



LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	12.8V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	1280 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	6

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Of f	201 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	<u>11V</u>
BMS Discharge Voltage Cut-Of f	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
ReconnectVoltage	9.2V(2.3±0.1vpc)
Short Circuit Protection	200-600µs

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4to140°F(-20to60°C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Of f	176 °F (80 °C)
Reconnect Temperature	122°F (50°C)

DIMENSIONAL SPECIFICATIONS



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MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	306 x 174 x 200 mm
Weight	17 kg
Terminal Type	M8
Terminal Torque	<u>80 - 100 in-lbs (9 - 11 N-m)</u>
Case Material	ABS
Enclosure Protection	IP56
CellType-Chemistry	Cylindrical - LiFePO ₄

CHARGE SPECIFICATIONS

Recommended Charge Current	50 A
Maximum Charge Current	100 A
Recommended Charge Voltage	14.2V-14.6V
BMS Charge Voltage Cut-Of f	<u>15.6V(3.9±0.025vpc)(1.1±0.4s)</u>
Reconnect Voltage	15.2V(3.8±0.05vpc)
Balancing Voltage	14.4V(3.6±0.025vpc)

COMPLIANCE SPECIFICATIONS

Certifications

Shipping Classification

UN 3480, CLASS 9

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PERFORMANCE CHARACTERISTICS DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS RATES DISCHARGE 10 25-C (77°F) 14.5 14.5 14.0 14.0 13.5 13.5 13.0 13.0 12.5 12.5 Voltage (V) Voltage (V) 12.0 12.0 11.5 11.5 11.0 11.0 10.5 10.5 10.0 10.0 60°C (140°F) 45°C (113°F) 9.5 -0.2C -0.5C -1C -2C 9.5 - 25°C (77°F) - 0°C (32°F) - 10°C (50°F) - 10°C (14°F) 9.0 8.5 9.0 8.5 -20°C (-4°F) 8.0 8.0 0% 120% 0% 20% 60% 120% 20% 40% 60% 80% 100% 40% 80% 100% Capacity Capacity CHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES CHARGE VOLTAGE and STATE OF CHARGE (SOC) CHARGE 0.2C CHARGE 0.2C @ 25°C (77°F) 15.0 14.5 15.0 140% 130% 14.5 14.0 13.5 14.0 120% 13.5 13.0 110% 13.0 12.5 12.0 11.5 100% 12.5 90% SOC Voltage (V) Voltage (V) 12.0 80% 11.5 11.0 70% 11.0 60% 10.5 10.5 50% 10.0 10.0 40% 9.5 9.0 9.5 9.0 30% 45°C (113°F) 25°C (77°F) 5°C (41°F) 20% -Voltage -State of Charge 8.5 8.5 10% 8.0 8.0 0% 0% 20% 40% 60% 80% 100% 120% 0 50 100 150 200 250 300 350 State of Charge Time (Minutes) CYCLE LIFE vs. DEPTH OF DISCHARGE (DOD) DISCHARGE 0.5C/CHARGE 0.5C @ 25°C (77°F) CAPACITY of RELION LIFePO4 vs. LEAD ACID 100% 140 at VARIOUS RATES OF DISCHARGE 130 95% 120 90% 110 85% 100 Remaining Capacity 80% Capacity (Ah) 90 75% 80 70 70% 60 65% RELION LIFePO4 - GROUP 31 50 60% —50% DOD FLA - GROUP 31 40 -80% DOD -AGM - GROUP 31 55% 30 -100% DOD GEL - GROUP 31 20 50% 0 2000 4000 6000 8000 10000 12000 14000 0 10 20 30 40 Rate (A) 50 60 70 80 Cycles

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