



RB20-LT

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	20 Ah
Capacity @ 25A	48 min
Energy	256 Wh
Resistance	≤45 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

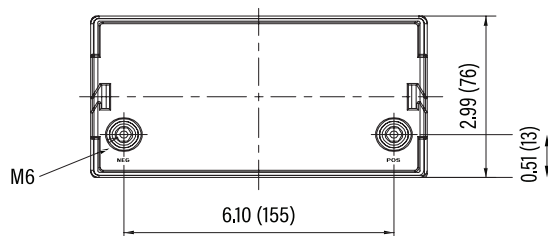
DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	20 A
Peak Discharge Current	40 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	50 A ±8 A (32 ±8 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (20 ±8 ms)
Reconnect Voltage	9.04 V (2.26 ±0.34 vpc)
Short Circuit Protection	100-600 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 - Discharge	185 °F (85 °C)
BMS High Temperature Cut-Off - Charge	140 °F (60 °C)
Reconnect Temperature	122 °F (50 °C)

DIMENSIONAL SPECIFICATIONS



MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.1 x 3.0 x 6.7"
	181 x 76 x 169 mm
Weight	6.6 lbs (3 kg)
Terminal Type	M6
Terminal Torque	35 - 44 in-lbs (4 - 5 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - LiFePO ₄

CHARGE SPECIFICATIONS

Recommended Charge Current	1 A - 10 A
Maximum Charge Current	20 A
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1 ±0.3 s)
Reconnect Voltage	14.6 V (3.8 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

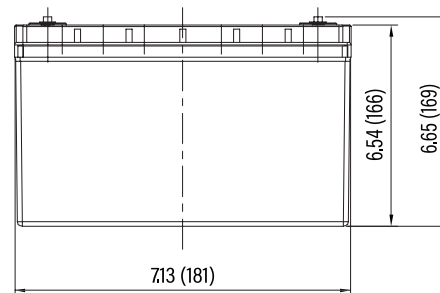
HEATING ELEMENT SPECIFICATIONS

Heating Temperature Range	-4 to 50 °F (-20 to 10 °C)
Heating Time	Approximately 1 hr @ 3 A
BMS Heating Element Cut-Off	158 °F (70 °C)

COMPLIANCE SPECIFICATIONS

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

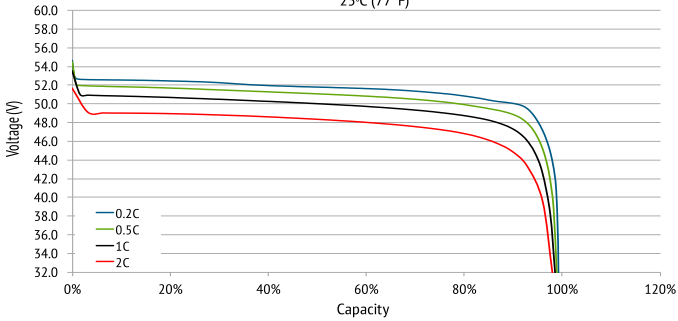




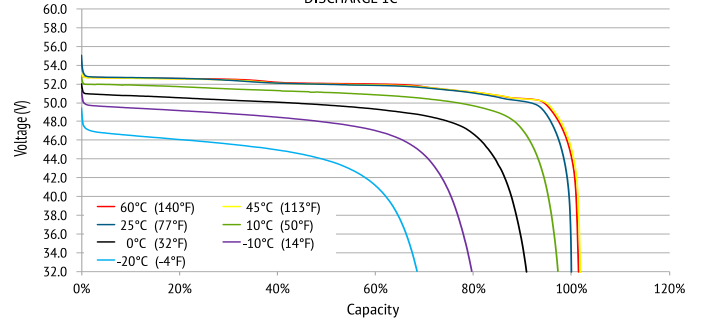
RB20-LT

PERFORMANCE CHARACTERISTICS

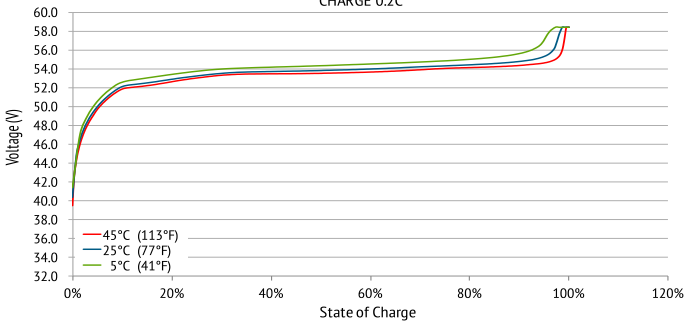
DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS RATES
25°C (77°F)



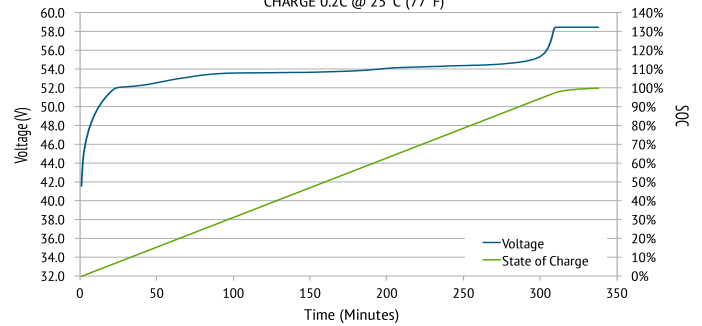
DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES
DISCHARGE 1C



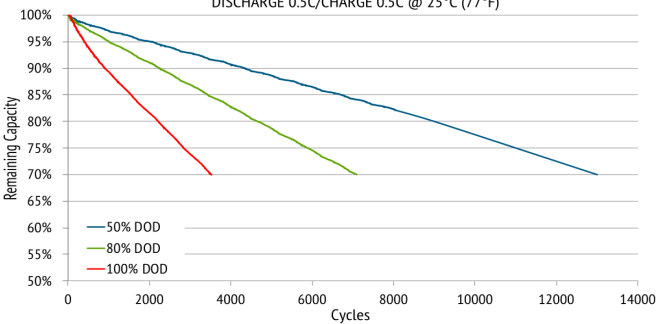
CHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES
CHARGE 0.2C



CHARGE VOLTAGE and STATE OF CHARGE (SOC)
CHARGE 0.2C @ 25°C (77°F)



CYCLE LIFE vs. DEPTH OF DISCHARGE (DOD)
DISCHARGE 0.5C/CHARGE 0.5C @ 25°C (77°F)



CAPACITY of RELiON LiFePO4 vs. LEAD ACID
at VARIOUS RATES OF DISCHARGE

