





## **RB24V20**

Voltage: 25.6V | Capacity: 20 Ah | Energy: 512 Wh | Group: U1

LITHIUM IRON PHOSPHATE BATTERY LiFePO4

ELECTRICAL SPECIFICATIONS		
Nominal Voltage	25.6 V	
Nominal Capacity	20 Ah	
Capacity @ 25A	48 min	
Resistance	50 mΩ @ 50% SOC	
Efficiency	99%	
Self Discharge	<3% per Month	
Maximum Modules in Series	1 (Single Use)	

DISCHARGE SPECIFICATIONS	
Maximum Continous Discharge Current	30 A
Peak Discharge Current	60 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	170 A ±20 A (10 ±5 ms)
Recommended Low Voltage Disconnect	22 V
BMS Discharge Voltage Cut-Off	16 V (2.0 ±0.08 vpc) (20 ±6 ms)
Reconnect Voltage	20 V (2.5 ±0.05 vpc)
Short Circuit Protection	200-600 μs

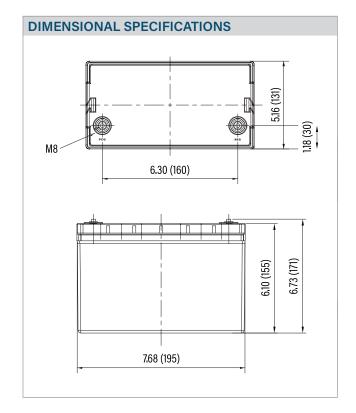
TEMPERATURE SPECIFICATIONS		
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)	
Charge Temperature*	-4 to 113 °F (-20 to 45 °C)	
Storage Temperature	23 to 95 °F (-5 to 35 °C)	
BMS High Temperature Cut-Off	176 °F (80 °C)	
Reconnect Temperature	122 °F (50 °C)	

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

MECHANICAL SPECIFICATIONS		
Dimensions (L x W x H)	7.7 x 5.2 x 6.7" 195 x 131 x 171 mm	
Weight	11.9 lbs (5.4 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 <sub>4</sub>	

CHARGE SPECIFICATIONS		
Recommended Charge Current	1 A - 10 A	
Maximum Charge Current	30 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	28.4 V - 29.2 V	
BMS Charge Voltage Cut-Off	31.2 V (3.9 ±0.025 vpc) (1 ±0.3 s)	
Reconnect Voltage	30.4 V (3.8 ±0.05 vpc)	
Balancing Voltage	28.8 V (3.6 ±0.025 vpc)	

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UL1642 & IEC62133 (battery)
Shipping Classification	UN 3480, CLASS 9









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LITHIUM IRON PHOSPHATE BATTERY

LiFe204

## PERFORMANCE CHARACTERISTICS DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS RATES DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES DISCHARGE 1C 25°C (77°F) 30.0 30.0 29.0 29.0 28.0 28.0 27.0 270 26.0 26.0 25.0 24.0 Voltage (V) 25.0 24.0 23.0 23.0 22.0 22.0 21.0 21.0 20.0 60°C (140°F) 45°C (113°F) -0.2C 190 19.0 ---0.2C ---0.5C 25°C (77°F) 0°C (32°F) - 10°C (50°F) --10°C (14°F) 18.0 18.0 —1C —2C 17.0 17.0 16.0 16.0 20% 40% 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) 29.0 29.0 130% 120% 28.0 28.0 27.0 27.0 110% 26.0 26.0 100% 25.0 90% 25.0 30S 24.0 23.0 24.0 80% 23.0 70% 22.0 22.0 60% 21.0 21.0 50% 20.0 20.0 40% 19.0 19.0 30% —45°C (113°F) —25°C (77°F) — 5°C (41°F) 18.0 18.0 20% —Voltage —State of Charge 17.0 17.0 10% 16.0 16.0 0% 0% 20% 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 95% 130 120 90% 110 85% 100 Remaining Capacity 80% 75% 70% 60 RELiON LiFePO4 - GROUP 31 65% 50 -FLA - GROUP 31 -50% DOD 60% 40 -AGM - GROUP 31 -80% DOD 55% 30 -GEL - GROUP 31 -100% DOD 20 50% 0 2000 4000 6000 8000 10000 12000 14000 10 70 80 40 Rate (A)





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