



Voltage: 12.8V | Capacity: 80 Ah | Energy: 1024 Wh | Group: 27

LiFeP04

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	12.8 V
Nominal Capacity	80 Ah
Capacity @ 25A	192 min
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

DISCHARGE SPECIFICATIONS	
Maximum Continous Discharge Current	80 A
Peak Discharge Current	160 A (7.5±2.5 sec)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (144 ms±30 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 μs

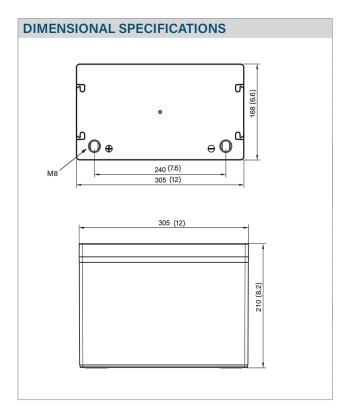
TEMPERATURE SPECIFICATIONS		
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)	
Charge Temperature*	-4 to 113 °F (-20 to 45 °C)	
Storage Temperature	23 to 95 °F (-5 to 35 °C)	
BMS High Temperature Cut-Off	176 °F (80 °C)	
Reconnect Temperature	122 °F (50 °C)	

^{*}Refer to charge currents below 32°F (0°C)

MECHANICAL SPECIFICATIONS		
Dimensions (L x W x H)	12 x 6.6 x 8.2" 305 x 168 x 210 mm	
Weight	24.9 lbs (11.3 kg)	
Terminal Type	M8 x 1.25 x 12mm	
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)	
Case Material	ABS	
Enclosure Protection	IP66	
Cell Type - Chemistry	Cylindrical - LiFePO ₄	

CHARGE SPECIFICATIONS		
Recommended Charge Current	4 A - 40 A	
Maximum Charge Current	80 A	
Charge Current 14 to 32 °F (-10 to 0 °C)	≤0.1 C	
Charge Current -4 to 14 °F (-20 to -10 °C)	≤0.05 C	
Recommended Charge Voltage	14.2 V - 14.6 V	
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)	
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)	
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)	

COMPLIANCE SPECIFICATIONS	
Certifications	UN38.3 & CE (battery) UL1642 (cells) (File# MH64523) IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9









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LITHIUM IRON PHOSPHATE BATTERY LIFEPO4

PERFORMANCE CHARACTERISTICS DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS RATES DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES DISCHARGE 1C 25·C (77°F) 145 14.0 14.0 13.5 13.5 13.0 13.0 12.5 12.0 12.0 11.5 11.5 11.0 11.0 10.5 10.5 10.0 10.0 — 60°C (140°F) — 25°C (77°F) 45°C (113°F) 10°C (50°F) -0.20 —0.2C —0.5C — 25°C (77°F) — 0°C (32°F) 9.0 9.0 8.5 8.5 -20°C (-4°F) 8.0 8.0 40% 60% 80% 60% 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 14.5 130% 14.0 14.0 120% 13.5 110% 13.5 13.0 13.0 100% 12.5 90% 12.5 30S 12.0 12.0 80% 11.5 11.0 11.5 11.0 70% 60% 10.5 10.0 10.0 40% 9.5 30% 9.5 -45°C (113°F) -25°C (77°F) - 5°C (41°F) 9.0 20% -Voltage 8.5 8.5 10% 8.0 8.0 0% 0% 40% 60% 80% 100% 120% 50 100 150 200 250 300 350 State of Charge Time (Minutes) CYCLE LIFE vs. DEPTH OF DISCHARGE (DOD) CAPACITY of RELION LIFePO4 vs. LEAD ACID DISCHARGE 0.5C/CHARGE 0.5C @ 25°C (77°F) at VARIOUS RATES OF DISCHARGE 100% 140 130 95% 120 90% 110 85% 100 Remaining Capacity 80% Capacity (Ah) 90 75% 80 70 70% 60 -RELION LIFePO4 - GROUP 31 -FLA - GROUP 31 60% -50% DOD 40 -AGM - GROUP 31 -80% DOD 55% 30 -GEL - GROUP 31 -100% DOD 50% 20 6000 Cycles 12000 14000













