# KT-3U 51.2V 100Ah Rack-Mounted LiFePO4 Battery | 5.12kWh Telecom & Solar Energy Storage

Our Product Introduction

## Basic Information

- Place of Origin: Dongguan, Guangdong, China
- Brand Name: TINKO
- Certification: CE/ROHS/MSDS/UN38.3
- Model Number: KT-3U
- Minimum Order Quantity: 1 Piece
- Price: Negotiable
- Packaging Details: Standard export carton, 1 piece per carton.
- Delivery Time: 10-15 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: 19" Standard Rack-mounted, 3U
- Communication Port: RS485, RS232, CAN
- Max Charge Current: 100A
- Max Discharge Current: 100A
- Dimensions: 442 × 450 × 133 Mm
- Weight: Approx. 47 Kg
- Operating Temperature: Charge: 0 ~55 ; Discharge: -20 ~60
- Safety Certifications: CE/ROHS/MSDS/UN38.3
- Original: Dongguan, Guangdong, China




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## Product Description

### Product Overview

The KT-3U is a standard 3U rack-mounted lithium iron phosphate (LiFePO4) energy storage battery pack manufactured by TINKO, built with premium grade-A LiFePO4 cells and an integrated intelligent BMS. With a rated voltage of 51.2V and rated capacity of 100Ah, it is designed for 19-inch standard cabinet installation and is widely used in telecom base stations, UPS backup power, solar energy storage and industrial power supply scenarios.

Equipped with RS232, RS485 and CAN communication interfaces, the KT-3U supports real-time status monitoring and parallel capacity expansion. Featuring high operational reliability, wide temperature adaptability and stable long-cycle performance, it can be seamlessly matched with mainstream inverters and power systems on the market.

### Key Features

- **Standard 3U Rack Design:** Fully compatible with 19-inch standard server cabinets, space-saving and easy for integrated deployment, ideal for centralized installation in equipment rooms.
- **Premium Grade-A LiFePO4 Cells:** Adopts high-quality lithium iron phosphate cells with longer service life and higher safety compared with traditional lead-acid batteries.
- **Intelligent BMS with Full Protection:** Built-in battery management system with voltage, current and temperature monitoring, SOC calculation, multi-level protection and fault alarm, ensuring safe and reliable operation.
- **Flexible Parallel Expansion:** Supports multi-unit parallel connection via communication ports, allowing flexible capacity upgrades according to actual power demand.
- **Wide Temperature Adaptability:** Operates stably across a wide temperature range, suitable for various industrial and outdoor communication scenarios.
- **Multiple Communication Protocols:** Built-in RS232, RS485 and CAN interfaces, compatible with mainstream inverters, monitoring hosts and energy management systems.
- **Long Service Life:** ≥6000 deep cycles at 80% DOD under standard conditions, with a 10-year design service life, greatly reducing long-term operation costs.

### Key Specifications

| Item | Parameter |
|---|---|
| Model | KT-3U |
| Battery Type | LiFePO4 (Lithium Iron Phosphate) |
| Nominal Voltage | 51.2V |
| Rated Capacity | 100Ah |
| Rated Energy | 5.12 kWh |
| Cell Configuration | 16S1P |
| Design Life | 10 years |
| Weight | Approx. 47 kg |
| Installation | 19" standard rack-mounted, 3U |

### 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 | Cycle Life | ≥6000 cycles | @ 80% depth of discharge |
| 4 | Rated Stored Energy | 5.12 kWh | -- |
| 5 | Standard Charging | 20A constant current charge to 56.4V, then CV 58.4V till cut-off current ≤0.05C | Single cell max voltage 3.65V |
| 6 | Charge Cut-off Voltage | 58.4V (pack) / 3.65V (single cell) | -- |
| 7 | Standard Discharging | 20A 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. Charge Current | 100A | -- |
| 10 | Max. Discharge Current | 100A | -- |
| 11 | Operating Temperature | Charge: 0 ~ 55 ; Discharge: -20 ~ 60 | -- |
| 12 | Storage Temperature | ≤12 months: -10 ~ 35 ; ≤3 months: -10 ~ 45 | 30~60% SOC, humidity ≤85%RH |
| 13 | Dimension (W × T × H) | 442 × 450 × 133 mm | Including plugins |
| 14 | Weight | Approx. 47 kg | Battery pack weight |
| 15 | Electrode Lead-out | Terminal | -- |
| 16 | Power Display | RUN/ALM/CAP LED indicator lights | -- |
| 17 | Communication Port | RS232, RS485, CAN | -- |
| 18 | Mounting Method | 19-inch standard rack-mounted | 3U height |

## BMS & Safety Protection

The built-in intelligent battery management system (BMS) provides complete functions as specified in the official datasheet:

- **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%, plus an 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, with automatic recovery after parameters return to the normal range.
- **Sleep mode and operation data storage** function, supporting history reading.
- **Cell open-wire detection and alarm** function.

## Application Scenarios

- Telecom base stations and communication equipment backup power
- On-grid / off-grid solar energy storage systems
- UPS and data center / server room backup power
- Industrial equipment power supply and emergency backup

- Industrial and commercial energy storage systems
- Off-grid power supply for remote sites

## Frequently Asked Questions

**Q: Is this battery compatible with standard server cabinets?**

A: Yes, the KT-3U adopts a standard 3U rack design that is fully compatible with 19-inch standard server cabinets, making installation and integrated deployment very convenient.

**Q: Can I expand the capacity by connecting multiple units?**

A: Yes, this battery pack supports parallel expansion via the built-in communication ports. You can connect multiple KT-3U units to build a larger energy storage system as your power demand grows.

**Q: What communication protocols does it support?**

A: It is equipped with RS232, RS485 and CAN communication interfaces, which can be connected to inverters, upper computers and energy monitoring systems to display real-time battery status and operation data.

**Q: Does it require professional installation?**

A: For safety and optimal performance, we strongly recommend that electrical connection and system debugging be completed by a certified electrician. Detailed installation instructions are provided with the product, and the unit fits standard 19-inch racks directly.

**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.
- Complies with international safety standards and holds CE, ROHS, MSDS and UN38.3 certifications.
- Built with premium grade-A LiFePO4 cells for stable long-cycle performance.
- **Official Warranty:** 1-year product warranty from the date of delivery, covering replacement for quality defects under normal use.
- **Design Service Life:** 10 years under standard operating conditions.
- Professional technical team provides pre-sales consultation and after-sales technical support.
- OEM/ODM customization is available for bulk wholesale orders.

## Product Display

Below are multi-angle factory real-shot images of the KT-3U rack-mounted LiFePO4 battery, presenting the front panel, power terminal blocks, communication ports, rack mounting ears and built-in metal handles in detail for your direct reference.


MENU
ENTER
DOWN
ESC
RST ADS Dry Contacts RS485 CAN RS232 RS485 RS485
ON/OFF
RUN ALM SOC
TINKO


TINKO




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