





## **RB48V25**

Voltage: 51.2V | Capacity: 25 Ah | Energy: 1280 Wh | Group: 24

LITHIUM IRON PHOSPHATE BATTERY

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ELECTRICAL SPECIFICATIONS		
Nominal Voltage	51.2 V	
Nominal Capacity	25 Ah	
Capacity @ 25A	300 min	
Resistance	≤70 mΩ @ 50% SOC	
Efficiency	99%	
Self Discharge	<3% per Month	
Maximum Modules in Series	1 (Single Use)	

DISCHARGE SPECIFICATIONS		
Maximum Continuous Discharge Current	20 A	
Peak Discharge Current	25 A (4 ±1 s)	
BMS Discharge Current Cut-Off	60 A ±10 A (6 ±3 ms)	
Recommended Low Voltage Disconnect	44 V	
BMS Discharge Voltage Cut-Off	40 V (2.5 ±0.1 vpc) (100 ±50 ms)	
Reconnect Voltage	32 V (2.0 ±0.1 vpc)	
Short Circuit Protection	400-600 μs	

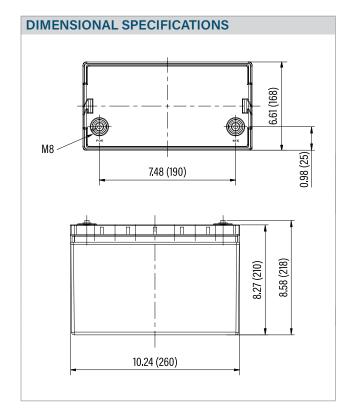
TEMPERATURE SPECIFICATIONS		
Discharge Temperature	-4 to 140° F (-20 to 60° C)	
Charge Temperature*	-4 to 113° F (-20 to 45° C)	
Storage Temperature	23 to 95° F (-5 to 35° C)	
BMS High Temperature Cut-Off	149° F (65° C)	
Reconnect Temperature	122° F (50° C)	

<sup>\*</sup>Refer to charge currents below 32°F (0°C)

MECHANICAL SPECIFICATIONS		
Dimensions (L x W x H)	10.2 x 6.6 x 8.6" 260 x 168 x 218 mm	
Weight	27.6 lbs (12.5 kg)	
Terminal Type	M8 x 1.25	
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)	
Case Material	ABS	
Enclosure Protection	IP66	
Cell Type - Chemistry	Cylindrical - LiFePO4	

CHARGE SPECIFICATIONS		
Recommended Charge Current	1.25 A - 12.5 A	
Recommended Maximum Charge Current	20 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	56.0 V - 58.4 V	
BMS Charge Voltage Cut-Off	60.8 V (3.8 ±0.05 vpc) (1.0 ±0.5 s)	
Reconnect Voltage	57.6 V (3.6 ±0.05 vpc)	
Balancing Voltage	57.6 V (3.6 ±0.025 vpc)	

COMPLIANCE SPECIFICATIONS		
Certifications	CE (battery) UL1642 & 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) 60.0 60.0 58.0 56.0 56.0 54.0 52.0 50.0 52.0 50.0 Voltage (V) 48.0 46.0 48.0 46.0 44.0 44.0 42.0 42.0 40.0 40.0 60°C (140°F) 45°C (113°F) 38.0 36.0 -0.20 38.0 - 25°C (77°F) - 0°C (32°F) 10°C (50°F) -0.5C -1C -2C 36.0 —-10°C (14°F) 34.0 34.0 -20°C (-4°F) 32.0 32.0 20% 60% 80% 100% 120% 0% 20% 40% 60% 80% 100% 120% 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) 60.0 60.0 140% 58.0 58.0 130% 56.0 56.0 120% 54.0 110% 54.0 52.0 52.0 100% 50.0 90% 50.0 90 48.0 48.0 80% 46.0 44.0 46.0 44.0 70% 60% 42.0 40.0 42.0 50% 40% 40.0 30% —45°C (113°F) —25°C (77°F) — 5°C (41°F) 36.0 36.0 20% Voltage 34.0 34.0 10% -State of Charge 32.0 0% 60% 100% 120% 50 100 150 300 350 80% 200 250 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% Remaining Capacity 100 80% Capacity (Ah) 90 75% 80 70 70% 60 -RELION LIFePO4 - GROUP 31 -FLA - GROUP 31 60% -50% DOD -AGM - GROUP 31 -80% DOD 55% 30 -GEL - GROUP 31 -100% DOD 50% 20 ٥ 2000 4000 6000 8000 10000 12000 14000 30 40 Rate (A) 50 60 70 80 Cycles





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