apartment power systems
- Commercial buildings and shopping malls
- Hospitals, schools, and data centers
- EV charging stations and green buildings

Mobility & Transportation

- Electric vehicles (EVs), golf carts, e-bikes, and e-scooters
- Electric boats and marine applications
- Electric buses and delivery fleets
- Airport ground support equipment
- Rail and metro auxiliary power

Energy & Power

- Solar and wind energy storage
- Grid stabilization and peak shaving
- Microgrid and off-grid power systems
- Backup power for substations and utilities
- Frequency regulation and load balancing

Renewable & Off-Grid

- Solar hybrid systems for remote villages
- Portable and containerized power units
- Rural electrification projects
- Disaster relief and emergency power supply
- Military and defense field energy packs

TURBOSTAR

Support

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