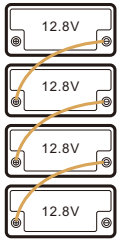
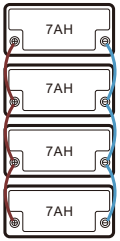
Series Connection
48V(51.2V)7AH



Parallel Connection
12V(12.8V)28AH



WARNING

BATTERY DISPOSAL

The electrodes of the waste battery should be wrapped with insulating paper to prevent fire and explosion.

PROHIBITION OF DISASSEMBLY

Never disassemble the cells.
The disassembling may generate an internal short circuit in the cell, which may cause gassing, firing, explosion, or other problems.
The electrolyte is harmful.
Li-Fe battery should not have liquid from electrolyte flowing, but in case the electrolyte comes into contact with the skin, or eyes, physicians shall slush the electrolyte immediately with fresh water and medical advice is to be sought.

PROHIBITION OF DUMPING OF CELLS INTO WATER

Do not soak the battery in which the liquid, like water, seawater and non-alcoholic drinks, fruit juice, coffee or other drinks.

PROHIBITION OF DISASSEMBLY

If any abnormal features of the cells are found such as damages in a plastic envelope of the cell, deformation of the cell package, smelling of an electrolyte, an electrolyte leakage and others, the cells shall never be used anymore.
The cells with a smell of the electrolyte or a leakage shall be placed away from the fire to avoid firing or explosion.

PROHIBITION OF USING IN BELOW PLACES

Do not use the battery in a place with strong static electricity and a strong magnetic field, otherwise, it is easy to damage the battery safety protection device and bring hidden danger.

ATTENTION

DO NOT approach to fire or sun exposure
DO NOT Throw into fire or incinerate
DO NOT put into water and acidity liquids， or allow it to get wet
DO NOT Heat above 70°C / 158°F
DO NOT Short circuit
DO NOT Reverse connections from the charger to the battery
DO NOT Disassemble

VTCBATT

info@vtc-energy.com

VTCBATT

Lithium Iron Phosphate (LiFePO4)Battery

12V7AH

PRODUCT MANUAL

info@vtc-energy.com

PRODUCT OVERVIEW

12. 8V7AH BATTERY

Operating Voltage	12.8V
Charging Voltage	14.4±0.2V
Max Continuous Load Power	128W
Max Continuous Charge/Discharge Current	10A

F1 (T1)

BATTERY-PACK MAIN PARAMETERS

Cell	Prismatic LiFePO4 Battery
Nominal Capacity	7Ah
Usable Capacity	7Ah
Nominal Voltage	12.8V
Energy	128Wh
Charge Method	CC / CV
Recommend Charge Voltage	14.4V±0.2V
Recommend Charge Current	2-5A
Battery Management System (BMS) Board	10A
Max. Continuous Charge/Discharge Current①	10A
Max. Discharge Current 5 Seconds	25A
Max. Continuous Load Power②	128W

①The maximum continuous current that the battery can withstand.

②The maximum continuous output power that the battery can support.

Cycle Life	≥6000 times
Internal Impedance	≤40mΩ
Dimension	L5.87*W2.52*H3.70inch
	L149*W64*H94mm
Temperature Range	Charge: 32°F to 140°F / 0°C to 60°C
	Discharge: -20°F to 120°F / -29°C to 49°C

THINGS TO KNOW BEFORE USING

- Always put on the insulating covers on the post bolts to avoid metal or conductive objects touching the positive and negative terminals of the battery at the same time, otherwise it is likely to cause a short circuit.
- Please ensure the terminals be connected tightly and stably. Having loose battery terminals will cause the terminals to build up heat resulting in damage to the battery.
- This battery is not intended to be used to start any devices, please DO NOT use it as a starting battery.
- Suggestions for Long-term Storage:

Temperature

The battery can be operated at a temperature of -20°C to 60°C / -4°F to 140°F, and a temperature between 10°C to 35°C / 50°F to 95°F is ideal for long-term storage. Store in a fireproof container and away from children.

Capacity

For a longer-lasting product, it is best to store your battery at a 50% charge level and recharge every three months if it is not going to be used for a long time.

CHARGING METHODS

BATTERY CHARGER

Use 14.6V lithium iron phosphate (LiFePO4) battery charger to maximize the capacity.

Recommend Charging Voltage: 14.4±0.2V

Recommend Charging Current:

1.4A(0.2C) The battery will be fully charged in around 5hrs to 100% capacity.

3.5A(0.5C) The battery will be fully charged in around 2hrs to around 97% capacity.

Tips

① Connect the charger to the battery before connecting it to the grid power in case of sparks.

②It's recommended to disconnect the charger from the battery after fully charging.

HOW TO ESTIMATE THE BATTERY CAPACITY

STATE OF CHARGE (SOC)

The battery capacity could be roughly estimated by its rest voltage (not charging/discharging voltage). As there are subtle differences in the voltage of each battery, the below parameters are for reference only.

Rest Voltage:The voltage needs to be tested at rest (with zero current) after 30 mins of disconnecting from the charger & loads.

CAPACITY	CHARGE VOLTAGE
100%	13.5V
99%	13.4V
90%	13.3V
70%	13.2V
40%	13.1V
30%	13.0V
20%	12.9V
10%	12.8V
1%	11.2V (recommend low voltage disconnect voltage)
0%	10V

SERIES/PARALLEL CONNECTION

THE PREMISE OF CONNECTION

In order to maintain the good performance and extend the life cycle of batteries, please pay more attention and follow below instructions.

1.To connect in series or parallel, all batteries should be fully charged.

2.Batteries which are parallel connected shall be from the same order.

3.Never to connect batteries in different model, charge level and/or age status, no matter in series or parallel.

LIMITATION FOR SERIES/PARALLEL CONNECTION

Support connecting up to 4 identical batteries for up to:

4 in series as 48V (51.2V) battery system

4 in parallel as 28Ah battery system.