

ATP LFP480V-100Ah

LiFePO4 480V/100Ah Battery System



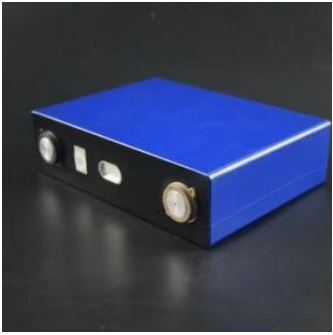
ATP LFP batteries series are Lithium iron phosphate battery system which designed for high voltage UPS and energy storage system application, suitable for 100V to 1000V DC system which backuptime is over 10min. This battery system consists of battery racks and CBMS, GBMS; every battery rack integrates with intelligent BMU inside. And this system has big advantages on safety, cycle life, energy density, fast charging, temperature range and environmental protection. ATP is committed to providing safe and stable power supply for UPS system.

Advantages

ATP LFP battery system consists of cabinet with CBMS and LiFePO4 battery modules.

- Packed with high performance LFP single cell, long life, safety and wide temperature range
- High energy density, small size, light weight, no pollution;
- Use CBMS-BMU design, protect voltage, current, temperature in whole process
- Integrated communication interface, CAN2.0 and RS485 communicate with UPS or PC
- Integrated LED indicator, display the SOC and operating status
- Balance between cells, balance between racks
- LCD display the battery system information (customized)
- Packed in 19 inches standard container, easily for installation and capacity expansion
- can customize the battery system with neutral line
- 15 years design life, Stable performance, maintenance-free

Battery specification

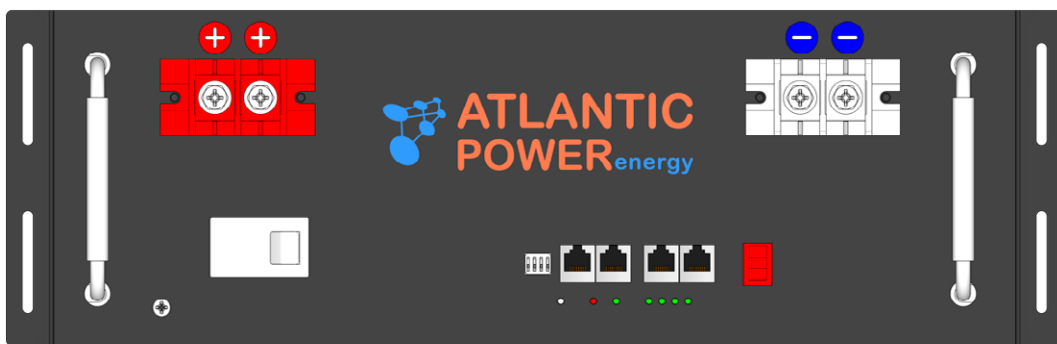
Name	Item	Parameter	Remarks
Battery system 480V100Ah (±240V100Ah)	Battery Type	LiFePO4	
	Pack	1P-150S	
	Rated voltage	480V with neutral line (±240V)	
	Rated capacity	100Ah	0.2C, @25°C
	Rated energy	48kWh	
	Max. Charging current	100A	Constant
	Max. Discharging current	100A	Constant
	Max. Output power	50kW	Constant
	Charging voltage	525~540V	
	Discharge cut-off voltage	420V	
	Cycle life (1C/1C)	>2500	100%DOD,@25°C
	Short circuit current(A)	6000A	<10mS
	System dimension	600*800*2000(mm)	19-inches cabinet
	Total weight(kg)	≈600kg	
	Internal Resistance	<50mΩ	Fully charged @25°C
	Thermal Management	Natural air cooling	
	Operating temperature	Charge: -5~55°C Discharge: -20~65°C	
	Communication	RS485/CAN/LAN	
	Dry contact	3	
	Display	7 inches touch LCD screen	
Single cell	Cell container	Prismatic, Aluminum shell	
	Rated	3.2V 100Ah	
	Operating voltage range	2.5V~3.6V	
	Dimension (T*W*H,mm)	48*174*132	
	Weight	~2.2g	
	Rated Charging current	0.5C	
	Max. Charging current	1.0C	
	Rated discharging current	1.0C	
	Pulse. Discharging current	2.0C	
	Impedance(1kHz)	<0.3mΩ	
	Cycle life(1.0C)	>3000 , 100%DOD @25°C	
	Battery module rack	Module Voltage	
Rated capacity		100Ah	
Pack		1P-15S	
BMU inside		1	
Dimension (W*D*H)		442*470*154	
Weight		~45kg	
Power Terminal		M8 Screw	
Max. Output Power		4.8kW	

BMS Parameters

The ATP LFP Series BMS products are battery management systems developed for large-scale high-voltage battery energy storage and UPS systems. It adopts distributed architecture, modular design concept, high configurability, easy assembly, debugging and maintenance. It is suitable for various battery energy storage systems with DC voltage below 1000V. This product can be configured as a secondary architecture (BMU+CBMS) for 10KWh-100KWh. Cooperate with industrial computer and battery stack management software to form a three-level architecture (BMU+CBMS+GBMS) for 50KWh- 2MWh applications. In conjunction with the server and plant battery management system software, it can form a four-level architecture (BMU+CBMS+GBMS+BBMS) for applications from 2MWh to 1000MWh to meet different project requirements.

The product has a complete and reliable operation and protection strategy to effectively extend the life of the battery pack. It comes with a variety of communication interfaces and can be directly or indirectly connected to third-party energy management systems.

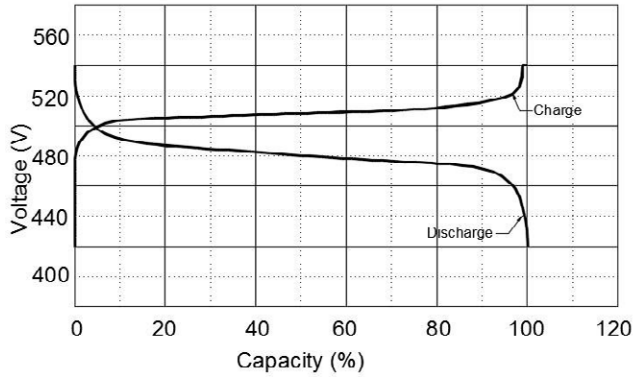
Item	Parameter	
Battery Series Support	15S x 10	
Rated voltage	480V	
Rated current	125A	
Number of BMU management	10	
Two level protection	Relay & MCB	
LCD Screen integrated	Into the cabinet	
LED indicator	RUN & ALM	
Balance between battery modules	Passive, integrated	
Balance between cells	Passive, integrated	
BMU temperature sensor	No. of sensor	8
	Accuracy	±2℃
BMU cell voltage	Accuracy	±5mV
Current sensor	Range	-400~+400A
	Accuracy	FSC±1%
SOC calculate error		≤5%
Power consumption	Switch off	0
	Operating	< 40W
Dimension (W*D*H)mm		442*480*133mm
Weight		27kg
Communication		CAN, RS485, Ethernet
Dry contact integrated		3



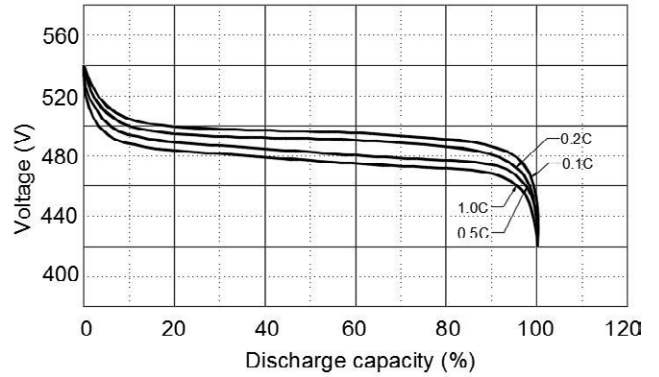
Item	Name	Value	
Basic	Rated capacity of one string	100AH	
	Number of module in one string	10	
	Number of cells of one module	15	1P-15S
	Number of temp sensor in one module	8	
Rated	BMS Communication ID	0~15	
	Rated charging voltage	525.00V	
	Rated charging current	50.00A	
	Rated discharging current	100.00A	
Charging voltage protection for system	Rated discharging cut-off voltage	420.00V	
	Warning	545.00V	
	First-class protection	550.00V	
	Second-class protection	560.00V	
Discharging voltage protection for system	Protection release	520.00V	
	Warning	435.00V	
	First-class protection	420.00V	
	Second-class protection	400.00V	
Charging current protection	Protection release	450.00V	
	Warning	55.00A	
	First-class protection	105.00A	
	Second-class protection	120.00A	
Discharging current protection	Protection release	100.00A	
	Warning	125.00A	
	First-class protection	135.00A	
	Second-class protection	150.00A	
Over-charging voltage protection for cell	Protection release	100.00A	
	Warning	3700mV	
	First-class protection	3800mV	
	Second-class protection	3900mV	
Over-charging voltage protection for cell	Protection release	3500mV	
	Warning	2500mV	
	First-class protection	2200mV	
	Second-class protection	2000mV	
Charging over temperature protection	Protection release	3000mV	
	Warning	60 °C	
	First-class protection	65 °C	
	Second-class protection	70 °C	
Charging low temperature protection	Protection release	45 °C	
	Warning	-3 °C	
	First-class protection	-5 °C	
	Second-class protection	-10 °C	
Discharging over temperature protection	Protection release	0 °C	
	Warning	65 °C	
	First-class protection	70 °C	
	Second-class protection	75 °C	
Discharging low temperature protection	Protection release	60 °C	
	Warning	-10 °C	
	First-class protection	-20 °C	
	Second-class protection	-25 °C	
Cell balance inside module	Protection release	0 °C	
	Balance start voltage	3450mV	
	Voltage difference_start	40mV	
Voltage balance between modules	Voltage difference_Stop	20mV	
	Balance start voltage	53.00mV	
	Voltage difference_start	300mV	
Cooling Fan control	Voltage difference_Stop	100mV	
	Fan start	45 °C	
	Fan stop	35 °C	
Parallel	Fan starting current	30mA	
	The difference of string voltage when connect strings in parallel	<15V	
Communication	Module → Module	CAN	
	Module → BMS	CAN	
	BMS → UPS/GBMS	CAN	
	BMS → PC	LAN/RS485	

Performance curves

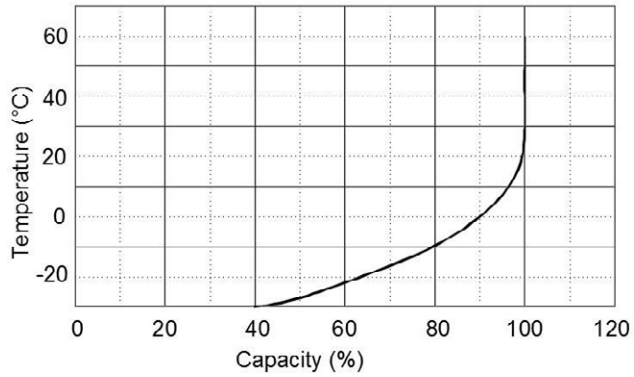
Charge & Discharge curve with 0.5C @ 25°C



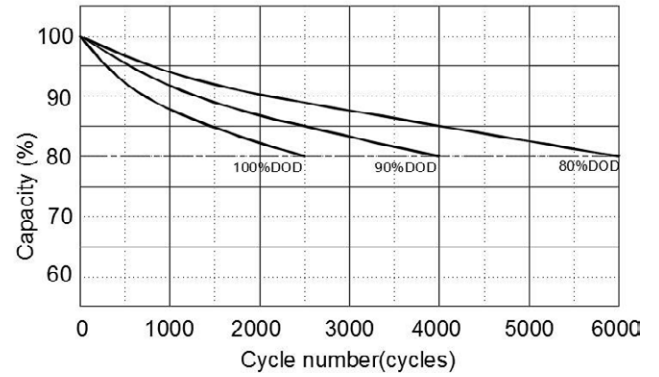
Discharge performance with different rate @ 25°C



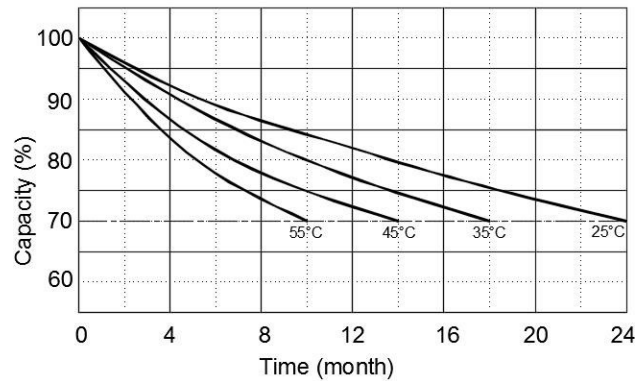
Discharge capacity with different temperature @ 1.0C



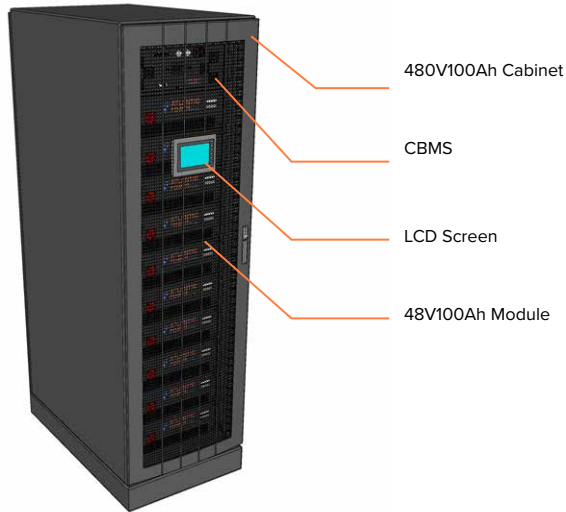
Cycle life with DOD @ 1.0C, 25°C



Self-discharge @ different temperature



LiFePO4 battery system overview



Packing List

No.	Item	Specification	Number
1	Cabinet	IP20.600*800*2000mm(W* D* H)	1pcs
2	LiFePO4 battery rack	ZTUES48100 48V100Ah battery rack	10pcs
3	CBMS Module	ATP15S08D125A Battery system CBMS	1pcs
4	LCD Screen	Integrated on the cabinet	1pcs
5	Power cable	Connecting battery racks, CBMS, UPS and utilization equipment.	1 set
6	Communication cable	Communication cable between battery racks and CBMS, LCD	1 set
7	User manual	User manual	1pcs

CBMS+BMU Monitoring

