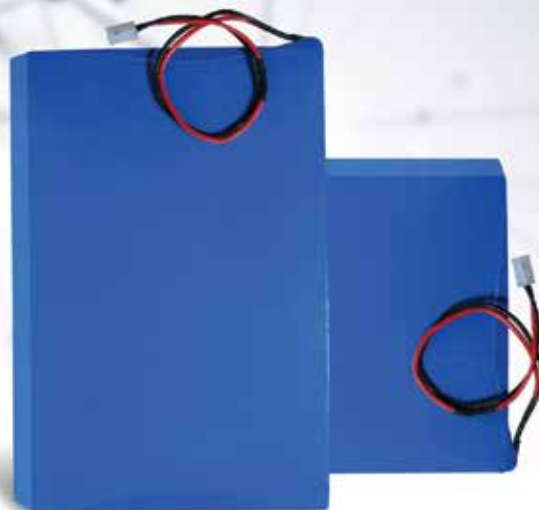


LIFePO₄ BATTERY 24V 30Ah



Lithium-iron-phosphate (LiFePO₄ or LFP) is the safest of the mainstream li-ion battery types. The nominal voltage of a LFP cell is 3,2V (lead-acid: 2V/cell). A 12,8V LFP battery therefore consists of 4 cells connected in series; and a 25,6V battery consists of 8 cells connected in series.

Rugged

A lead-acid battery will fail prematurely due to sulfation:

- If it operates in deficit mode during long periods of time (i.e. if the battery is rarely, or never at all, fully charged).
- If it is left partially charged or worse, fully discharged (yacht or mobile home during wintertime).

A LFP battery does not need to be fully charged. Service life even slightly improves in case of partial charge instead of a full charge. This is a major advantage of LFP compared to lead-acid.

Other advantages are the wide operating temperature range, excellent cycling performance, low internal resistance and high efficiency (see below).

LFP is therefore the chemistry of choice for very demanding applications.

Efficient

In several applications (especially off-grid solar and/or wind), energy efficiency can be of crucial importance. The round trip energy efficiency (discharge from 100% to 0% and back to 100% charged) of the average leadacid battery is 80%.

The round trip energy efficiency of a LFP battery is 92%.

The charge process of lead-acid batteries becomes particularly inefficient when the 80% state of charge has been reached, resulting in efficiencies of 50% or even less in solar systems where several days of reserve energy is required (battery operating in 70% to 100% charged state).

In contrast, a LFP battery will still achieve 90% efficiency under shallow discharge conditions.

Expensive?

LFP batteries are expensive when compared to lead-acid. But in demanding applications, the high initial cost will be more than compensated by longer service life, superior reliability and excellent efficiency.

Endless flexibility

LFP batteries are easier to charge than lead-acid batteries. The charge voltage may vary from 14 V to 16 V (as long as no cell is subjected to more than 4,2 V), and they do not need to be fully charged. Therefore several batteries can be connected in parallel and no damage will occur if some batteries are less charged than others.

SPECIFICATION

| No. | Item | General Parameter | Remark |
|-----|--------------------------------------|---|--|
| 1 | Rate Capacity | 30.0Ah | |
| 2 | Minimal Capacity | 28.5Ah | |
| 3 | Nominal Capacity | 25.6V | Standard discharge (0.2C) after standard charge (0.2C) |
| 4 | Life Expectation | Residual capacity is more than 60% of the rated capacity | 1) Charge: CC@0.2C to 29.2V then CV till current to 0.05C 2) Rest : 30 min 3) Discharge: 0.2C to 10.0 V Temperature:20±5°C Carry out 1500 cycles |
| 5 | Discharge cut-off voltage | 2.5V/cell (≥20.0V) | 20.0V recommended |
| 6 | Charging cut-off voltage | 3.9V/cell (≤29.2V) | 29.2V recommended |
| 7 | Assembly method | IFR26650PE-3.4AH | 8S9P |
| 8 | Housing material | PVC | |
| 9 | Standard Charge | 0.2C constant current (CC) charge to 29.2V, then constant voltage (CV) 29.2V charge till charge current decline to ≤0.05C | Charge time : Approx 7.0h |
| 10 | Standard Discharge | Constant current 0.2C Cut-off voltage 20.0V | |
| 11 | Maximum Charge Current | 10A@20°C | |
| 12 | Maximum Continuous Discharge Current | 10A@ 20°C | Over current 45±10A (7.2~11ms) and 30A 30s |
| 13 | Operation Temperature Range | Charge: 0~55°C Discharge: -10 ~60°C | 60±25%R.H. |
| 14 | Storage Temperature Range | Less than 1 year: 0~25°C Less than 3 months:-5~35°C | 60±25%R.H. at the shipment state |
| 15 | Approx. Weight | 6.7 Kg | |
| 16 | Dimension | L281*W245*H60mm ±3mm | PVC |
| 17 | Balancing Function | Yes | |
| 18 | Short Circuit Protection | Recover after charging | |
| 19 | Wires | AWG#16 | |

