$LiFePO_4$ EV 51.2V-160A Battery

Lithium Electric Vehicle *Battery System*

BRIEF INTRODUCTION

Our SPS Lithium Electric Vehicle Battery System utilizes (16) S1P / $LiFePO_4$ 3.2V/105Ah Cells and contains a Built-In Communication BMS to satisfy the requirements of High Performance and Operational Reliability as well as Optimized Cyclability.

KEY FEATURES

- Attractive Cycle Life
- 10-Year Design Life @ 25C°
- Extended Safety Performance
- Built-in BMS (Battery Management System)
- Enclosure Protection Rating = IP65
  (Protection against low pressure water jets from any direction, as well as condensation and water spray)
- Bluetooth Functionality
- 400A Max Discharge Rate (35 Seconds)

SECURITY

1. Overcharge Protection
2. Over Discharge Protection
3. Overvoltage Protection
4. Over Temperature Protection
5. Over Current Protection
6. Short Circuit Protection.

BATTERY PERFORMANCE

WORKING VOLT RANGE	40V - 58.4V
SOC (State of Charge) Range	10% -100%

• ELECTRICAL CHARACTERISTICS

Rated Voltage	51.2V
Capacity	160 Ah
Communication Mode	One-Way to Display / Charger
Cycle Life	≥ 4,000 (0.2C Cycle, Normal Temperature
Battery Energy	25°C / 5,376 Wh (100% DOD @ 1C Rate)
	-20°C / 3,584 Wh (100% DOD @ 1C Rate)

• MECHANICAL CHARACTERISTICS

Length	30.67" / 779mm (± 2mm)
Width	13.35" / 339mm (± 2mm)
Height	9.05" / 230mm (± 2mm)
Weight	150 lbs. / 68kg

• OPERATIONAL CONDITIONS

Max. Charge Voltage	58.4 V
Constant Charge Current	55A
Constant Discharge Current	200A
Max. Discharge Current	400A - 35 Seconds
Internal Impedance	≤ 100mΩ
Self Discharge Rate	25°C, ≤3% Monthly
Charge Temperature Range	32°F~ 113°F / 0°C~ 45°C
Discharge Temperature	-4°F~ 140°F / -20°C ~ 60°C
Storage Temperature Range	< (12 Months) -4°F ~ 77°F
	< (3 Months) -4°F ~ 104°F
	< (7 Days) -4°F ~ 140°F
Storage Temperature	≤ 113°F / 45°C

BMS PERIMETERS		
No.	**Item**	**Specification**
1	Power Supply	Powered by the Battery Pack; Input: 20V-85V DC
2	Working Power Consumption	< 50mA
3	Sleep Power Consumption	< 0.5mA
4	Operating Temperature	-4°F~ 158°F / -20°C ~ 70°C
5	Communication Mode	CAN, One-Way to Display / Charger
6	Voltage Sampling	Accuracy ± 0.5%; Range 0 ~ 80V; Sampling Period 100ms
7	Current Sampling	Charge & Discharge Current Accuracy ± 0.5%; Range 400A ~ 100A; Sampling Period 10ms
8	Temperature Sampling	Accuracy ± 2°C; Range –40°C ~ 125°C; Sampling Period 1s; Sampling Points 3
9	SOC Estimation Accuracy	3% - 5% (Operating Conditions)
10	Security	Overcharge, Over Discharge, Overvoltage, Over Temperature, Over Current Protections
11	Short - Circuit Protection	≥ 1000A
12	Fault Record	Yes
13	Bluetooth	Yes
14	Protective Class	IP30 *(BMS - Protected from tools and wires greater than 2.5 millimeters. Not protected from liquids)*

Connector				
No.	**Item**	**Specification**	**Quantity**	**Remark**
1	Positive Socket	250A Positive Terminal	1	Installed on Battery Box
2	Negative Socket	250A Negative Terminal	1	
3	Communication Interface	DS16 Aviation Plug	1	

Communication Connector				
Pin Number	**Pin Definition**	**Line Type & Color**	**Description of Function**	**Remark**
1	CAN-L	AWG 20#, Red	CAN Communication Low Data Line	CAN Communication to Display / Charger
2	CAN-H	AWG 20#, White	CAN Communication High Data Line	
3	GND	AWG 20#, Black	Positive Electrode of DC/DC Switch	DC/DC Switch