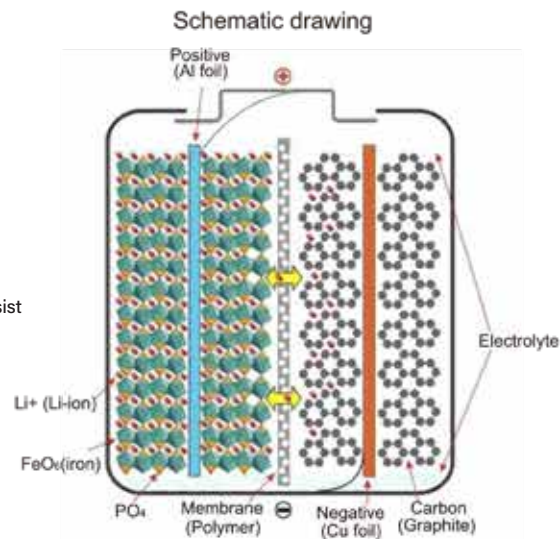


Lifepo4 Battery Cell

Lithium iron Phosphate battery (LiFe PO₄) has a nominal voltage of 48VDC. It is comprised by 16 cells of 3.2V each. The internal structure of LiFePO₄ battery cell is shown in the figure on the right. Shown is the olivine structure of LiFePO₄ as the positive electrode of cell. Aluminum foil functions as current collector of positive pole. A polymer membrane separates positive and negative electrodes of the cell. The electron (e⁻) can't pass through the polymer separator but Li⁺ can pass through it freely. The negative electrode which consist of graphite is shown in the right. Copper foil is the current collector of negative electrolyte. There is organic electrolyte in the cell which is sealed by Al-plastic composite film.



General Features

- Lithium iron Phosphate (LiFe PO₄) is used as positive material, which offers extended cycle life and good safety performance.
- Embedded BMS offers voltage, current, temperature protection and alarm functions. BMS can communicate with other device by modbus protocol.
- Embedded BMS unit measures current, voltage, single cell surface temperature and the ambient temperature of the battery.
- Embedded BMS offers four remote functions which can communicate with far-end central control center by computer management.
- The combination of BMS and computer management technology can achieve real-time monitoring and control of various parameters and status.
- The power system has secondary cut-off protection and when the voltage is too low the system will cut off the support from the battery to protect the battery service life.
- Under normal operating conditions, the entire system emits very little noise due to their passive cooling design.
- Good electromagnetics shielding.



Advantages

- Environment-friendly, not containing heavy metals.
- Highly cycle times, Type C is with up to 5000 cycles to 80% DOD (≥ 3500 cycles to 100% DOD). Others is with up to 3000 cycles to 80% DOD (≥ 2000 cycles to 100% DOD).
- Low self-discharge rate (per month): ≤2%, no memory effect.
- Low weight, specific energy is 2-3 times larger than conventional lead acid batteries.
- Being in sleep mode to reduce energy loss when storage and transport.
- Easy installation, the battery can be installed in 19" standard cabinet or wall-mounted.
- Convenient interface design, all wiring harness is connected with plug.
- Small size, volumetric specific energy is about 2 times larger than lead acid battery.
- Safety LiFePO₄ battery completely solves the safety problems of traditional lithium battery.
- Wide operating temperature range (-20 ~+60 °C) and good high temperature performance.
- Flexible configuration, a plurality of modules in parallel can support expansion of capacity to extend backup time.
- Excellent fast charging performance, after fast charging with 1C current, the capacity can reach 95% of rate capacity in half-hour.
- Having FTTH usually supersedes FTTB (FTTx) could be simpler to use.



48V LiFePO4 Rack Mount Series



Product features:

- Larger capacity supply equipment cabinet
- No active cooling system is required
- High operational reliability
- Product life: 10 years at over 25°C
- Optimal management
- In line with the RoHS

Applicable field:

- Oil and electricity hybrid energy storage system
- Grid frequency adjustment energy storage system
- New energy communication base station, Core computer room, IDC ,UPS
- New energy generation (solar, wind, PV/wind hybrid) access to energy storage system
- Smart grid, micro-grid system
- Mobile container storage system
- Other energy Storage System
- Peak load shifting energy storage system
- Load tracking energy storage system

Application Scenarios



Product Parameters

	MODEL	ASP4850LR	ASP4880LR	ASP48100LR	ASP48120LR	ASP48150LR	ASP48200LR	
Electrical Characteristics	Rate voltage(Vdc)	48	48	48	48	48	48	
	Rate capacity(AH)	50	80	100	120	150	200	
	Energy storage(KWH)	2.4	3.84	4.8	5.76	7.2	9.6	
	Cycle life	≥4000 cycles to 85% DOD						
	Months self discharge	≤2%						
	Efficiency of charge	100% at 0.2C						
	Efficiency of discharge	96-99% at 1C						
Standard Charge	Charge voltage	54.8						
	Charge mode	0.2C to 54.8V, then 54.8V,charge current to 0.02C (CC/CV)						
	Charge current(A)	10	16	20	24	30	40	
	Max. Charge current(A)	50	80	100	120	120	120	
Standard Discharge	Charge cut-off voltage(VDC)	54.8						
	Contiuous current(A)	50	80	100	120	120	120	
Environmental	Discharge cut-off voltage(VDC)	42						
	Charge temperature	0°C to 45°C (32F to 113F) @60±25% Relative Humidity						
	Discharge temperature	-20°C to 60°C (-4F to 140F) @60±25% Relative Humidity						
	Storage temperature	0°C to 40°C (32F to 104F) @60±25% Relative Humidity						
Mechanical	IPclass	IP60						
	Material system	LiFePO4						
	Case material	Metal						
	Case Type	Rack/Wall Mount						
	Pack Dimensions L*W*H(mm)	451*450(492)*177	465*440(482)*191	490*440(482)*177	470*390*155	500*440(482)*260	590*375*245	
	Package Dimension L*W*H(mm)	545*525*255	560*515*265	585*515*345	610*490*255	575*515*335	680*470*350	
	Net Weight(kg)	37.2	39.9	41.6	39	76.2	78.8	
	Gross Weight(kg)	40.4	41.1	45.4	42.2	79.6	81.5	
	Termial	M8						
	Protocol(Optional)	CANBus/RS485/RS232						
SOC (Optional)	LED/LCD							

