

Important Tips of Using Iron-V LiFePO4 Battery

Make a Battery Bank

1. For batteries purchased before June 2022, maximum 2 in series, and unlimited in parallel
2. Each battery needs to be full charged before series or parallel connecting together

Charger Selection

1. We recommend using LiFePO4, or LFP, or lithium iron phosphate charger. Recommended charger amperage is 0.3C (0.3x rated capacity) to 0.5C (0.5x rated capacity), and the amperage needs to be over 3A at least.
2. If you use lead acid charger, avoid pulse charger, bulk voltage needs to be within 14.6V for 12V battery.
3. If it's smart charger, make sure it can charge when battery voltage is less than 1V.

Charger Controller Setting

Bulk/Absorb Voltage: 14.4V

Float Voltage: float charge is not needed, or put as 13.4V or 13.5V

Equalize Voltage: Equalization is prohibited, or put as 14.4V

Absorb Time: 0

Temperature Compensation: off

When the Battery can't be Charged or Discharged

Step 1: Set the battery aside, let it sit still in normal temperature environment for half day (to diagnose if it's under high temperature protection or over current protection)

Step 2: Check Voltage

If voltage is normal, then, fully charge it if you can, and go step 4

If it still shows very high abnormal OCV (over 15V), then it is under high voltage protection, go step 3, then fully charge it if you can

If it still shows very low abnormal OCV (less than 1V), then it's under low voltage protection, go step 3, then fully charge it

If there is no OCV or no IR, then BMS board is broken. Contact manufacturer for warranty.

Step 3: Remove the BMS protection according to “BMS Information”.

Step 4: Conduct capacity test

If the discharge hours meet the rated capacity, battery is good.

If the discharge time is way shorter than the rated capacity, for example, a 12V100ah can power constant 50A load for 2 hours. If it can only run for 10 minutes, contact manufacturer for warranty.

BMS Information

BMS Functions	Threshold to Trigger Protection	Remove BMS Protection	Threshold to Recover
Over Charge Protection	14.8V (3.8V each cell)	let it rest Or discharge ($\geq 5A$)	3.5V each cell
Over Discharge Protection	9.6V (2V each cell)	Charge, or Jump start(parallel connect to another 12V Battery)	3V each cell
High Temperature Protection	65C (internal temperature for both charge and discharge) (PCB board 95C)	Lower the temperature	5C lower
Low Temperature Protection	0C charge; -20C discharge (internal temperature)	Warm up the battery (about 5C higher)	5C higher
Over Current Protection	Check datasheet	1.disconnect, rest, or 2.Discharge with 5A load	Drop to max. current
Cell Self-Balancing	N/A	N/A	

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