



# RB300-HP

Voltage: 12.8V | Capacity: 300 Ah | Energy: 3840 Wh | Group: 8D

LITHIUM IRON PHOSPHATE BATTERY **LiFePO<sub>4</sub>**

## ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	300 Ah
Capacity @ 25 A	720 min
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Series Connections	No. 12V systems only.
Parallel Connections	No. 1 battery only.

## DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	800 A (2 s)
Discharge Over-Current Protection	1000 A ±100 A (2.2 ±1 ms)
Recommended Low Voltage Disconnect	11.0 V
Discharge Under-Voltage Protection	9.2 V (2.3 ±0.08 vpc) (4.2 ±0.5 s)
Reconnect Voltage	10.0 V (2.5 ±0.1 vpc)
Short Circuit Protection Response Time	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)
Recommended 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)

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

## MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	20.6 x 10.5 x 8.7" 522 x 267 x 220 mm
Weight	82.7 lbs (37.5 kg)
Terminal Type	M8 x 1.25 x 2mm
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP66
Cell Type - Chemistry	Cylindrical - LiFePO <sub>4</sub>

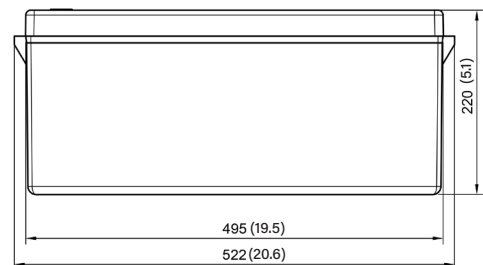
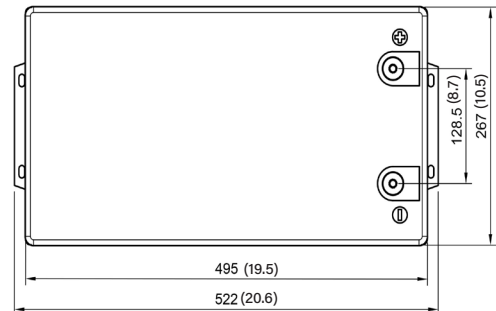
## CHARGE SPECIFICATIONS

Recommended Charge Current	15 A - 50 A
Maximum Continuous Charge Current	100 A
Charge Current 14 to 32 °F (-10 to 0 °C)	≤0.1 C (10 A)
Charge Current -4 to 14 °F (-20 to -10 °C)	≤0.05 C (5 A)
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.4 V (3.85 ±0.025 vpc) (1 ±0.2 s)
Reconnect Voltage	14.6 V (3.65 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

## COMPLIANCE SPECIFICATIONS

Certifications	UN38.3, UKCA & CE (battery) UL1642 (cells) (File# MH62098) IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

## DIMENSIONAL SPECIFICATIONS





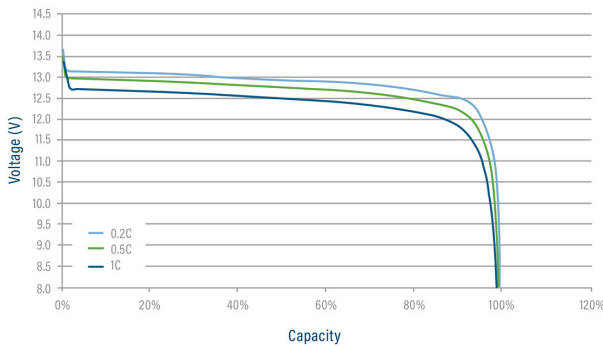
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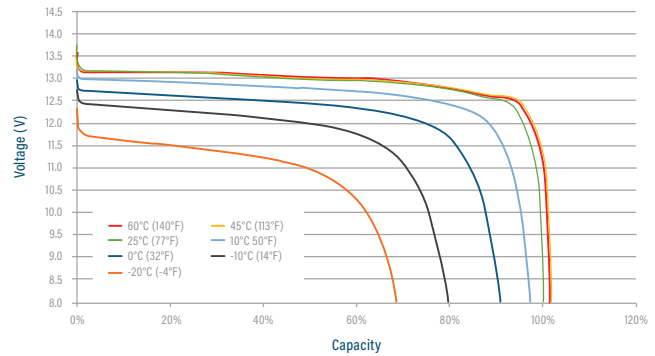
LITHIUM IRON PHOSPHATE BATTERY **LiFePO4**

## TYPICAL LITHIUM IRON PHOSPHATE CHARACTERISTICS\*

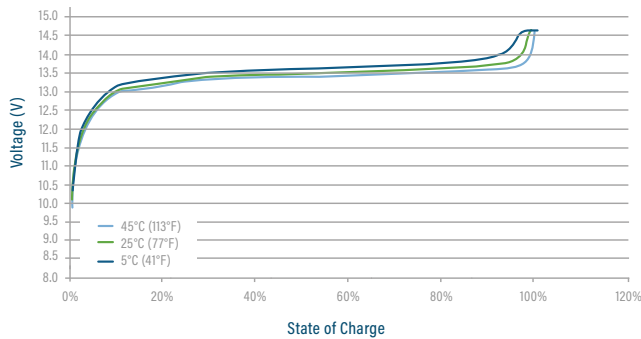
DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS RATES  
25°C (77°F)



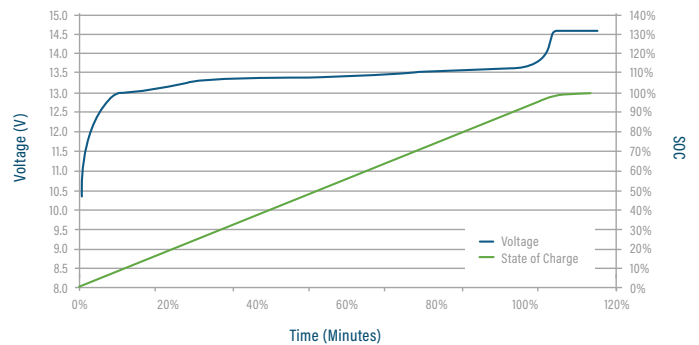
DISCHARGE VOLTAGE CHARACTERISTICS AT VARIOUS TEMPERATURES  
DISCHARGE 1C



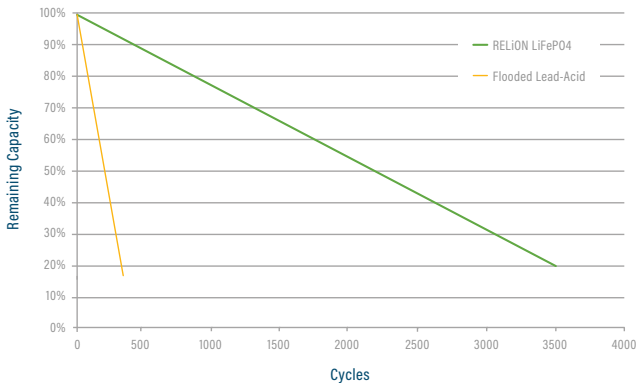
CHARGE VOLTAGE CHARACTERISTICS AT VARIOUS RATES  
CHARGE 0.2C



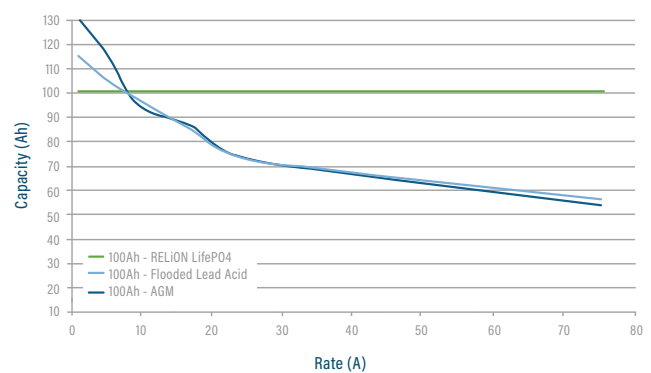
CHARGE VOLTAGE AND STATE OF CHARGE (SOC)  
CHARGE 0.2C @ 25°C (77°F)



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.

