5.12kWh 5kW Stacked All-in-One Home Energy Storage System | LiFePO4 Solar Battery | KT-HS001

Our Product Introduction

Basic Information

- Place of Origin: Dongguan, Guangdong, China
- Brand Name: TINKO
- Certification: CE/ROHS/MSDS/UN38.3
- Model Number: KT-HS001
- Minimum Order Quantity: 1 Piece
- Price: Negotiable
- Packaging Details: Standard export carton, 1 piece per carton.
- Delivery Time: 25-30 work days
- Payment Terms: L/C, T/T
- Supply Ability: 100pcs/day



Product Specification

- Battery Type: LiFePO4 (Lithium Iron Phosphate)
- Nominal Voltage: 51.2V
- Nominal Capacity: 100Ah
- Energy: 5.12 KWh
- Cycle Life: ≥6000 Cycles @ 80% DOD
- Design Life: 10 Years
- Installation: Stackable Floor-standing
- Communication Port: RS232, RS485, CAN, Wi-Fi
- Max Charge Current: 100A Per Unit
- Max Discharge Current: 100A Per Unit
- Dimensions: 635 × 400 × 365 Mm
- Weight: Approx. 47.2 Kg
- Operating Temperature: Charge: 0 ~60 ; Discharge: -20 ~60
- Safety Certifications: CE/ROHS/MSDS/UN38.3
- Original: Dongguan, Guangdong, China



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Product Description

Product Overview

The KT-HS001 is a stackable all-in-one residential energy storage system manufactured by TINKO, integrating a 5kW hybrid inverter and a 5.12kWh LiFePO4 battery pack into a single unit. Built with premium grade-A lithium iron phosphate cells and an intelligent BMS, it supports flexible stack expansion up to 16 battery packs, making it ideal for home solar self-consumption, backup power and off-grid residential scenarios.

Featuring pure sine wave AC output, a built-in MPPT solar charge controller and multiple monitoring options including Wi-Fi, the system delivers stable and reliable power for all household appliances, with simple installation and smart real-time monitoring via mobile APP.

Key Features

All-in-One Integrated Design: Built-in 5kW hybrid inverter and MPPT controller, no extra inverter required, ready for plug-and-play deployment, greatly saving installation cost and space.

Flexible Stackable Expansion: Single unit provides 5.12kWh capacity, supports up to 16 battery packs in parallel (divided into 2 clusters, max. 8 layers per cluster), allowing flexible capacity upgrade as power demand grows.

Premium Grade-A LiFePO4 Cells: Adopts high-quality lithium iron phosphate cells with ≥6000 deep cycles at 80% DOD, offering a 10-year design service life and higher safety.

Intelligent BMS with Full Protection: Built-in battery management system with voltage/current/temperature monitoring, high-accuracy SOC calculation, multi-level protection and fault alarm, ensuring safe and reliable operation.

Pure Sine Wave Output: Stable pure sine wave AC output, fully compatible with all household appliances and sensitive electronic devices.

Multiple Monitoring Methods: Equipped with LCD display, RS232/RS485/CAN ports and Wi-Fi connectivity, supporting real-time status checking via panel or mobile APP.

Wide Temperature Adaptability: Operates stably from -20 to 60 in discharge mode, suitable for indoor installation in various residential environments.

Easy & Safe Installation: Modular stack structure with fixed connection plates, quick wiring and reliable contact, suitable for floor-standing installation against walls.

Key Specifications

Battery Pack

Item	Parameter
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Nominal Voltage	51.2V
Rated Capacity	100Ah
Rated Energy	5.12 kWh
Cycle Life	≥6000 cycles @ 80% DOD
Max. Parallel Quantity	16 units (2 clusters, 8 units per cluster)
Installation	Stackable floor-standing
Communication	RS232, RS485, CAN, Wi-Fi
Net Weight (Single Pack)	Approx. 47.2 kg

Built-in Inverter

Item	Parameter
Rated AC Output Power	5500W
AC Output Peak Power	11000VA
Output Waveform	Pure Sine Wave
Max. PV Input Power	6000W
Max. PV Open Circuit Voltage	500V (DC)
MPPT Operating Voltage	120-450V (DC)
Max. Charging Current	100A
AC Output Voltage	230Vac (200/208/220/240Vac settable)
Output Frequency	50±0.3Hz / 60±0.3Hz

Battery Technical Parameters

No.	Item	General Parameter	Remark
1	Nominal Voltage	51.2V	Battery pack rated voltage
2	Rated Capacity	100Ah	Standard charge/discharge condition
3	Rated Stored Energy	5.12 kWh	Single battery pack
4	Cycle Life	≥6000 cycles	@ 80% depth of discharge
5	Standard Charging	100A constant current charge to 56.4V, then CV 58.4V till cut-off current ≤5A	Single cell max voltage 3.65V
6	Charge Cut-off Voltage	58.4V (pack) / 3.65V (single cell)	--
7	Standard Discharging	100A constant current discharge to 43.2V	Single cell min voltage 2.7V
8	Discharge Cut-off Voltage	43.2V (pack) / 2.7V (single cell)	--
9	Max. Continuous Charge Current	100A per unit	≥10 ambient condition
10	Max. Continuous Discharge Current	100A per unit	≥10 ambient condition
11	Operating Temperature	Charge: 0 ~ 60 ; Discharge: -20 ~ 60	Battery surface temperature
12	Storage Temperature	≤3 months: -5 ~ 35 ; ≤6 months: -5 ~ 25	30~60% SOC, humidity ≤85%RH
13	Dimension (W × D × H)	635 × 400 × 365 mm	Without external plugins
14	Battery Pack Weight	Approx. 47.2 kg	Single battery unit
15	Inverter Weight	Approx. 21.3 kg	Built-in top inverter
16	Electrode Lead-out	Connection metal plate	--
17	Power Display	LCD display screen + status indicators	--
18	Mounting Method	Stackable floor-standing	Modular stacking design

BMS & Safety Protection

The built-in intelligent battery management system (BMS) fully complies with official specifications, with complete protection and monitoring functions:

Real-time monitoring: accurate detection of pack voltage, single cell voltage, charge/discharge current, battery surface temperature, MOS temperature and ambient temperature.

High-precision SOC calculation with error less than 5%, and energy-transfer type cell voltage equalization function.

Comprehensive protection: over-voltage, under-voltage, charge/discharge over-current, short circuit, over-temperature, under-temperature and reverse polarity protection.

Fast fault response: alarm and circuit cut-off when abnormal parameters are detected, and automatic recovery after parameters return to normal range.

Sleep mode and operation data storage function, supporting history reading.

Cell open-wire detection and alarm function.

Application Scenarios

Residential solar self-consumption & time-of-use energy arbitrage

Home backup power for power outage scenarios

Off-grid houses and remote residential power supply

Small commercial & office energy storage

Villa and apartment solar energy storage systems

Emergency power supply for home appliances and sensitive devices

Frequently Asked Questions

Q: Do I need to buy an extra inverter for this system?

A: No. This is an all-in-one energy storage system with a built-in 5kW hybrid inverter and MPPT solar controller. You can connect it directly to solar panels and household appliances.

Q: Can I expand the battery capacity later?

A: Yes. This system supports flexible stack expansion. You can add more battery packs up to 16 units in total (divided into 2 clusters, max. 8 units per cluster) to meet your growing power demand.

Q: Does it support both on-grid and off-grid operation?

A: Yes, the built-in hybrid inverter supports on-grid, off-grid and backup power modes, which can be switched flexibly according to your grid condition and usage scenario.

Q: Is professional installation required?

A: For safety and optimal performance, we strongly recommend installation and electrical commissioning be completed by a certified electrician. The modular stack design makes wiring and deployment very convenient.

Q: What is the warranty policy?

A: We provide a 1-year official product warranty from the date of delivery, covering replacement for quality defects under normal use. Built with premium grade-A LiFePO4 cells, the product has a 10-year design service life under standard operating conditions.

Certifications & Warranty

100% full inspection before delivery, with strict quality control throughout the production process.

This product complies with international safety standards and holds CE, ROHS, MSDS and UN38.3 certifications.

10-Year Design Lifespan: Stable long-term performance with ≥6000 deep cycles at 80% DOD under standard operating conditions.

Official Warranty: 1-year product warranty from the date of delivery, covering replacement for manufacturing defects under normal use.

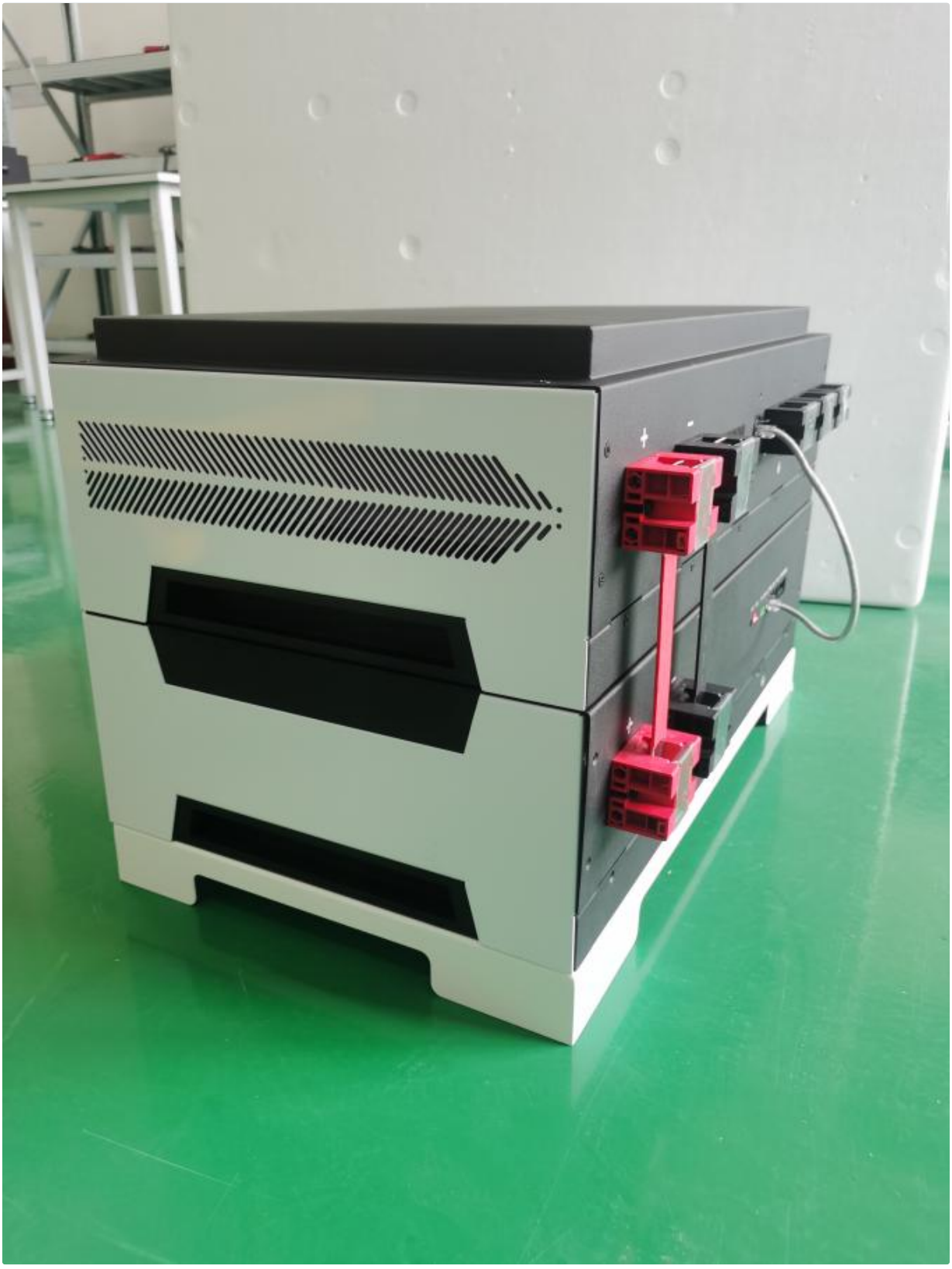
Professional technical team provides pre-sales consultation and after-sales technical support.

OEM/ODM customization is supported for bulk wholesale orders.

Product Display

Below are multi-angle factory real-shot images of the KT-HS001 stacked all-in-one energy storage system, presenting the stacked modular structure, top inverter panel, side power terminals, parallel connection plates and cooling fans in detail, for your direct reference.









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