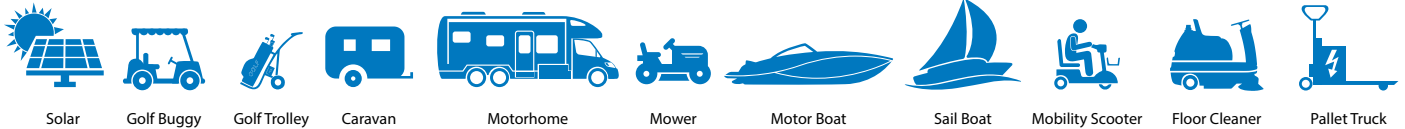




## Product Features ALFP12120BT

- **Longer Cycle Life:** Offers up to 20 times longer cycle life and five times longer float/calendar life than lead acid battery, helping to minimize replacement cost and reduce total cost of ownership.
- **Lighter Weight:** About 40% of the weight of a comparable lead acid battery. A 'drop in' replacement for lead acid batteries.
- **Higher Power:** Delivers twice power of lead acid battery, even high discharge rate, while maintaining high energy capacity.
- **Wider Temperature Range:** -20 C~60 C.
- **Superior Safety:** Lithium Iron Phosphate chemistry eliminates the risk of explosion or combustion due to high impact, overcharging or short circuit situation.
- **Increased Flexibility:** Modular design enables deployment of up to four batteries in series and max ten batteries in parallel.

## Product Applications



## Electrical Characteristics

Nominal Voltage	12.8V	
Nominal Capacity	Minimum: 120Ah	
Energy	1536Wh	
Internal Resistance	≤30mΩ	
Cycle Life	>2000 cycles @ 1C	100% DoD
	>3000 cycles @ 0.5C	80% DoD
	>5000 cycles @ 0.2C	80-100% DoD
Months Self Discharge	<3%	
Efficiency of Charge	100% @ 0.5C	
Efficiency of Discharge	96~99% @1C	

## Environmental

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
Plastic Case	ABS+PC
Dimensions (in./mm.)	L355*W175*H190mm
Weight (lbs./kg.)	15kg
Terminal	Auto Post
Protocol	Bluetooth

## Standard Discharge

Continuous Current	100A
Max. Pulse Current	500A / 31ms to 0.5s
Discharge Cut-off Voltage	9.0V

## Standard Charge

Charge Voltage	14.4±0.2V
Charge Mode	CC/CV
Recomm. Charge Current	10-20A
Max. Charge Current	100A
Charge Cut-off Voltage	14.6V

## Certification & Approvals

Certifications	CE (Battery)
	UN38.3 (Battery)
	IEC62133 (Cells)
	UKCA

## BMS Board Voltage

Charging Voltage	DC:14.4V 3.6V/Cell (CC/CV)
Balance Voltage for single cell	3.60±0.05V

## BMS Current

Balance current for single cell	116±10mA
Current consumption	≤600μA
Maximum continuous charging current	100A
Maximum continuous discharging current	100A

## BMS Over Charge Protection

Over charge detection voltage	15.0V \ 3.9±0.05V
Over charge detection delay time	0.5S—2S
Over charge release voltage	14.4V \ 3.6±0.1V

## BMS Over Discharge Protection

Over discharge detection voltage	8.0V \ 2.0±0.1V
Over discharge detection delay time	10mS—400mS
Over discharge release voltage	10.0V \ 2.5±0.1V

## BMS Over Current Protection

Over current detection current	500±50A
Detection delay time	31ms—0.5s
Release condition	Cut load, charge release

## BMS Short Protection

Detection Condition	Exterior short circuit
Detection delay time	200-800us
Release condition	Cut load, charge release

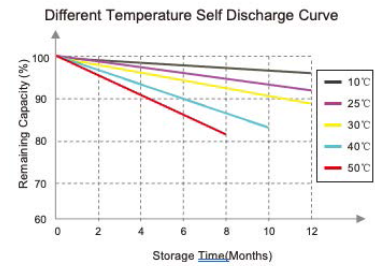
## BMS Resistance

Protection circuitry	≤50mΩ
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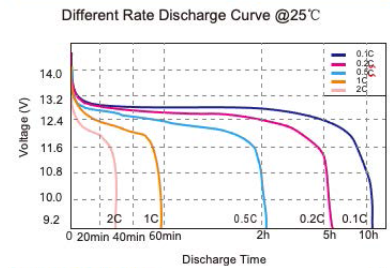
## BMS Temperature

Operating Temperature Range	-40 - +85°C
Storage Temperature Range	-40 - +125°C

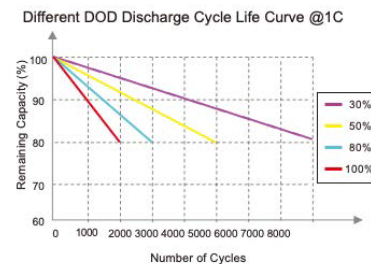
### Self Discharge Characteristics Curve



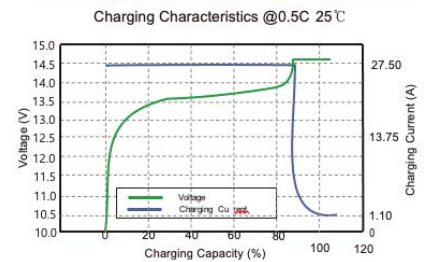
### Different Rate Discharge Curve



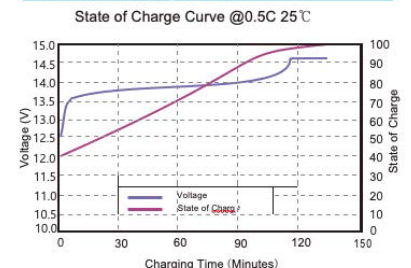
### Cycle Life Curve



### Charging Characteristics



### State of Charge Curve



### Different Temperature Discharge Curve

