



RB20

Voltage: 12.8V | Capacity: 20 Ah | Energy: 256 Wh

LITHIUM IRON PHOSPHATE BATTERY **LiFePO₄**

ELECTRICAL SPECIFICATIONS

| | |
|---------------------------------------|------------------|
| Nominal Voltage | 12.8 V |
| Nominal Capacity | 20 Ah |
| Resistance | ≤60 mΩ @ 50% SOC |
| Efficiency | 99% |
| Self Discharge | <3% per Month |
| Maximum Batteries Connected in Series | 3 |

DISCHARGE SPECIFICATIONS

| | |
|--|------------------------------------|
| Maximum Continuous Discharge Current | 20 A |
| Peak Discharge Current | 40 A (7.5 s ±2.5 s) |
| Discharge Over-Current Protection | 70 A ±10 A (20 ±5 ms) |
| Recommended Low Voltage Disconnect | 11.0 V |
| BMS Discharge Voltage Cut-Off | 8.0 V (2.0 ±0.08 vpc) (140 ±60 ms) |
| Reconnect Voltage | 10.0 V (2.5 ±0.10 vpc) |
| Short Circuit Protection Response Time | 200-500 μs |

TEMPERATURE SPECIFICATIONS

| | |
|---------------------------------|-----------------------------|
| Discharge Temperature | -4 to 140 °F (-20 to 60 °C) |
| Charge Temperature* | -4 to 113 °F (-20 to 45 °C) |
| Recommended Storage Temperature | 23 to 95 °F (-5 to 35 °C) |
| BMS High Temperature Cut-Off | 158 °F (70 °C) |
| Reconnect Temperature | 122 °F (50 °C) |

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

MECHANICAL SPECIFICATIONS

| | |
|------------------------|---------------------------------------|
| Dimensions (L x W x H) | 7.1 x 3.0 x 6.7" 181 x 76 x 169 mm |
| Weight | 5.6 lbs (2.55 kg) |
| Terminal Type | M6 x 1 x 12mm |
| Terminal Torque | 35 - 44 in-lbs (4 - 5 N-m) |
| Case Material | ABS |
| Enclosure Protection | IP66 |
| Cell Type - Chemistry | Cylindrical - LiFePO ₄ |

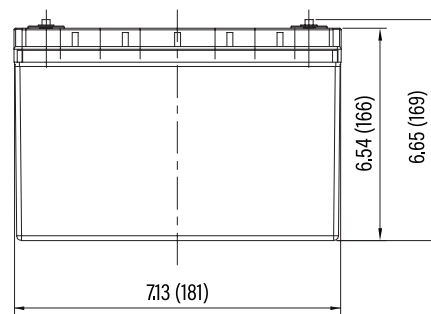
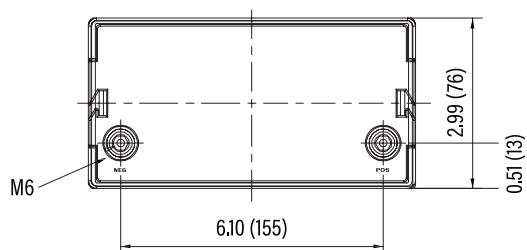
CHARGE SPECIFICATIONS

| | |
|--|--------------------------------------|
| Recommended Charge Current | 1 A - 10 A |
| Maximum Continuous Charge Current | 20 A |
| Charge Current 14 to 32 °F (-10 to 0 °C) | ≤0.1 C (2 A) |
| Charge Current -4 to 14 °F (-20 to -10 °C) | ≤0.05 C (1 A) |
| Recommended Charge Voltage | 14.2 V - 14.6 V |
| BMS Charge Voltage Cut-Off | 15.2 V (3.8 ±0.025 vpc) (1.1 ±0.4 s) |
| Reconnect Voltage | 14.4 V (3.6 ±0.050 vpc) |
| Balancing Voltage | 14.4 V (3.6 ±0.025 vpc) |

COMPLIANCE SPECIFICATIONS

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

DIMENSIONAL SPECIFICATIONS





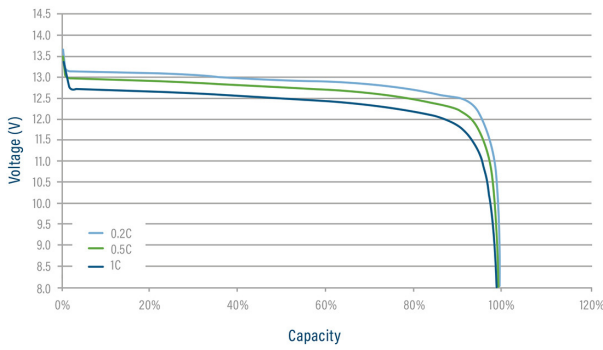
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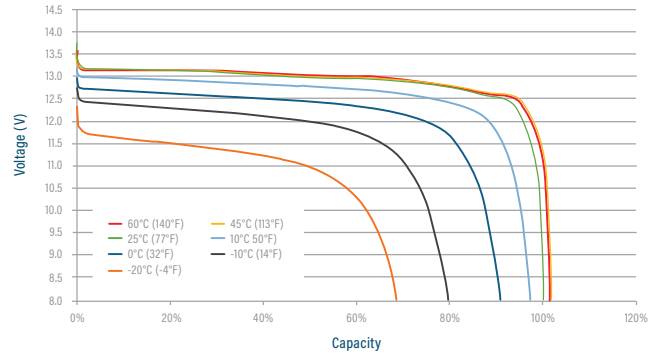
LITHIUM IRON PHOSPHATE BATTERY **LiFePO4**

TYPICAL LITHIUM IRON PHOSPHATE CHARACTERISTICS*

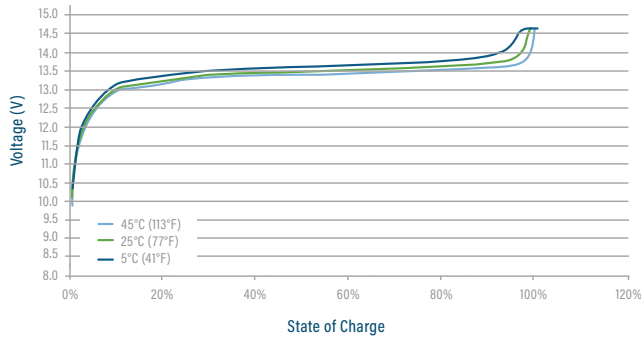
DISCHARGE VOLTAGE CHARACTERISTICS AT VARIOUS RATES
25°C (77°F)



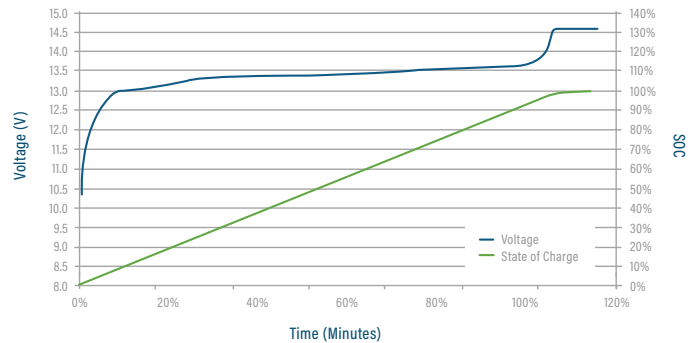
DISCHARGE VOLTAGE CHARACTERISTICS AT VARIOUS TEMPERATURES
DISCHARGE 1C



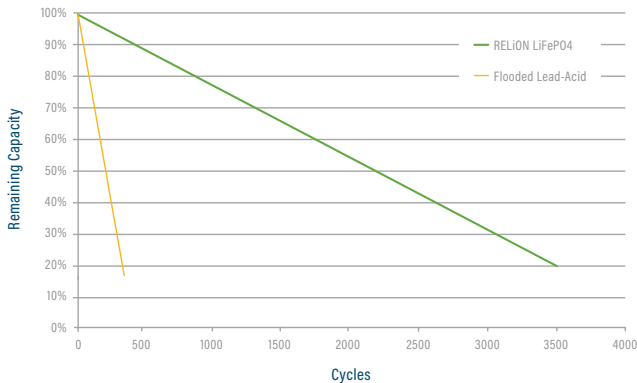
CHARGE VOLTAGE CHARACTERISTICS AT VARIOUS RATES
CHARGE 0.2C



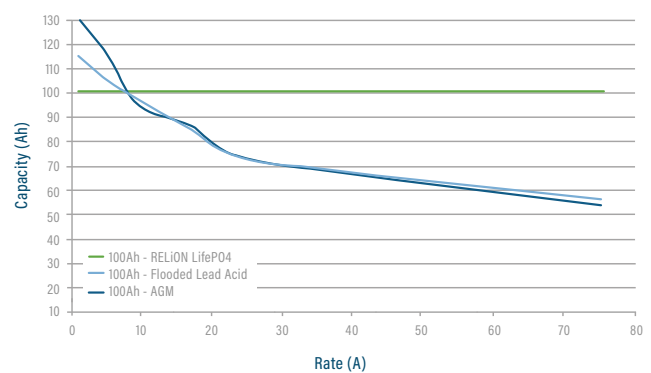
CHARGE VOLTAGE AND STATE OF CHARGE (SOC)
CHARGE 0.2C @ 25°C (77°F)



CYCLE LIFE VS. DEPTH OF DISCHARGE (DOD) AT 80%
DISCHARGE 0.5C/CHARGE 0.5C @ 25°C (77°F)



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



*Performance between applications and batteries may vary. All results should be independently verified by customer.

