

Technical Specifications 1.4

LITHIUM IRON PHOSPHATE BATTERY

12V LiFePO₄



OPERATING CONDITIONS	
Nominal Voltage	12.8 V
Nominal Capacity	110 Ah
Total Energy	1.4 kWh
Impedance	5 mΩ
Self Discharge	~3% per month
Cycle Life at 100% DoD@ 0.2C	5,000 cycles
Series connection	4
Parallel Connection	10

MECHANICAL	
Chemistry	Cylindrical – LiFePO ₄
Case Dimensions	L330xW170xH240(mm)
Weight	Circa 15 kg
Terminal Type	M8 brass threaded insert
Terminal Torque	≤5 Nm
Casing Type	V0 Plastic Case
Casing IP	TBC

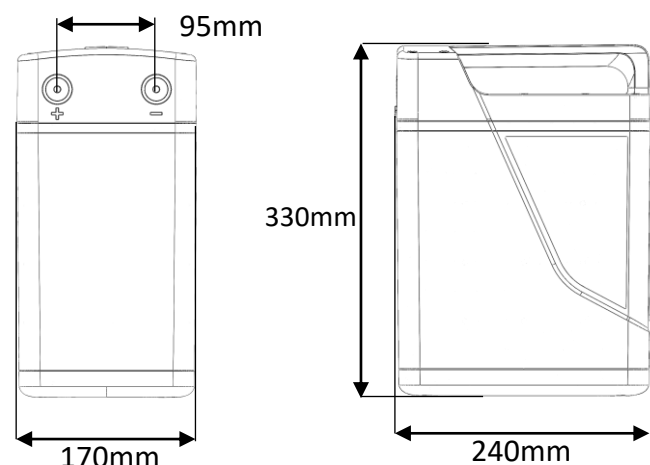
DISCHARGE	
Standard Continuous discharge	60 A (20+ min)
Maximum Continuous Discharge Current	110 A (10 min)
Peak Discharge Current	200 A (1 mi)
PCM Discharge Current Cut-off	220 A (3 seconds)
Low Voltage Disconnect	10.5 V
Short Circuit Protection	200-500μs

BATTERY MANAGEMENT	
BMS Type	Passive
BMS Location	Internal
Balance Current per Cell	50 mA
Overcharge / Discharge Current	220 A

CHARGE	
Charge/discharge efficiency	>97% @ 0.5C
Recommended Charge Current	40 A
Peak Charge Current	100 A
PCM Charge Current Cut-Off	110 A
Fully Charged Voltage	14.4 V

SAFETY	
Transportation Classification	UN3480, Class 9
Battery Certification	CE, UN38.3, RoHS
UN Certification (Cells)	UN38.3

TEMPERATURE	
Storage Temperature	-20 to 60°C
Discharge Temperature Range	-10 to 60°C
Charge Temperature Range	0 to 45°C



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DISCHARGE SPECIFICATIONS	
Nominal Voltage	12.8 V
1 second rate constant power to 10.5 V at 20°C	2816 W/220 A
1 min rate constant power to 10.5 V at 20°C	2560 W/200 A
10 min rate constant power to 10.5 V at 20°C	1408 W/110 A
20+ min rate constant power to 10.5 V at 20°C	320 W/50 A
Short circuit current	+250 A BMS regulated
10 hr rate capacity to 10.5V	102.03 Ah

CHARGE SPECIFICATIONS	
Bulk Charge Voltage	14.2-14.6 V
Float charge Voltage*	14.2-14.6 V
Cyclic (or boost charge) at 20°C	N/A
Charge current	40 A recommended
Charge current peak	100 A max
Charge time at 50 A Bulk charge to 14.6V	2.5 hours
Charge time at 50 A Bulk charge to 14.4V	2.25 hours

UK Distributor:

Merlin Equipment Limited
Clyst Court, Exeter EX5 1SA

T: 01202 697979 www.merlinequipment.com

* Lithium iron phosphate batteries do not require a float charge hence the bulk charge voltage and float charge voltage are the same

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LITHIUM IRON PHOSPHATE BATTERY

The Advantage

- +** **Same Group size, 10% bigger capacity**
Up to 110Ah capacity
- +** **Upgraded Performance**
110A continuous current to 220A surge
- +** **Greater flexibility**
Available in 12,24 &48V, Easy maintenance,
Upgrade
- +** **Improved Usability**
Easy carry handle

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