



▶▶ Feature of LiFePO4 Battery:

High Energy Density: The battery delivers double to tripe energy compared with lead-acid battery of the same volume and mass.

Long Cycle Life: The cycle life is five times that of Lead acid battery.

Adaptability to a Wide Range of Temperatures: The batteries can work at a temperature between $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

High C-rate: Support high charge/discharge rate to meet the requirement for high-current discharge in a short time and quick charging.

Environmental Friendliness: Environmental friendly and free from heavy metal.

▶▶ Functions of BMS

Over-charging protection

Over-discharging protection

Over-current protection

Over-temperature protection

Low-temperature protection

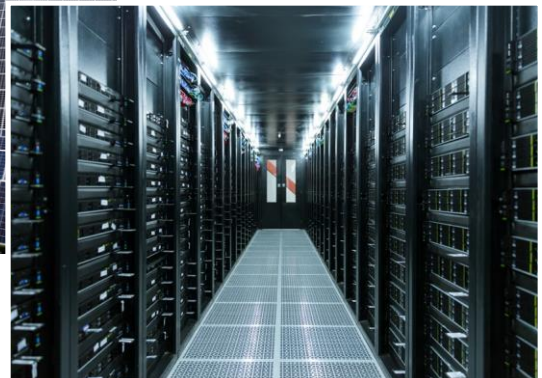
Short circuit protection

Reverse polarity protection

Balancing

Multi-communications

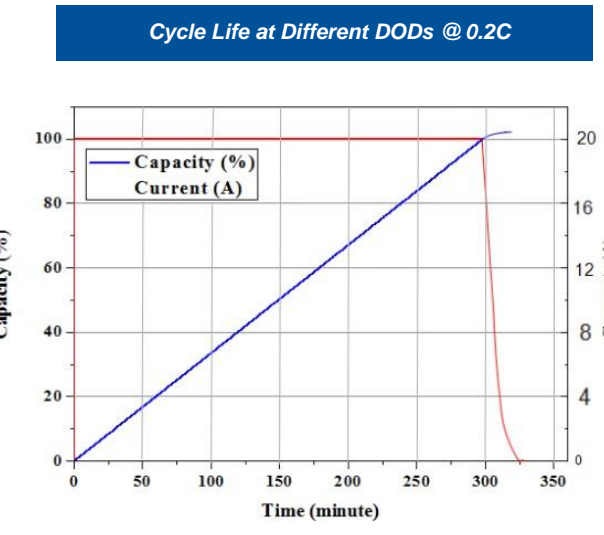
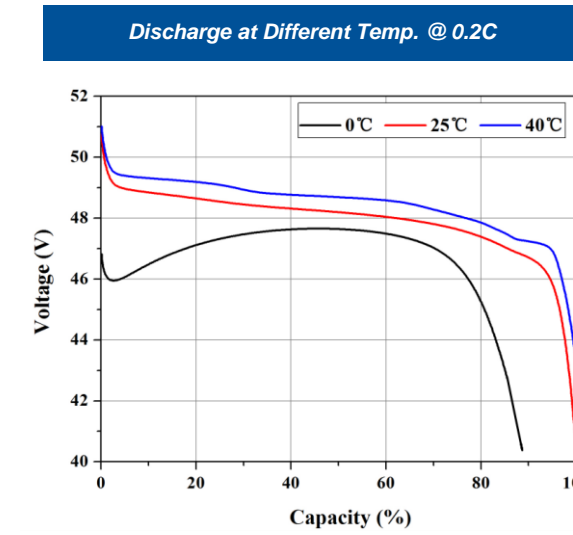
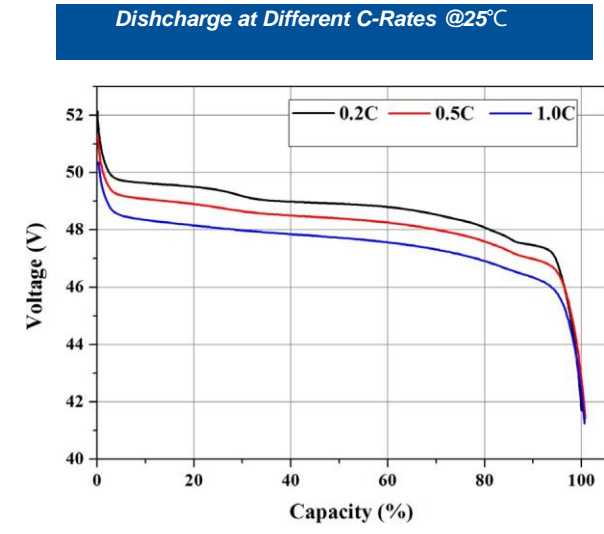
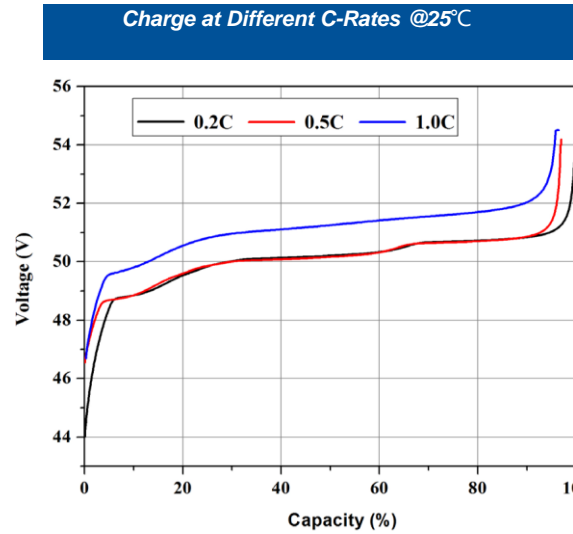
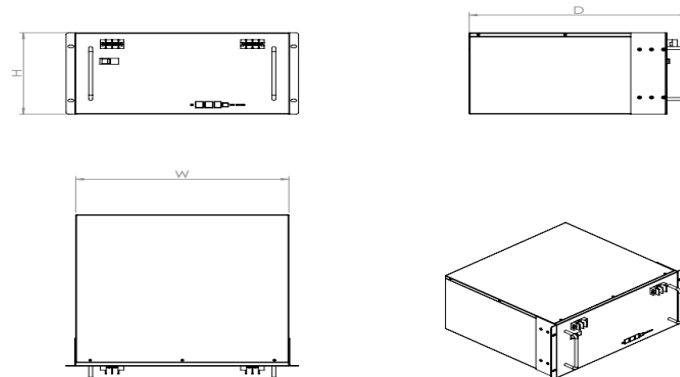
▶▶ Applications



Nominal Voltage	48V
Assembly Method	15S
Voltage Limits	40 ~ 54V
Cycle Life	≥3000 @25°C 0.2C 100%DOD
Months Self Discharge	< 3.0%
Efficiency of Charge	100%(0.2C)
Efficiency of Discharge	> 99%(0.2C)
Case Materials	Iron
Protocol	Modbus/RS485/RS232
Work / SOC Light	LED
Charge Voltage	54V
Charge Method(CC-CV)	Supply constant current until the battery voltage hits 54V, and then supply constant voltage of 54V until the charge current drops to lower than 0.01C
Discharge Cut-off Voltage	40V
Charge Temperature	0°C ~ 55°C
Discharge Temperature	-20°C ~ 60°C
Storage Temperature	0°C ~ 40°C

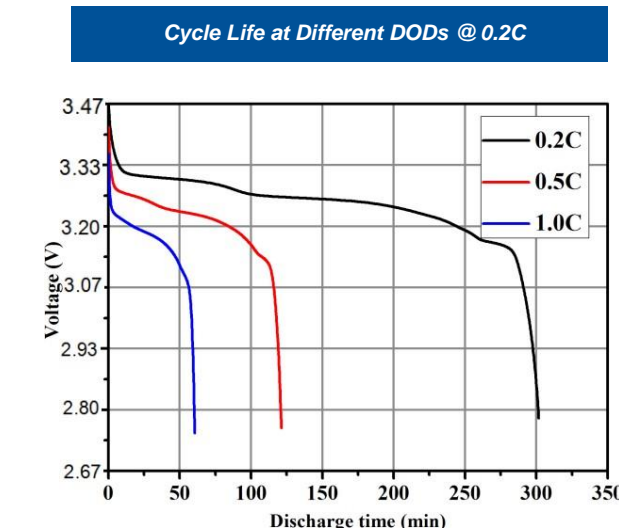
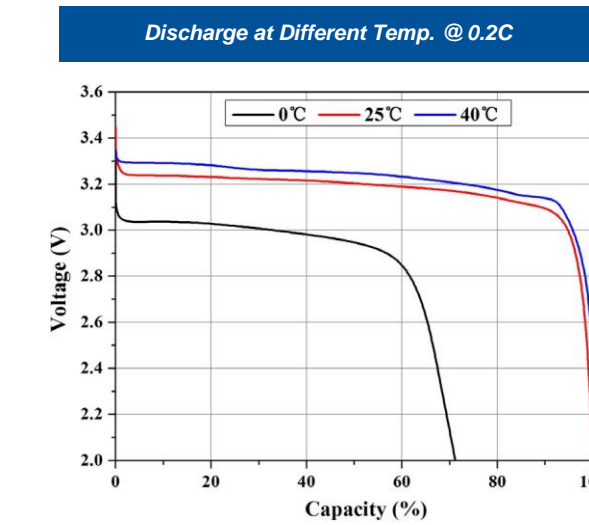
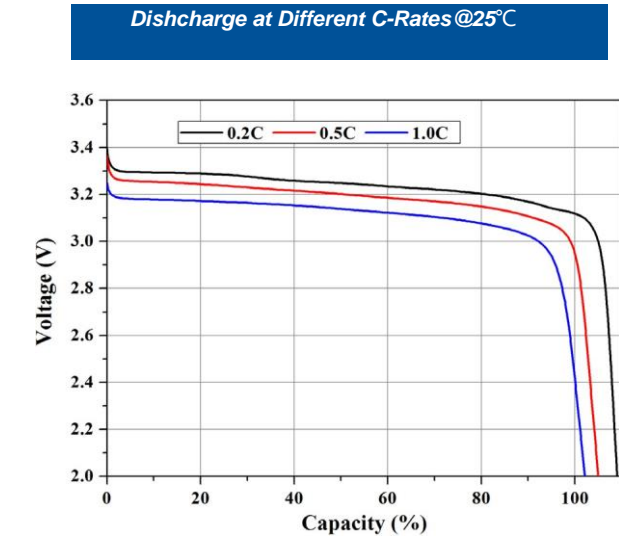
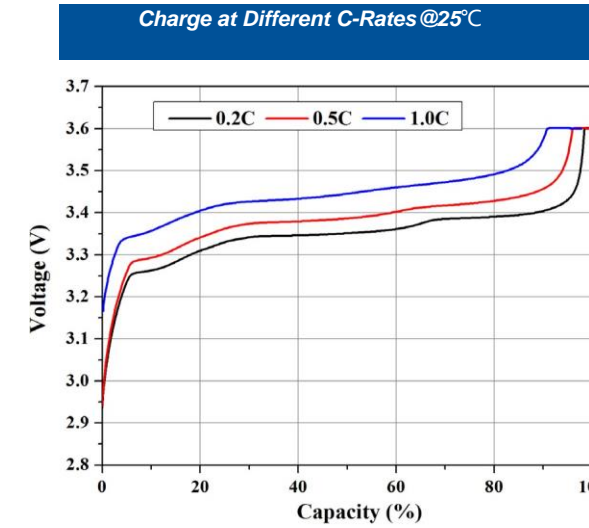
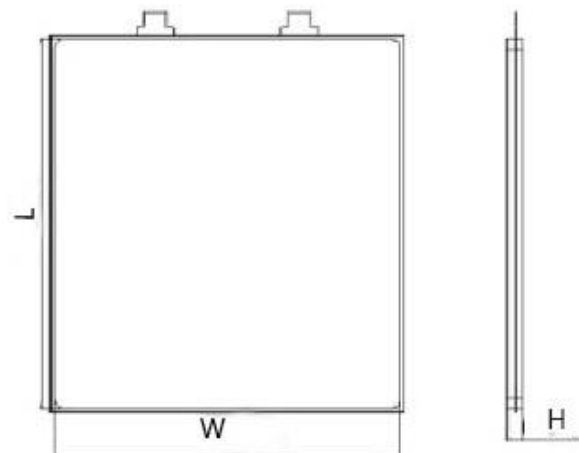
Model	LD-4810	LD-4820	LD-4840	LD-4850	LD-4875	LD-48100
Nominal Capacity	10Ah	20Ah	40Ah	50Ah	75Ah	100Ah
Energy	480Wh	960Wh	1920Wh	2400Wh	3600Wh	4800Wh
Weight	6kg	11.5kg	23kg	29kg	42kg	58kg
Max. Charge Current	10A	20A	40A	50A	75A	80-100A
Max. Discharge Current	10A	20A	40A	50A	75A	80-100A

Dimensions	W(mm)	D(mm)	H(mm)
LD-4810	442	385	44
LD-4820	442	385	88
LD-4840	442	385	132
LD-4850	442	385	132/162
LD-4875	442	400	176
LD-48100	442	410	221



Model	3.2V 10Ah	3.2V 10Ah	3.2V 25Ah	3.2V 50Ah	3.2V 75Ah
Nominal Capacity	10Ah (Standard Discharge 0.2C ₅ A)	10Ah (Standard Discharge 0.2C ₅ A)	25Ah (Standard Discharge 0.2C ₅ A)	50Ah (Standard Discharge 0.2C ₅ A)	75Ah (Standard Discharge 0.2C ₅ A)
Nominal Voltage	3.2V				
Internal Resistance	≤5.0mΩ	≤5.0mΩ	≤2.0mΩ	≤1.5mΩ	≤0.7mΩ
Months Self Discharge	< 2.0%				
Cycle Life	≥3800 times @25°C 80%DOD				
Standard Charge	2A	2A	5A	10A	15A
Max. Charge Current	10A	10A	25A	50A	75A
Charge Cut-off Voltage	3.6V				
Standard Discharge	2A	2A	5A	10A	15A
Max. Discharge Current	20A	20A	50A	100A	150A
Storage Temp.	-10°C ~45°C 25%~85%RH @40%~60%SOC				
Working Temp.	Charge 0~55°C Discharge -20~60°C				
Shell	Al-Plastic Film	Al-Plastic Film	Al-Plastic Film	Al	Al

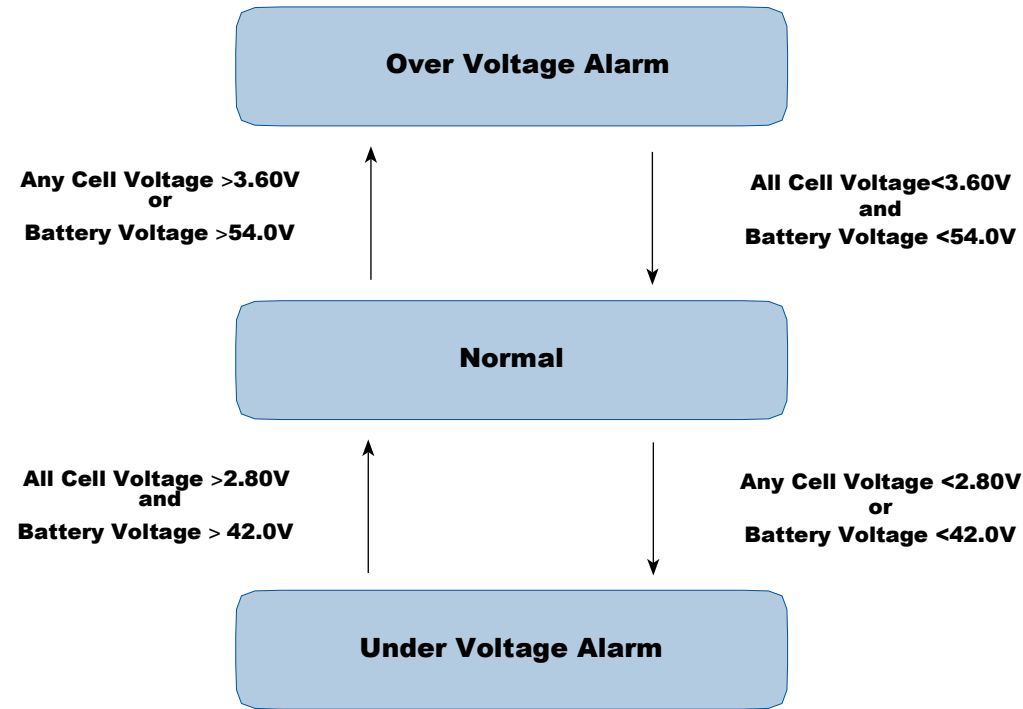
Model	L(mm)	H(mm)	R(mm)	Weight(g)
3.2V10Ah	270	68	8	275
3.2V10Ah	165	102	9	275
3.2V25Ah	190	159	9	580
3.2V50Ah	316	190	11	1300
3.2V75Ah	250	135	27	1790



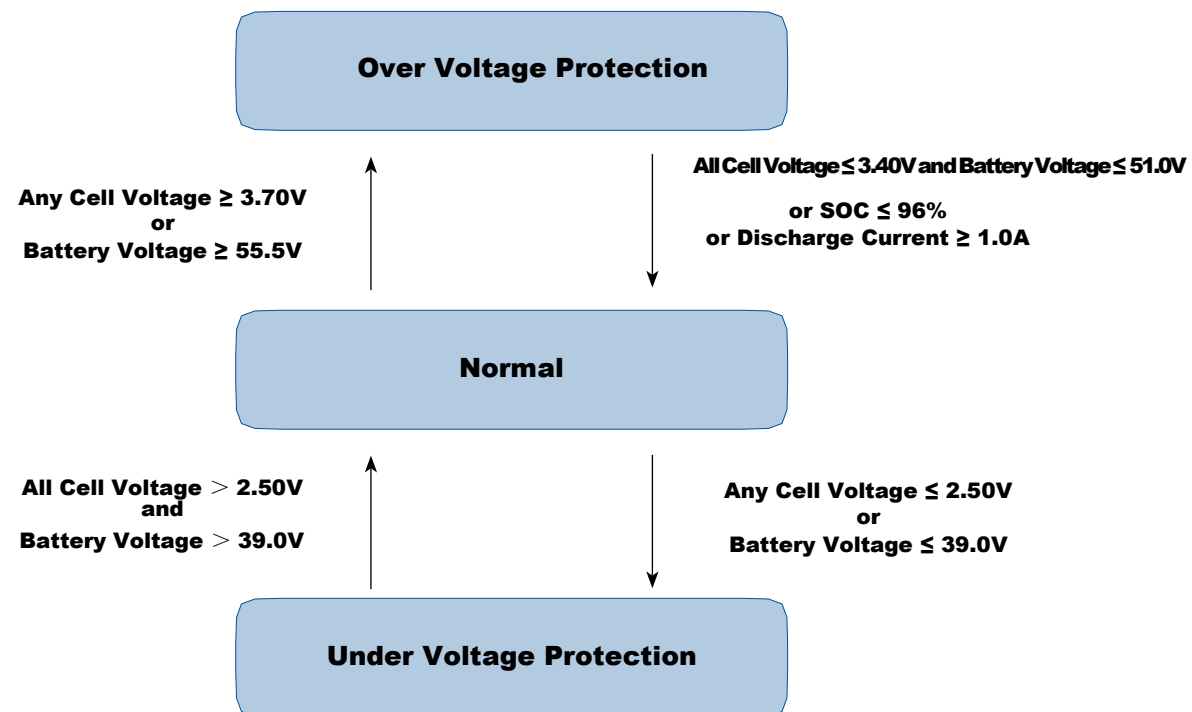
Cell Voltage Alarm	Over-charge Voltage Alarm	3600mV	Pack Under Voltage Protection	Under Voltage Protection Voltage	39.0V
	Under-discharge Voltage Alarm	2800mV		Under-voltage Protection Delay Time	1S
Cell Over Voltage Protection	Over-charge Voltage Protection	3700mV	Pack Under Voltage Protection	Under-voltage Protection Release Voltage	42.0V
	Over-charge Protection Delay Time	1s		Under-charge Protection Release Condition	The effective charging current is detected and the voltage is higher than the recovery limit.
	Over-charge Protection Release Voltage	3400mV			
	Over-charge Protection Release Condition	1.Cell voltage is lower than the release limit and it will charge automatically. 2.Cell voltage is lower than the protection limit and SOC<=95%(regular charge condition:1 power supply/1 day),then it will charge again.	Cell Temperature Alarm	High Temperature Alarm	55°C
Cell Under Voltage Protection	Under-voltage Protection Voltage	2500mV	Cell Discharge Temperature Protection	Low Temperature Alarm	0°C
	Under-voltage Protection Delay Time	1s		Charge High-Temp. Protection	60°C
	Under-voltage Protection Release Voltage	2700mV		Charge High-Temp. Protection Release	50°C
	Under-charge Protection Release Condition	The effective charging current is detected and the voltage is higher than the recovery limit.	Charge Low-Temp. Protection	-5°C	
Pack Voltage Alarm	Over-charge Voltage Alarm	55.0V	Cell Discharge Temperature Protection	Charge Low-Temp. Protection Release	0°C
	Under-discharge Voltage Alarm	42.0V		Discharge High-Temp. Protection	65°C
Pack Over Voltage Protection	Over-charge Voltage Protection	55.5V			
	Over-charge Protection Delay Time	1S	Discharge Low-Temp. Protection	-20°C	
	Over-charge Protection Release Voltage	51.0V	Environment Temperature Protection	Discharge Low-Temp. Protection Release	0°C
	Over-charge Protection Release Condition	1.Cell voltage is lower than the release limit and it will charge automatically. 2.Cell voltage is lower than the protection limit and SOC<=95%(regular charge condition:1 power supply/1 day),then it will charge again.		High Temperature Protection	70°C
				High Temperature Protection Release	50°C
			Low Temperature Protection	-20°C	
			Low Temperature Protection Release	0°C	
	Pack Under Voltage Protection	For 10A BMS :1. Discharge current>1.0A 2. If it is not released within 48h, it will be automatically removed and re-charge.	Power Temperature Alarm	High Temperature Alarm	90°C
Pack Under Voltage Protection			Low Temperature Alarm	-30°C	
			High Temperature Protection	115°C	
			High Temperature Protection Release	80°C	
Pack Under Voltage Protection		Low Temperature Protection	-40°C		
		Low Temperature Protection Release	-20°C		

Over-current Charge Alarm	Model	10A	20A	50A	75A	100A
	Over-current Charge Alarm Current	12A	20A	50A	80A	125A
Over-current Charge Protection	Over-current Charge Protection Current	13A	25A	55A	85A	130A
	Over-current Charge Protection Delay	5s	1s			
Charge Current Limit	Charge Current Limit	NC	NC	10A	10A	20A
Over-current Discharge Alarm	Over-current Discharge Alarm Current	-12A	-24A	-50A	-80A	-125A
	Over-current Discharge Protection Current	-13A	-35A	-55A	-85A	-130A
Over-current Discharge Protection	Over-current Discharge Protection Delay	5s	1s			
	Over-current Protection-2	-50A	-45A	-150A	-100A	-150A
Over-current Protection-2	Over-current Protection-2 Delay	600ms				
	OCP-2 Locking	Continuous OCP-2 Locking, times≥10	/	Continuous OCP-2 Locking, times≥10	Continuous OCP-2 Locking, times≥10	Continuous OCP-2 Locking, times≥10
	Over-current Protection-2 Locking Release	Charger connected	/	Charger connected	Charger connected	Charger connected
Short Circuit Current Protection	Short Circuit Current Protection Current	-100A	-150A	-300A	-350A	-350A
	Short Circuit Current Protection Delay	150us	800us	300us		
	Short Circuit Current Protection Locking	Continuous short circuit, beyond the short circuit current protection locking times.				
	Short Circuit Current Protection Locking Release	Reset after cutting off the loads or charge release.				
Over Current Protection Release	Auto Release Delay	60s				
Continuous Over Current Locking	Definition of Continuous Over Current	Over current happens within the interval of 5 minutes is called Continuous Over Current.				
	Over Current Locking Times	3 times				
Communication		Modbus/RS232/485				
Storage		No	Yes			
Optional Functions		20A current limit, double 485communication, screen, prevention of feedback				

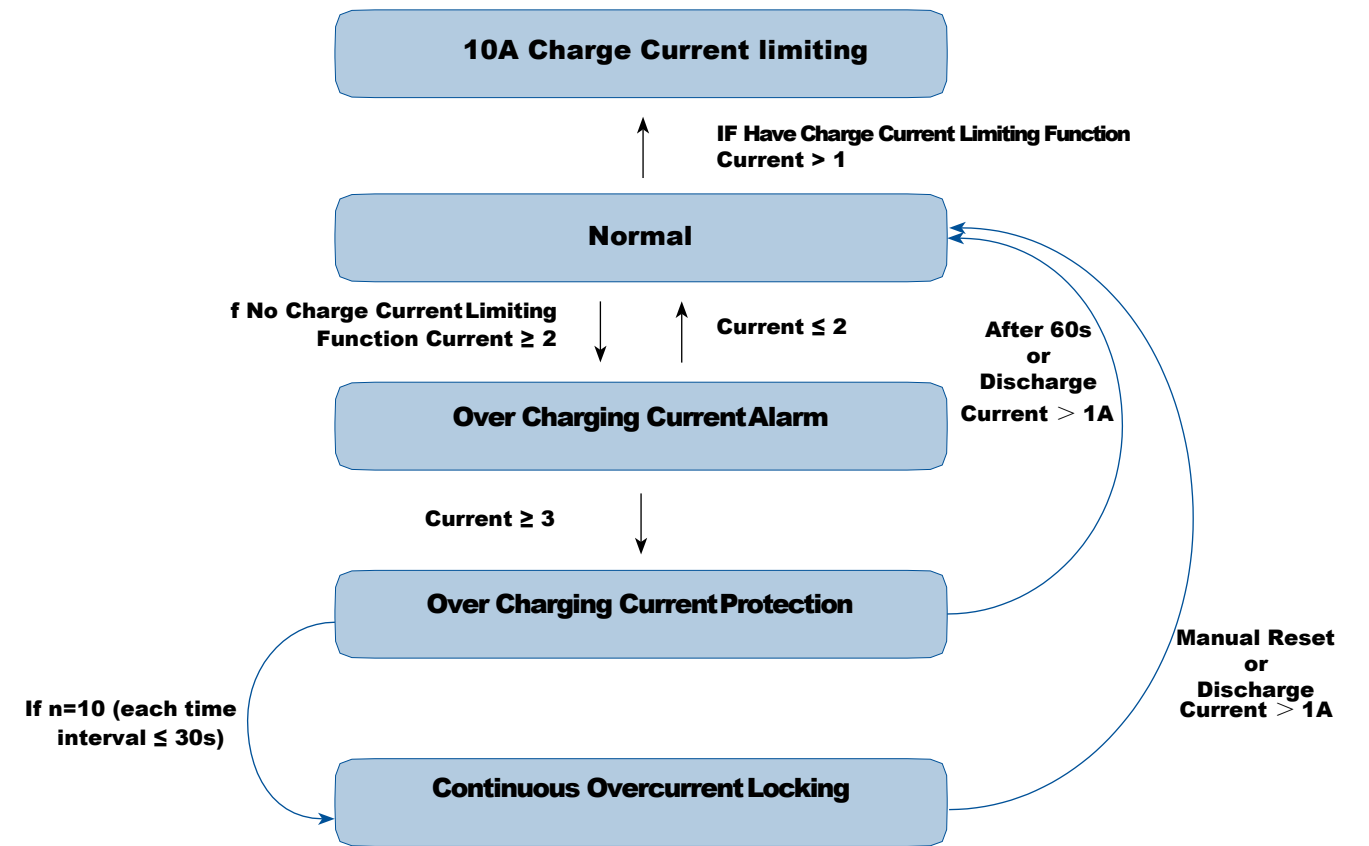
Over and Under Voltage Alarms



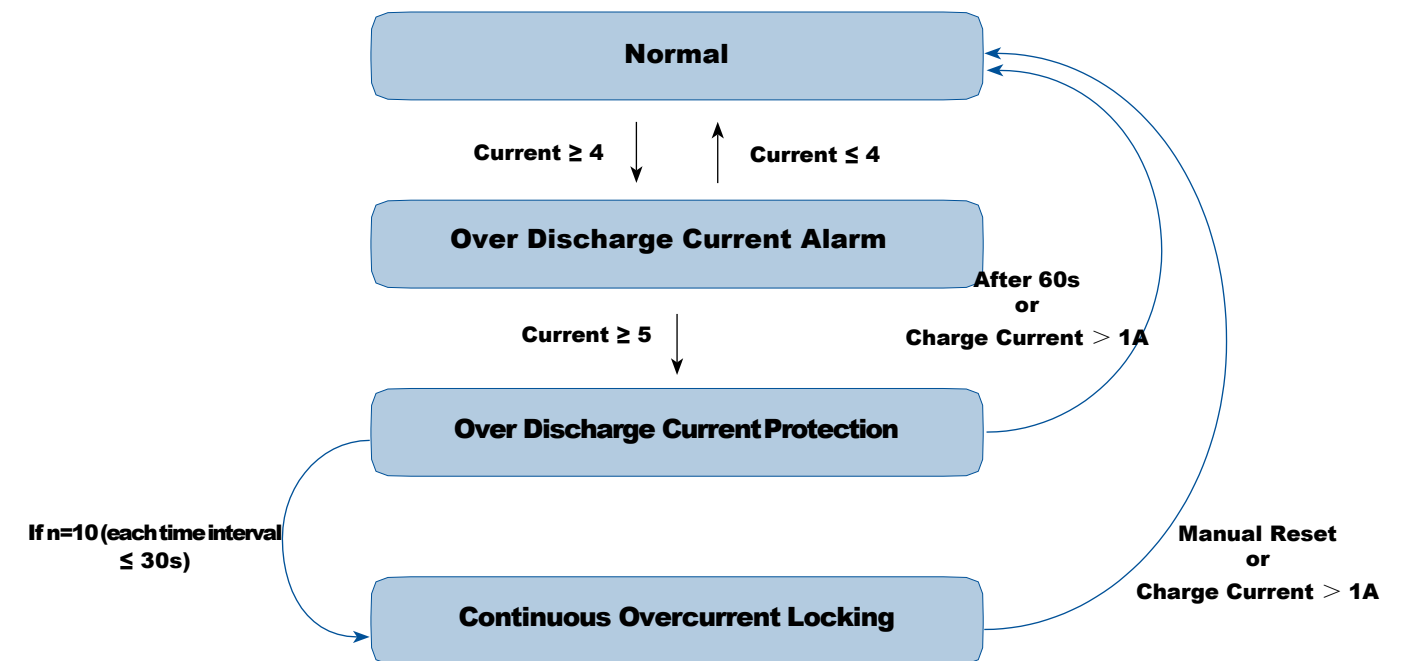
Over and Under Voltage Protections



Over Charging Current Protection



Over Discharging Current Protection





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