

PHOTOVOLTAIC LITHIUM IRON PHOSPHATE BATTERY



- High energy density
- Superior performance
- Long life



HIGH ENERGY AND LONG CYCLE LIFE LITHIUM ION BATTERY

Maximum performance for high cycling and float service
High Energy Density, limited space, lighter weight
Safe operation, long life, maintenance free

OVERVIEWS

The battery pack is special optimized for PV application. That means more service life and more reliability in solar energy store. This has prompted higher requirements for the temperature range are gradually or have been started seeking and studying the new battery solution. Based on its own technical features as high capacity, high voltage and free of pollution, the lithium ion battery is widely concerned by people with a rapid development stance. It will be the first choice for the high requirement energy store battery solution.

EverExceed solar LiFePO4 battery system is mainly used for the energy store battery of Photovoltaic system; its advance intelligent lithium battery management technology to ensure the intelligent automatic management. With "Energy transfer" balanced patented technology, EverExceed Fe lithium provide high efficiency balanced and prolong system operate life.



■ APPLICATIONS

Solar Energy Store

Wind Energy Store

■ FEATURES

High cycle life and deep cycle: For infrastructure powered from high cycle life and deep cycle cost primary energy sources (e.g. diesel generators powered in off-grid or unreliable grid locations and anywhere energy storage systems are used to reduce CO2 emissions).

Battery management: The battery system adopts special BMS high performance battery management module which is featured with voltage, current and temperature protection and a preferable communication between the battery system and the host.

Intelligent monitoring: The monitoring unit checks the charging and discharging current, voltage and monomer battery surface temperature and ambient temperature automatically.

Lightweight, high energy density standby power: The EP-48xx series batteries, due to their excellent properties, are the optimal energy storage solution where limited space and or weight are important factors.

■ ADVANTAGES

Increased energy in given space;

Easy installation and up scaling;

High operational reliability;

Optimized supervision strategy through remote control/diagnostic;

Very long life time;

Preventive but not premature replacement at end of life;

■ MECHANICAL & ELECTRICAL INTERFACE

Length 19 inches, 2U/3U rack-mount design
M6 terminals on front panel

■ MECHANICAL & ELECTRICAL INTERFACE

The battery system informs the user and the application, via visual communication by LEDs on front panel and alarms (dry contacts). In option, the supervision can be done through CAN bus or RS485.

The data available are :

State of charge, state of health

Alarm level (minor, major); alarm reason

Operating conditions (voltage, temperature, identification number)





TECHNICAL PARAMETER

Model	ES-4810	ES-4820	ES-4830	ES-4840	ES-4850	ES-4860	ES-4880	ES-48100
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Nominal Characteristics

Battery type	Lithium Iron phosphate battery (LiFePO ₄)							
Rated voltage	48V							
Rated capacity	10 AH	20 AH	30 AH	40 AH	50 AH	60 AH	80 AH	100 AH
Typical energy	0.5 KWh	1 KWh	1.5 KWh	2 KWh	2.5 KWh	3 KWh	4 KWh	5 KWh
Recomm. Charge current	2 A	4 A	6 A	8 A	10 A	12 A	16 A	20 A
Max. charge current	10 A	20 A	30 A	40 A	50 A	50 A	80 A	100 A
Charging current limit in parallel use	2 A	5 A	10 A	10 A	10 A	10 A	20 A	20 A
Operating voltage window	40.5V to 54.75V							
Max. discharge current	10 A	20 A	30 A	40 A	50 A	60 A	80 A	100 A
BMS with equalization	Yes							
Communication	RS232/RS485							

Physical Characteristics

Length (without handles)	440 mm (17.3")							
Length (with handles)	483 mm (19.0")							
Depth	360 mm (14.2")	260mm (10.2")	400mm (15.8")	400mm (15.8")	400mm (15.8")	400mm (15.8")	420mm (16.5")	420mm (16.5")
Height	45 mm (1U)	133 mm (3U)	133 mm (3U)	133 mm (3U)	133 mm (3U)	133 mm (3U)	221 mm (5U)	221 mm (5U)
Weight	9 kg	15 kg	20 kg	23 kg	26 kg	32 kg	40 kg	48 kg

Operating Conditions

Cycle life (100% DOD; +25°C/+77°F)	≥ 3000 cycles
Discharge temperature	-20°C to +60°C
Charge temperature	0°C to +60°C
Storage temperature	-40°C to +65°C
Parallel ability	Support max. 16 modules in parallel connection to expansion

Note: (1)Nominal voltage---cell nominal voltage 3.2V, 48V battery consist of 15 cells.

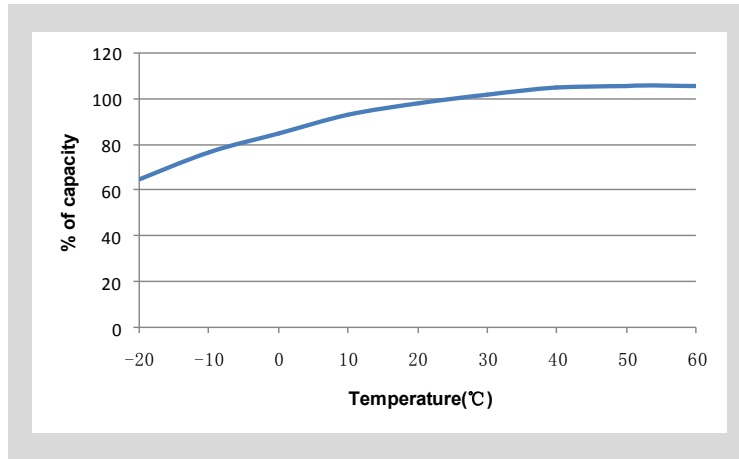
(2)Nominal capacity---discharge with constant current (0.2CA) to end voltage (40.5V) at 20°C.



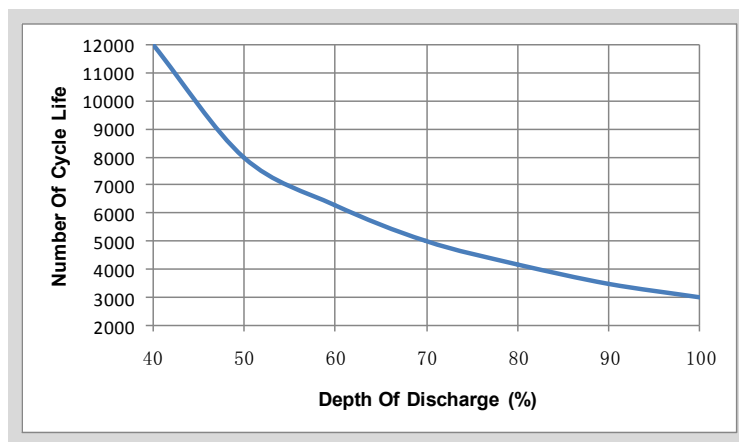
LITHIUM IRON PHOSPHATE BATTERY

Performance Curves

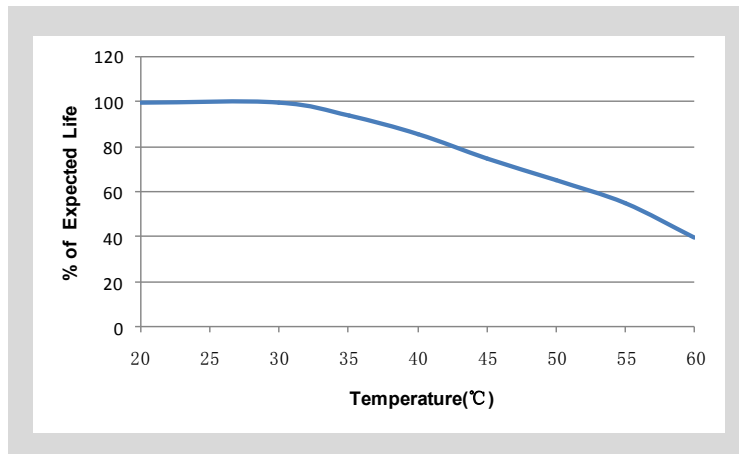
Capacity vs. Temperature



Cycle Life At +25°C/ +77°F



Expected Float Life vs. Temperature



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