

SP52100-R

LITHIUM BATTERY SERIES



Provides Superior Performance, Capacities and Reliability.



Using state of high power cell technology the lithium series is designed for environmentally sensitive areas that require enhanced cycle life capabilities in commercial, industrial, residential, and private applications. The maintenance free construction and advanced design features makes the lithium Series the definitive choice for a wide variety of markets; Solar and Renewable Energy Storage; Electric Vehicle and Golf cart; Industrial equipment, Floor Machines. Forklifts, Aerial lifts, and Robotics; Marine, RV and no-idle solutions; Mobility and Medical Equipment; Telecom, Broadband and Cable TV; UPS systems.



Applications



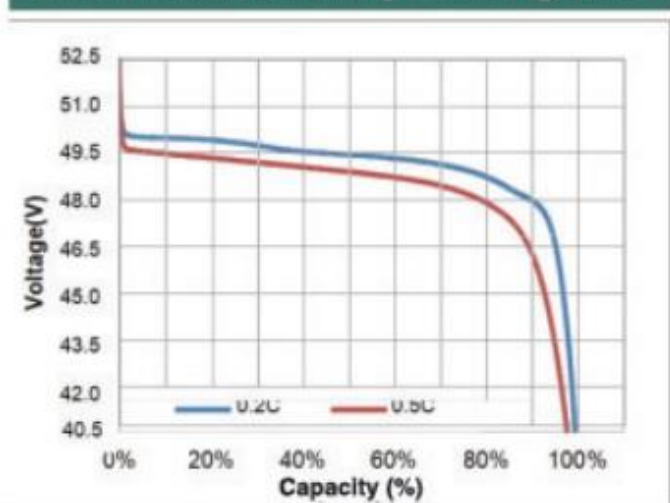
BATTERY SPECIFICATIONS

Code	LFP52V-100-5.2K-RM	Code	LFP52V-100-5K-FS
Battery Type-Chemistry	LiFePO4	Recommended Discharge Voltage	45±0.20V
Nominal Voltage	51.2V	Max Discharge Voltage	40±0.20V
Amp Hour Capacity	100Ah	Max Discharge Current	200A
Energy Density	5120Wh	Pulse Discharge Current	200A±3S
Dimensions (LxWxH)	480*452*160 mm	Internal Resistance-Milliohms	<80mQ
Weight	42kg	Efficiency-Round Trip	<99.5%
Terminal Type	M8	Self Discharge per Month	<3%
Terminal Torque	8.5 NM	Max Parallel Connections	16 pcs
Case Material	Metal	Series Connections	Not Allowed
BMS Build-in	Yes	Case IP Rating	IP20
Recommended Charge Voltage	57.6±0.20V	Design Life	20 Years
Max Charge Voltage	58.4±0.20V	Cycle Life(1°C, 25°C@B0%DOD)	>4000 cycles
Recommended Charge Current	25A	Cycle Life(0.5C, 25°C@B0%DOD)	>6000 cycles
Max Charge Current	200A	Discharge Temperature	23 to 65°C
Charge Current (0to-10°C)	<0.1°C	Charge Temperature	-3 to 65°C
ChargeCurrent (-20to-10°C)	<0.05°C	Storage Temperature	-20 to 45°C

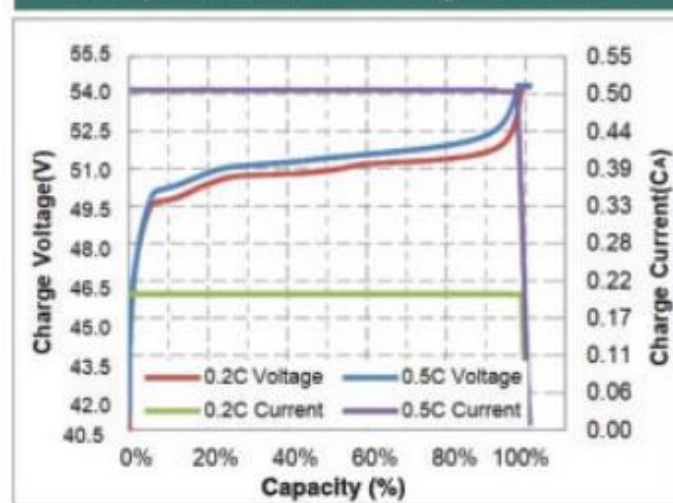
BMS SPECIFICATIONS

Description- BMS Version: LL			
BMS Protection Range	Over (Voltage, Current, Temperature Management) and cell balance		
Over Charging Cell Protection	>3.80	$\pm 0.05V$	Delay. $2 \pm 0.5S$
Over Charging Pack Warning	>59	$\pm 0.20V$	
Over Charging Pack Protection	>30	$\pm 0.20V$	Delay. $2 \pm 0.5S$
Over Charging Current Warning	>100	$\pm 2.0A$	
Over Charging Current Protection 1	>102<112	$\pm 2.5A$	Delay. $20 \pm 1.0S$
Over Charging Current Protection 2	≥ 112	$\pm 2.5A$	Delay. $3 \pm 1.0S$ Turning to 10A
Over Charging Temp Protection 1	<-5 or >70	$\pm 3^{\circ}C$	Release: 0 or < $60 \pm 3^{\circ}C$ Delay. $2 \pm 0.5S$
Over Discharging Cell Protection	<2.5	$\pm 0.05V$	Delay. $2 \pm 0.5S$
Over Discharging Pack Protection	<45	$\pm 0.20V$	Delay. $2 \pm 0.5S$
Over Discharging Current Warning	>102	$\pm 2.5A$	
Over Discharging Current Protection 1	>102<122	$\pm 2.5A$	Delay. $30 \pm 1.0S$
Over Discharging Current Protection 2	≥ 122	$\pm 2.5A$	Delay. $3 \pm 1.0S$
Over Discharging Temp Protection 1	<-25 or >75	$\pm 3^{\circ}C$	Release: >-20 or < $70 \pm 3^{\circ}C$
PCB Temp Protection	>95	$\pm 3^{\circ}C$	Release: < $80 \pm 3^{\circ}C$ Delay. $2 \pm 0.5S$
Cell Balance Start	3.4	$\pm 0.05V$	Cell voltage difference <20mV-Passive balance
Balance Current	150	$\pm 10mA$	Delay. $2 \pm 0.5S$
Short Circuit			
Power Consumption	<300uA	Switch-off mode Storage & transportation	
	<500uA	Sleep mode Protection & stand-by	
	<15mA	Operating mode Operating	
	<28mA	Operating mode Low voltage to start Pre-charge	
Temperature Accuracy	$\pm 2^{\circ}C$	Measuring range-40-100° °C	
Voltage Accuracy	$\pm 15mV$	For cells and module	
Current Accuracy	FSC $\pm 5\%$	Measuring range-200-+200A	
SOC	$\pm 5\%$	Integral calculation	

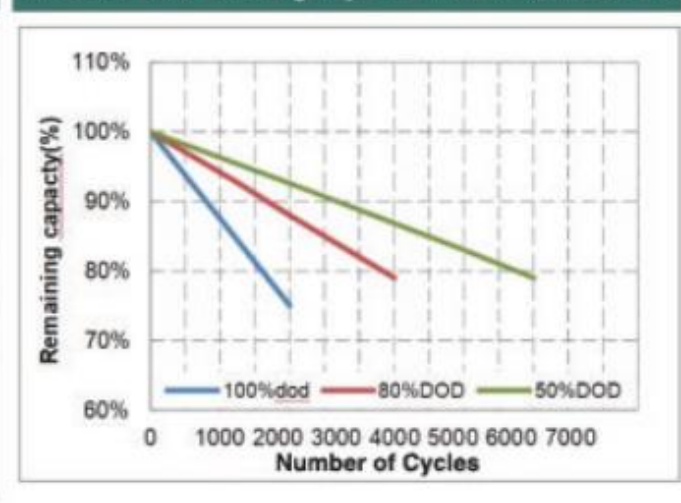
Different Rate Discharge Curve @ 25°C



Charge Characteristics @0.2C 25°C



Different DOD Discharge Cycle Life Curve @0.5C, 25°C



Open circuit voltage VS SOC%

