# 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)

## 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 - LiFePO₄

## 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

## 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)

## 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)

## 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)

## DIMENSIONAL SPECIFICATIONS
- **Shipping Classification**: UN 3480, CLASS 9
PERFORMANCE CHARACTERISTICS

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

CHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES
CHARGE 0.2C

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

CAPACITY of RELION LIFEP04 vs. LEAD ACID at VARIOUS RATES OF DISCHARGE

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