

document number :	Version (Rev): A0
Model: UBT-D15KWH-P01	



Approval	Checked	Draft
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Customer Approval		

Revise resume

[illegible]

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1. scope

This specification applies to the performance indicators and operating conditions of a single PACK48V 314Ah LiFePO4 battery system manufactured by UBETTER TECHNOLOGY COMPANY LIMITED

2. main specifications

2.1. Battery cell specification TED

Cell	No.	project	Common parameters	remarks
	1	nominal capacity	314Ah	
	2	nominal voltage	3.2V	Average operating voltage
	3	Internal impedance	$0.17 \pm 0.05 \text{ m}\Omega$	AC 1 KHz test (50% SOC)
	4	Size (W*H*T)	$(173.9 \pm 0.8) * (207.2 \pm 0.8) * (71.7 \pm 0.5)$	Initial size
	5	weight	$5.6 \pm 0.15 \text{ Kg}$	make an appointment
	6	Charging cut-off voltage	3.65 V	Cell temperature $T > 0^\circ\text{C}$
	7	Discharge cutoff voltage	2.5 V	Battery temperature $T > 0^\circ\text{C}$ Cell temperature $T > 0^\circ\text{C}$
			2.0 V	Battery temperature $T \leq 0^\circ\text{C}$ Cell temperature $T \leq 0^\circ\text{C}$
	8	charging current	1C	25°C
	9	discharge current	1C	25°C
	10	storage temperature	Temperature: $-10^\circ\text{C} \sim 30^\circ\text{C}$, humidity $\leq 85\%$	
	11	Single body self discharge rate	No more than 3.5%/ month	
	12	Charge discharge cycle efficiency	$\geq 8000 \text{ cyc}$	
	13	depth of discharge	80%DOD	$25 \pm 2^\circ$
	14	levels of protection	1P20	
	15	working temperature	$0 \sim 60^\circ\text{C}$ charge / $-20 \sim 60^\circ\text{C}$ discharge	

2.2. Specifications of single battery pack

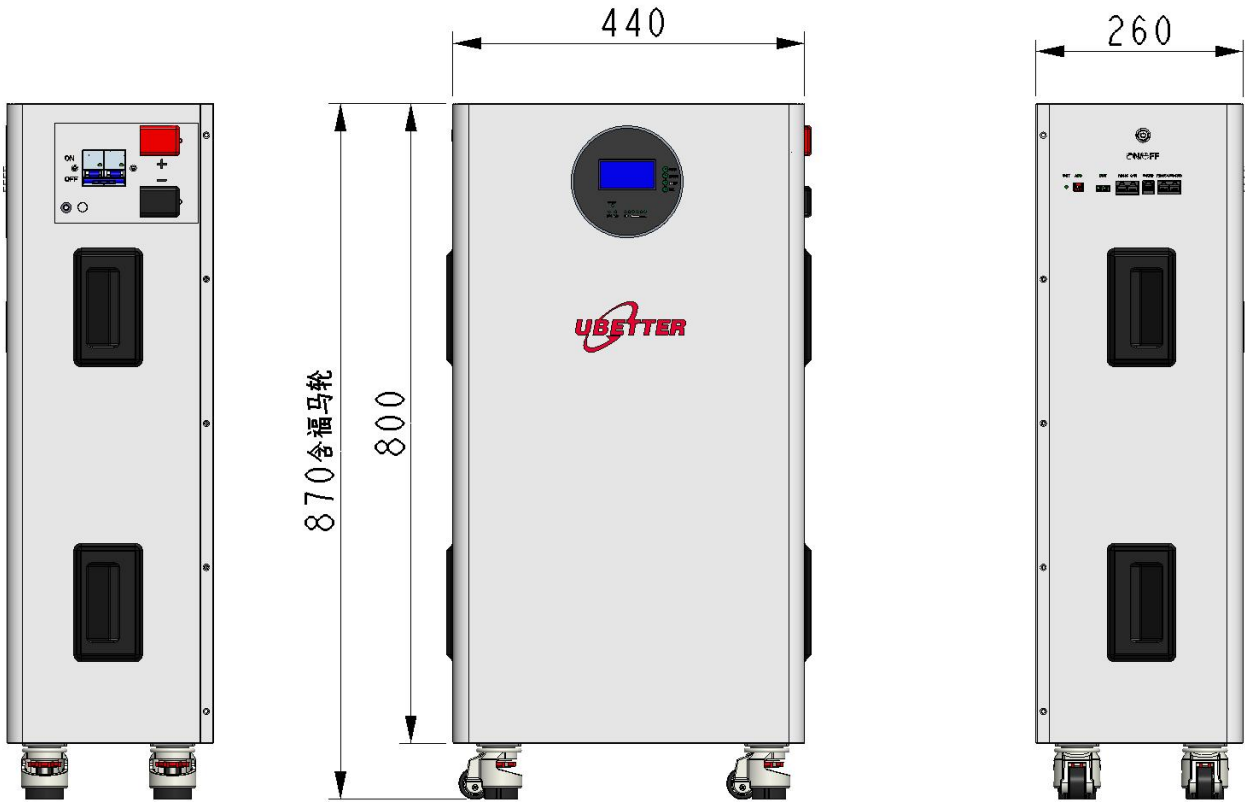
battery pack	No.	project	Common parameters	remarks
	1	combinatorial method	15S1P	
	2	Rated capacity/power	314Ah/15.07KWh	Standard charge after standard discharge
	3	working voltage	48V	Average operating voltage
	4	the voltage at the end of discharge	37.5V	Discharge cutoff voltage
	5	charging voltage	54.75V	Charging cut-off voltage
	6	Internal impedance	$\leq 50\text{m}\Omega$	The internal resistance measured at 1KHZ of AC must be measured after charging 50% using a new battery that has been shipped within one week and has fewer than 5 cycles.
	7	Standard charging	Constant current 100A Constant voltage see No.5 0.02CA as of now	Charging time: about 2.5 hours
	8	Maximum continuous charging current	200A	
	9	Standard discharge	Constant current: 100A The termination voltage is shown in No.4	
	10	Maximum continuous discharge current	200A	
	11	operating temperature range	Charging temperature range: 0~55°C	60±25% relative humidity.
			Discharge: -20~65°C	
	12	storage temperature range	Less than 12 months: -10 to 35°C	60±25% relative humidity, in transport state.
			Less than 3 months: -10 to 35°C	
			Less than 7 days: -20 to 45°C	
	13	size	800*440* 260mm	
	14	weight	Approximately: 120 kg	

3. Appearance and structural dimensions

There shall be no defects such as scratches, burrs and other mechanical scratches, and the connector shall be free of rust and dirt. See the drawings attached to the battery for structure and dimensions.

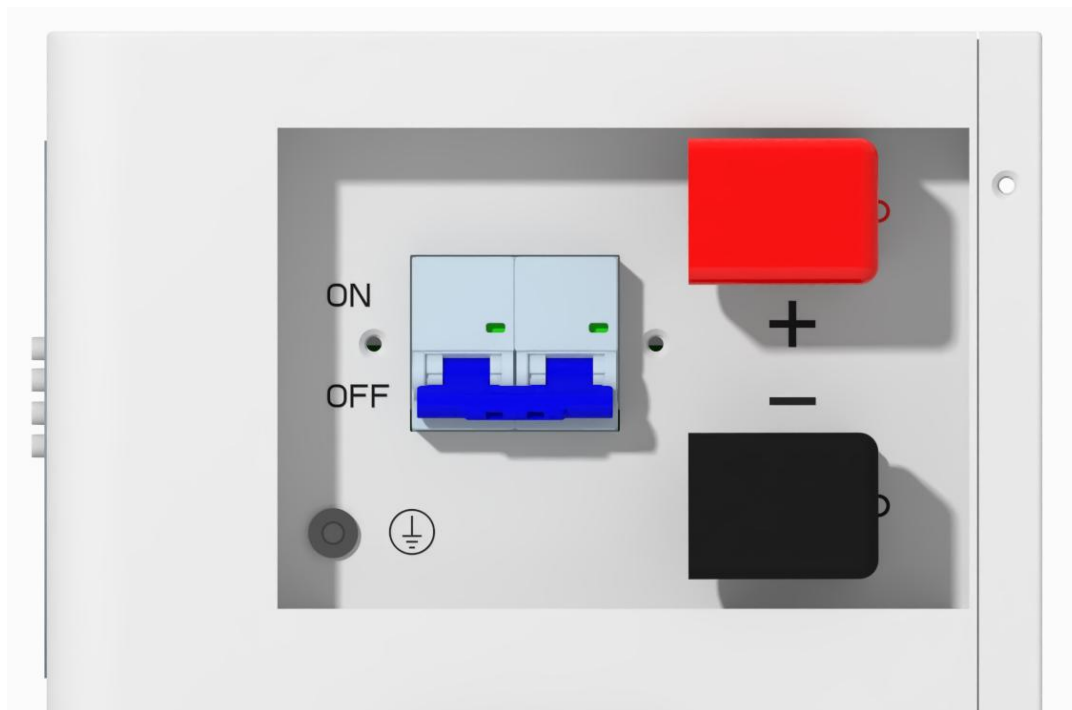


L (length)	800mm	W (width)	440mm	H (thickness)	260mm
weight	120kg	Maximum charge	200A	Maximum discharge	200A
Unit(mm)					



graph 1

3. The case structure of the battery is Pack



graph 2

Function and interface definition (from top to bottom, from left to right: Figure 1, 2)

No.	silk-screen	description	remarks
1	ON/OFF	mains switch	
2	RST	Restart button	
3	ADD	Paddle switch	And power off the DIP address
4	DRY	Dry contact points	
5	RS485	communication interface	Connect the inverter communication interface
6	CAN	communication interface	Connect the inverter communication interface
7	RS232	communication interface	Connect to the communication interface of the host computer
8	RS485A	And communication between machines	Battery parallel communication
9	RS485B	And communication between machines	Battery parallel communication
10	+	positive pole	Output positive electrode/inverter +
11	-	negative electrode	Output negative electrode/connect to inverter-

4. Battery test equipment

4.1 Dimension measuring instrument

Dimension measurement should be carried out with instruments with an accuracy of not less than 0.1mm.

4.2 Voltage meter

The standard grade or more sensitive category specified in the national standard shall be used, and the internal resistance shall not be less than 10 k Ω /volt.

4.3 Current meter

The standard class or more sensitive category specified in the national standard should be used. The total external resistance, including the ammeter and the wire, should be less than 0.01 ohm.

4.4 Impedance table

The impedance should be measured using the sinusoidal alternating current method (AC 1kHz LCR meter).

5. Standard test conditions

The battery shall be tested within one month after its shipment from our factory, with the number of cycles prior to testing not exceeding five. Unless otherwise specified, all tests and measurements shall be conducted under conditions of temperature $23\pm 2^{\circ}\text{C}$, relative humidity below 75%, and atmospheric pressure between 86KPa and 106KPa. Unless otherwise defined, both charging and discharging processes shall include a 30-minute rest period.

6. Storage and others

6.1 Long-term storage

For batteries intended for long-term storage (unused for over three months), keep them in a dry, cool place. Maintain the battery's storage voltage between 52V and 53V, stored under conditions of $23\pm 2^{\circ}\text{C}$ temperature and 45%-75% humidity. Batteries that remain unused for extended periods should be recharged every three months to ensure their voltage stays within this specified range.

6.2 Others

Any matter not covered by this specification shall be settled by the customer and UBETTER through negotiation.

7. Revision of this specification

This specification may be changed with the prior notice of UBETTER

8. Appendix

Precautions and guidelines for handling lithium ion rechargeable batteries

preface

This document "Precautions and Guidelines for Handling Lithium-ion Rechargeable Batteries" applies to battery units manufactured by UBETTER.

Note (1): If the customer needs to use other applications or operating conditions not described in this document, the customer should contact UBETTER in advance. Additional experiments may be required to verify performance and safety under these conditions.

Note (2): If the battery is used outside of the conditions described in this document, UBETTER will not be responsible for any accident.

Note (3): If necessary, UBETTER will notify the customer in writing of improvements to the correct use and handling of batteries.

warning against danger !

- Do not immerse the battery in water or let it get wet.
- Do not use or store batteries near heat sources such as fire sources or heaters.
- Do not use any charger that is not recommended by UBETTER.
- Do not reverse the positive (+) and negative (-) terminals.
- Do not connect the battery directly to a wall outlet or car cigarette lighter outlet.
- Do not put the battery in fire or heat it directly.
- Do not short circuit the battery by connecting wires or other metal objects to the positive (+) and negative (-) terminals.
- Do not puncture the battery case with nails or other sharp objects, and do not hammer it open or step on it.
- Do not hit, throw or subject the battery to severe physical impact.
- Do not weld battery terminals directly.
- Do not disassemble or modify the battery in any way.
- Do not put batteries in a microwave oven or pressurized container.
- Do not use batteries with primary batteries (such as dry batteries) or batteries of different capacities, types or brands.

Do not use if the battery emits an odor, generates heat, discolors or deforms, or appears abnormal in any way. If the battery is in use or charging, remove it from the device or charger and stop using it immediately.

warn !

Never store or use batteries in areas with extreme heat, such as direct sunlight beneath car windows during hot weather. Excessive heat can cause batteries to overheat, which may reduce performance and/or shorten their lifespan. If a battery leaks and electrolyte enters your eyes, avoid rubbing them. Instead, rinse immediately with clean running water and seek medical help right away. Left untreated, the leaked electrolyte could cause eye injuries.