A Lithium Iron Phosphate Battery Company



INCLUDING ::

SP

L Series Batteries 12V 100Ah - small case

AL Series Batteries

Internal BMS protections Bluetooth app 12V 20Ah - 400Ah 24V 50Ah and 150Ah 48V 100Ah

LH Series Batteries

12V 100Ah and 12V 200Ah Internal BMS and protections **Heated** for cold weather use Canbus connection ports Bluetooth app

48V 100Ah stack / rack style batteries

BC Series Charger

12V | 24V | 48V Premium lithium charger at an affordable price

New Battery Monitor - BM1

500A Shunt | Remote Display | Bluetooth | Data logging

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INTRODUCTION WELCOME GUIDE

Welcome Welcome to the AMPS product catalogue. If you have any inquiries regarding our products and how they can apply into your system, please do not hesitate to ask. We are confident that we will meet or exceed your expectations with these product lines.

We hope to serve you well!

Lithium Batterv Quick Guide

			Charge	Discharge					
Part No	Capacity Ah	Charge V	Current (max)	Current (max)	Bluetooth	series limit	Dimensions (cm) LWH	Weight (kg)	Battery Terminal
AL1220	20Ah	<u><</u> 14.4V	20A	40A	no	48V	19 x 7.7 x 18.7	2	4mm M4
AL1260	60Ah	<u><</u> 14.4V	50A	120A	yes	48V	28 x 17.6 x 17.2	6	T1 DIN
AL1275	75Ah	<u><</u> 14.4V	40A	80A	yes	48V	28 x 17.6 x 17.2	8	T1 DIN
AL1280	80Ah	<u><</u> 14.4V	60A	140A	yes	48V	26 x 21 x 16.5	11	8mm M8
AL2450	50Ah	<u><</u> 28.8V	40A	80A	yes	48V	26 x 21 x 16.5	11	8mm M8
AL12100	100Ah	<u><</u> 14.4V	70A	150A	yes	48V	33 x 21.5 x 17	13	8mm M8
AL12120	120Ah	<u><</u> 14.4V	80A	150A	yes	48V	41 x 23.5 x 17	15	8mm M8
AL12150	150Ah	<u><</u> 14.4V	80A	150A	yes	48V	41 x 23.5 x 17	18	8mm M8
AL12200	200Ah	<u><</u> 14.4V	150A	300A	yes	48V	53.2 x 23.7 x 21.5	22	8mm M8
AL12300	300Ah	<u><</u> 14.4V	150A	300A	yes	48V	53.2 x 23.7 x 21.5	28	8mm M8
AL24150	150Ah	<u><</u> 28.8V	80A	150A	yes	48V	53.2 x 23.7 x 20.7	34.5	8mm M8
AL12400	400Ah	<u><</u> 14.4V	100A	200A	yes	48V	52.0 x 26.7 x 22.0	42	8mm M8
AL48100	100Ah	<u><</u> 57.6V	50A	100A	yes	48V	52.0 x 26.7 x 22.0	42	8mm M8
LB12100	100Ah	<u><</u> 14.4V	100A	100A	yes	48V	31.8 x 16.5 x 22.5	11	8mm M8
LB12200	200Ah	<u>≤</u> 14.4V	200A	200A	yes	48V	50.5 x 17.2 x 25.5	24	8mm M8



Advanced Mobile Power Systems is a company that specialises in lithium battery storage and battery charging. We supply retail and trade customers and our primary industries are commercial vehicles, recreation vehicles and marine.

We provide 5 years warranty on all of our products in terms of protecting you from manufacturing defects. The warranty does not cover damage from improper installation, incorrect charging, environmental damage, impact damage, damage from being tampered with or damage from improper use. A full description of our warranty is available on our website. The bluetooth facilities of the battery are not covered by warranty as are not reflective of the actual operation of the battery and are not integral to use.

Lithium Benefits

Warrantv

- The advantages of lithium batteries are well known over conventional batteries.
- Greater energy density, providing more usable power in the same space .
 - Superior charge and discharge capabilities
- Improved unit safety

They are superior on every level - everyone wants them. However installing them on vehicles was not simple and required a lot of knowledge because they have a very specific envelope for their charging and discharging curves. Failure to operate within these parameters will reduce the performance ability and life of the battery.

Lithium batteries require additional care over lead acid batteries. In AMPS batteries, much of this care is solved and monitored by the BMS onboard. The BMS tries to protect the cells from allow over-voltage, over-current, short circuit damage and over/under temperature situations.

Lithium poses a risk to alternators, and as such we cannot consider warranty claims where Lithium batteries are charged directly o flof an alternator (IE. Not with a battery to battery charger to protect both the alternator and the Lithium from one another). When charging lithium from an alternator source (DC/DC charge on vehicles) we require a battery to battery charger for their current limiting and isolating properties.

Due to their very low internal resistance, Lithium batteries are very easy and quick to charge. This historically would be perceived as a good thing, however, on a mechanical source like an alternator this can rapidly lead to alternators running at 100% output for extended periods of time, and imminent degradation. Current limiting chargers limited to 80% of the alternators maximum output is AMPS' recommendation for DC/DC charge.

A.M.P.S recommends the Sterling Battery to Battery charger range for its current limiting features, its ability to isolate the battery from the alternator side, its Euro-6 compatibility and its complete voltage control.

- Capacity and performance Lithium batteries allow, when the BMS allows it, full use of the battery capacity, as opposed to the 50% recommended depth of discharge of a lead acid battery. Their low internal resistance allows much faster charge than many other battery types and very impressive rates of discharge.
- Often significantly lighter and significantly smaller than their lead acid competition.
- Even when being discharged to significantly greater degrees than a lead acid battery, we will still expect to see between 10-20 times the service life of a lithium battery against a lead acid battery.



PRODUCT SPECIFICATIONS AMPS Battery Monitor - BM1

BM1	The Battery Monitor - 1 (BM1) is A negative. Installed correctly, the sh	MPS' high precision power manage unt will accurately measure dischar	ement device, intended for use in the DC ge and charge at any given time.
Bluetooth and Lithium Compatible	The BM1, as a modern battery solution be read both from a live Bluetooth	ution, is suitable for all battery types feed as well as from the remote fitte	s (Lead acid, Lithium, etc) and is able to ed to the unit.
Features and Capabilities	 The BM1 monitors your battery ba Remaining battery capacity (me Battery bank voltage (in Volts, e Current passing the shunt at ar The App will also provide history 	nk and DC circuits, giving you accu easured both as Ampere Hours and of course) ny given time (in Amperes) ry and data-logging for your system	rate information on : l as a percentage reading)
Contents	The BM1 comes with : 1x Bluetooth compatible remote dia 1x BM1 shunt (with mounting brac 1x Shunt power cable (1m) 1x Remote cable (1m by default, 3	splay ket) m and 6m options available)	
Specifications	Amperage Rating BM1 Bolt Size Working Voltage Range Wattage consumption Standby consumption Quiescent / Sleep current Capacity accuracy Voltage accuracy <i>Current accuracy</i> <i>Capacity Ah setting</i> <i>Weight</i>	Up to 500A 8mm / M8 8V-80V 0.144W (12mA at 12V) 0.006W (0.5mA at 12V) +/-0.5% +/-0.5% +/-0.5% up to 999Ah 9999Ah (app) 390.0g (Shunt)	
Images and Dimensions	23mm	59mm	54mm



PRODUCT SPECIFICATIONS 230VAC to 12V | 24V 2 output battery charger - BC Charger Series

Charger Type	190VAC - 260VAC input 50/60Hz - 5 stage battery charger
Battery Charger Efficiency	94%
Nominal Voltage	12V, 24V and 48V models - live output linear
Nominal Current	10A, 20A and 40A models with half power mode and 8 hours night mode
Battery Chemistries	Lithium, Lead Acid and AGM
Number of outputs	2
Pre-wired AC	Yes, 2m with UK mains plug - for ease of install
Dimensions and Weight	20.1cm x 11.2xm x 7.3cm at ~2Kg
Operating Temperature	Charge - 10'C to 50'C
Approvals	EN55014, EN61000, EN60335, EN62233
No load standby AC current	<120mA
Max load AC current	2-4A
Protections	Short Circuit protections, self-recoverable Over temperature protection, 3 steps decrease of output power, self-recoverable Battery over temperature protection, with battery remote sensor, self-recoverable



Temperature sensor

Warranty

Appearance BC Series



Comes in box - temperature compensation + 0DegC trip on lithium







Part No	Voltage (V)	Current (A)	Bluetooth	Outputs
BC1220	12V	20A	no	2
BC1220B	12V	20A	yes	2
BC1240	12V	40A	no	2
BC1240B	12V	40A	yes	2
BC2420B	24V	20A	yes	2
BC4810	48V	10A	no	2

Bluetooth BC Series Charger

Information regarding the Bluetooth APP can be found here: Scan the QR code



Reverse Polarity (fused)



100 Ampere hour (100Ah) 1280Wh
12V
LiFePO ₄ Chemistry - Prismatic cells
4 (48V bank)
Infinite
28.0L x 17.6W x 17.2H (CM) - 9.5KG
Charge - 0'C to 60'C // Discharge from -20'C to 60'C
13.6V (4S x 3.4V)
14.2V-14.6V, 14.4V recommended
13.4V-14.0V, 13.8V recommended
1C (100A)
1C (100A)
 Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect (>120A draw, per battery) Short circuit protection
10mA
0.1mA
E13 - 10R00-10R05-14430-00
Constant Current / Constant Voltage - CC/CV
T1 Standard DIN Post 19.5mm + (pos) and 17.9mm - (neg) with 8mm threads with plastic terminal covers.
5 years



PRODUCT SPECIFICATIONS Bluetooth BMS functions and Features

AL Series Systems | All AL series batteries, bar the AL1220, feature the following benefits on the app.

- SOC % Displays state of charge in % gives an approximate indication of the capacity remaining in the battery. This is done via an amphour counter, so will not adjust if charge or discharge is below 2A.
- sum volt This refers to the total voltage across the battery.
- current This shows the current entering or leaving the battery the <u>net</u> figure. +ve for entering | -ve for leaving. Values under about 2A will not be registered.
- **Power KW** This is a simple calculation of net power. Voltage x current.
 - Di ffVolt The batteries are made of 4 strings of cells the differential voltage is the difference in voltage between the highest voltage cell and the lowest voltage cell.
 - Cycles This is the number of charge and discharge cycles the battery has been through to give an indication of battery usage / wear and tear.
- Additional Information There is a large range of additional information for the consumer including individual cell voltages, temperatures and balancer enable.
- Parameter Adjustment One of the successful features of this App is the ability to adjust the parameters of the BMS to tailor make the batteries for the intended use. We set a generic factory preset and any adjustments are password protected.

App name Smart BMS

Location Google PlayStore | App Store | .apk file from our website



Smaller Images Smart BMS Parameter page examples



<pre>return DL-0</pre>			
Protection parameters			
project	parameters	s	etting
cell volt high protect	3.72V	Enter	set
cell volt low protect	2.72V	Enter	set
sum volt high protect	14.80V		set
sum volt low protect	10.80V	Enter	set
diff volt protection	0.25V	Enter	set
Chg overcurrent protect	60.0A		set
dischg overcurrent protect	140.0A	Enter	set

< return 🛛 D		
	Temp protection	
project	parameters	Setting
chg high temp protect	75°C	Enter set
chg low temp protect	0°C	Enter
disChg high temp protect	75°C	Enter
disChg low temp protect	-20°C	Enter Set
diff Temp protect	255°C	Entier
MOS temp protect	0°C	Enter set



Battery Capacity	20 Ampere hour (20Ah) 256Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Cylindrical cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	19.0L x 7.7W x 18.7H (cm) - 2.2KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	1C (20A)
Max Continuous Discharge Rate	1C (20A) 40A peak discharge
BMS Features	 Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect (40A draw, per battery) Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M4
Warranty	5 years
Appearance AL1220	CE AMARTINA AND AND AND AND AND AND AND AND AND A



Max

Battery Capacity	60 Ampere hour (60Ah) 768Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	28.0L x 17.6W x 17.2H (CM) - 8KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	0.8C (50A)
lax Continuous Discharge Rate	2C (120A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect (>120A draw, per battery) Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	T1 Standard DIN Post 19.5mm + (pos)and 17.9mm - (neg) with plastic terminal covers.
Warranty	5 years
Appearance AL1260	



Battery Capacity	75 Ampere hour (75Ah) 960Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	28.0L x 17.6W x 17.2H (CM) - 8KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	0.6C (40A)
Max Continuous Discharge Rate	0.95C (80A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect (>120A draw, per battery) Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	T1 Standard DIN Post 19.5mm + (pos) and 17.9mm - (neg) with plastic terminal covers.
Warranty	5 years
Appearance AL1275	



12V
LiFePO4 Chemistry - Prismatic cells
4 (48V bank)
Infinite
26.0L x 16.5W x 21.0H (cm) - 11KG
Charge - 0'C to 60'C // Discharge from -20'C to 60'C
13.6V (4S x 3.4V)
14.2V-14.6V, 14.4V recommended
13.4V-14.0V, 13.8V recommended
0.8C (60A)
1.75C (140A)
 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect Short circuit protection
10mA
0.1mA
E13 - 10R00-10R05-14430-00
Constant Current / Constant Voltage - CC/CV
M8
5 years



Battery Capacity	50 Ampere hour (50Ah) 1280Wh
Nominal Voltage	24V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	2 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	26.0L x 16.5W x 21.0H (cm) - 11KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	27.2V (8S x 3.4V)
Charge Voltage	28.4V-29.2V, 28.8V recommended
Float Voltage	26.8V-28.0V, 27.6V recommended
Max Continuous Charge Rate	0.8C (40A)
Max Continuous Discharge Rate	1.6C (80A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty Appearance AL2450	5 years



100 Ampere hour (100Ah) 1280Wh
12V
LiFePO ₄ Chemistry - Prismatic cells
4 (48V bank)
Infinite
26.0L x 17.0W x 21.0H (cm) - 9.6KG
Charge - 0'C to 60'C // Discharge from -20'C to 60'C
13.6V (4S x 3.4V)
14.2V-14.6V, 14.4V recommended
13.4V-14.0V, 13.8V recommended
1.0C (100A)
1.0C (100A)
 Bluetooth interface for battery information (NOTE, DIFFERENT APP. See page 23) Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
10mA
0.1mA
E13 - 10R00-10R05-14430-00
Constant Current / Constant Voltage - CC/CV
M8
<image/>



PRODUCT SPECIFICATIONS AL12120 | AL12150

Battery Capacity	120Ah - 1536Wh 150Ah - 1920Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	41.0L x 17.0W x 23.5H (cm) ~ 15Kg 18Kg
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	0.7C (80A) 0.75C (100A)
Max Continuous Discharge Rate	1.25C (150A) 1.33C (200A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty	5 years
Appearance AL12120 AL12150	AND Sources Manne And Sources Manne POSITION COMPANY POSITION C



Battery Capacity	200 Ampere hour (200Ah) 2560Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	53.2L x 23.5W x 20.7H (CM) - 22KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	0.7C (150A)
Max Continuous Discharge Rate	1.5C (300A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty	5 years
Appearance AL12200	



Battery Capacity	300 Ampere hour (300Ah) 3840Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	53.2L x 23.5W x 20.7H (CM) - 28KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	0.5C (150A)
Max Continuous Discharge Rate	1.0C (300A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty	5 years
Appearance AL12300	



Battery Capacity	150 Ampere hour (150Ah) 3840Wh
Nominal Voltage	24V
Battery Chemistry	LiFePO ₄ Chemistry - Prismatic cells
Series Limit	2 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	53.2L x 23.5W x 20.7H (CM) - 28KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	27.2V (8S x 3.4V)
Charge Voltage	28.4V-29.2V, 28.8V recommended
Float Voltage	26.6V-28.0V, 27.6V recommended
Max Continuous Charge Rate	0.5C (80A)
Max Continuous Discharge Rate	1.0C (150A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (29.6V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 21.6V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Operational Quiescent Current	5mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty	5 years
Appearance AL24150	



Battery Capacity	400 Ampore bour (400 Ab) + 5120 Wb
Nominal Valtage	
Rottoni Chomistri	12V
Battery Chemistry	
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	52.0L x 26.7W x 22.0H (CM) - 42KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.6V-14.0V, 13.8V recommended
Max Continuous Charge Rate	0.25C (100A)
Max Continuous Discharge Rate	0.5C (200A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Operational Quiescent Current	5mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty Appearance AL12400	5 years



Battery Capacity	100 Ampere hour (100Ah) 5120Wh
Nominal Voltage	48V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	Do not series.
Parallel Limit	Infinite
Dimensions and Weight	52.0L x 26.7W x 22.0H (CM) - 42KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	54.4V (16S x 3.4V)
Charge Voltage	56.8V-58.4V, 57.6V recommended
Float Voltage	54.4V-56.0V, 55.2V recommended
Max Continuous Charge Rate	0.5C (50A)
Max Continuous Discharge Rate	1.0C (100A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (59.2V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 43.2V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Operational Quiescent Current	5mA
Standby Quiescent Current	0.1mA
E Marking	E13 - 10R00-10R05-14430-00
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty Appearance AL48100	5 years





PRODUCT SPECIFICATIONS LB Series Batteries

LB Series Batteries	All LB series batteries have a number of features that are unique to their family- including their low
	temperature neating, a bespoke AMPS app and unique communication protocols (CANBUS)
Low temperature heating	One of lithium's biggest limitations from being globally accepted as standard is their limitations in operating temperatures. When in a low temperature state (below 0DEGC) non heated batteries will refuse charge or potentially even face being damaged. LB series batteries distribute 80W of charge power towards the integrated heating elements to quickly warm them up and allow safe charging of the cells. The temperature rate elevates at a rate of ~1'C every 8 minutes, even in cold (-20'C) environments.
Interbattery Communication	The LB series of batteries have communication ports for up to 16 batteries to be connected. This, when paired with a communication box, will allow collated information of the entire bank to be read from a single point.
CANBUS support	Uniquely, the LB series of batteries also offer CANBUS connection ports and a communication protocol that we can provide to those who are interested in making use of it.
AMPS Bluetooth	Our premium battery deserves a premium BMS - and the LB series of batteries benefits from our bespoke AMPS app. The app displays a range of information to the client/user, including remaining time to full/empty, current coming in or out of the battery at any time (down to fractions of an amp), the state of charge of the battery, the capacity of the battery and the temperature of the system.
	The app also directly provides you with AMPS support information and the ability to rename batteries, so as to best organise your system and how it talks to you.
Highest Quality	When designing the LB series of batteries, we realised that if we are targeting difficult conditions, the build quality needs to be in a class of its own. Only the best cells, housing, BMS and construction has been used in the LB manufacturing. You'll feel how premium the item is as soon as you open the box.
State Of Charge meter	The faceplate of all LB batteries features a small LED battery monitor gauge, giving you a visual understanding on battery state of charge at the push of a button.
Serviceable	While we hope we never need to see the battery again after it leaves our warehouse, we are able to service LB batteries fairly easily. The top-plate is secured via-screws and can be accessed by AMPS technicians if any cell or BMS maintenance is needed.

AMPS App







Now available on the App store.





Battery Capacity	100 Ampere hour (100Ah) 1280Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	31.8L x 16.5W x 22.5H (cm) - 11.73KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C - Integrated heater for low temperature operation
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	1C (100A)
Max Continuous Discharge Rate	1C (100A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection Plus all features on page 18
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
UL Marking	ANSI/CAN/UL 1973
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty Appearance LB12100	5 years



⊢ <u>Heated</u> ⊢

Battery Capacity	200 Ampere hour (200Ah) 2560Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V bank)
Parallel Limit	Infinite
Dimensions and Weight	50.5L x 17.2W x 25.5H (cm) - 24KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C - Integrated heater for low temperature operation
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Continuous Charge Rate	1C (200A)
Max Continuous Discharge Rate	1C (200A)
BMS Features	 Bluetooth interface for battery information Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection Plus all features on page 18
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1mA
UL Marking	ANSI/CAN/UL 1973
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty	5 years
Appearance LB12200	



PRODUCT SPECIFICATIONS NEW BMS and App

NEW BMS	In our constant pursuit to ensure we're providing our customers with the best on the market, AMPS have decided to change our primary BMS provider with our newest batches to JBD BMS - which comes with a new app accordingly.		
Available Apps	Our custom control app for the BMS is currently in the development stages, in the mean-while we would recommend using one of the many JBD suitable apps on the market. Searching Xiaoxiang on the app store or play store will raise a number of suitable apps. Alternatively, use the links on our site or the QR codes for direct download.		
App information	 On the app the BMS will communicate everything you could need to know about your system. Voltage of the battery as a whole and voltages of each individual cell string State of charge of the battery and time remaining to full or empty (at current flow) Amperage IN/OUT of the battery Reason (if any) for the battery having tripped (over-voltage, over-current, low temp etc) State of the CHARGE or DISCHARGE MOS You're even able to change the Bluetooth name of the battery, allowing you the best visual understanding of your system 		
BMS protections	 The BMS will also provide you with all the relevant protections that you need; Low temperature protection (And, in our heated models, low temperature heating) Over-current protection Short circuit protection Cell imbalance protection Over/Under voltage protection High temperature protection 		
App Screenshots (Xiaoxiang)	<complex-block></complex-block>		

Now available on the App store.



Battery Capacity	100 Ampere Hour (100Ah) I 1280Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V)
Parallel Limit	Infinite
Dimensions and Weight	26.0L x 17.0W x 21.0H (cm) - 10.73kg
Operating Temperature	Charge 0'C to 60'C (Heating element engages at 0'C to allow charge) // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Cont. Charge Rate	1C (100A)
Max Cont. Discharge Rate	1C (100A)
BMS Features	 Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect Short circuit protection Bluetooth communication Low temperature heating (50W heater built into battery, will heat a low temperature battery up to 15'C if the battery has reached a low temperature)
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1 mA
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8 Bolts
Warranty	5 Years
Appearance	



⊢ <u>Heated</u> ⊢

PRODUCT SPECIFICATIONS LH12200

Battery Capacity	200 Ampere Hour (100Ah) 2560Wh
Nominal Voltage	12V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	4 (48V)
Parallel Limit	Infinite
Dimensions and Weight	47.0L x 19.0W x 24.0H (cm) - 18.4kg
Operating Temperature	Charge 0'C to 60'C (Heating element engages at 0'C to allow charge) // Discharge from -20'C to 60'C
Operating Voltage	13.6V (4S x 3.4V)
Charge Voltage	14.2V-14.6V, 14.4V recommended
Float Voltage	13.4V-14.0V, 13.8V recommended
Max Cont. Charge Rate	1C (200A)
Max Cont. Discharge Rate	1C (200A)
BMS Features	 Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (14.8V or above on input) Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V) Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect Short circuit protection Bluetooth communication Low temperature heating (100W heater built into battery, will heat a low temperature battery up to 15'C if the battery has reached a low temperature)
Operational Quiescent Current	10mA
Standby Quiescent Current	0.1 mA
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8 Bolts
Warranty	5 Years
Appearance	



PRODUCT SPECIFICATIONS RB48100 Stackable

Battery Capacity	100 Ampere hour (100Ah) 5120Wh
Nominal Voltage	48V
Battery Chemistry	LiFePO4 Chemistry - Prismatic cells
Series Limit	48V bank
Parallel Limit	Infinite
Dimensions and Weight	45.5L x 43.5W x 18.0H (cm) - 51KG
Operating Temperature	Charge - 0'C to 60'C // Discharge from -20'C to 60'C
Operating Voltage	54.4V (16S x 3.4V)
Charge Voltage	56.8V-58.4V, 57.6V recommended
Float Voltage	54.4V-56.0V, 55.2V recommended
Max Continuous Charge Rate	1C (100A)
Max Continuous Discharge Rate	1C (100A)
BMS Features	 Low temperature battery disconnect (0'C for charge, -20'C for discharge) Over voltage disconnect (59.2V or above on input) Low voltage disconnect Cell imbalance disconnect (Cell voltage differential of above 0.3V) Automatic cell voltage balancing Over current disconnect protection Short circuit protection
Communication	RS232 RS485 CAN
Operational Quiescent Current	10mA
Standby Quiescent Current	
Charge Curve	Constant Current / Constant Voltage - CC/CV
Terminals	M8
Warranty	5 years
Appearance RB48100	POSITIVE + POSITIVE +



Semi Flexible Solar Panels

SP100







Briefcase Solar Panels CSP100 | 200 | 300 - monocrystalline

CSP100

Model
Power rating
Open Circuit Voltage
Max Power Voltage
Folded dimensions
Unfolded dimensions

100W
27.3V
23.3V
565mm x 525mm x 50mm
900mm x 525mm x 25mm



Model Power rating Open Circuit Voltage Max Power Voltage Folded dimensions Unfolded dimensions **CSP200** 200W 21.5V 18.2V 900mm x 590mm x 50mm 900mm x 1050mm x 25mm



Model
Power rating
Open Circuit Voltage
Max Power Voltage
Folded dimensions
Unfolded dimensions

CSP400 400W 43.1V 36.5V 900mm x 590mm x 90mm 900mm x 2360mm x 22.5mm



All models come with bag







CHARGING	Recommend	AC/DC	Charge	Information
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'Lithium Suitable' Chargers There are many chargers on the market that advertise themselves as 'Lithium Suitable' - however there are many that simply are not, no matter how they try to brand it.

Requirements: There are very few crucial requirements with an AC/DC charger and a lithium battery, but the few that are there are important. You must ensure that your charger has the following capabilities :

Live Output Your charger SHOULD have the capability of being a live output charger. Many chargers, sensibly, do not output any power until they see a battery voltage on the output so as to minimise the possibility of a short-circuit during install or via accidents, however if a lithium battery BMS has tripped or is asleep, it is not presenting a battery voltage to the outside world. Many batteries wait until they see a good charge voltage at their terminals before reconnecting the battery. If the charger is waiting for the battery and the battery is waiting for the charger, nothing happens. Your charger must have the capability of outputting a live voltage, even without seeing a voltage at its terminals, to wake up an asleep battery.

Output control Your charger MUST have a stable output with profiles that are within the specification of the battery you are interested in. If you exceed the charge voltage (or current) of a lithium battery the BMS will simply disallow charge and the battery will not fill.

 Suitability checklist
 To charge our lithium batteries we recommend using either our very own BC charger, the Sterling PCU series of chargers, or any charger that fulfils the following criteria :

 1) It has a charge profile that is within our charge specifications

 2) It is within the charge rating limit of the lithium battery bank

 3) It has a stable output that will not spike and exceed the target voltages

4) It has the option for a live output mode in order to wake up a sleeping battery

5) It is the correct output voltage for your battery bank (If you have two 12V batteries in series, making 24V, you would require a 24V battery charger... and vice versa, you cannot use a 24V charger on a 12V battery!)





CHARGING	Recommend DC to DC Charge Information	
Alternator Charge	When charging from an alternator source, or if charging from a c example), a DC/DC charger is imperative to safe operation of ex	different voltage threshold (12V to 24V, for verything involved.
Lithium and Alternators	AMPS cannot advise, in almost any situation, putting a lithium be incredibly low internal resistance of a lithium battery we expect to see the alternator operating to its limit and inevitably getting very becoming damaged or leads to the BMS on the battery shutting	attery directly onto an alternator. Due to the o (and have had a fair few cases where it has) y hot. This often either leads to the alternator down and refusing to receive any charge.
Alternator Charge Solution	The solution is to utilise a current limiting battery to battery charge can control how much current the lithium battery is able to draw within its BMS specified limits and keeping the alternator within it	ger. By installing a current limiting charger you from the alternator side, keeping the battery its happy-to-operate threshold.
Battery to Battery Rating	A general recommendation for alternator rating vs battery to batt alternators rating. Therefore on a 100A alternator we would not of about 70A.	tery charger rating is to not exceed 70% of your want to exceed a battery to battery charger rating
Lithium and B2Bs	Battery to battery chargers, when set up correctly, will ensure the their specification and a charge voltage within their specification	e batteries are receiving a charge current within
B2B Requirements	It is also important that the battery to battery charger comes o fro or a lead acid starter battery, this is to ensure that the alternator Without an ALD or a lead acid starter battery the battery to batter convert from.	of either an Alternator Linearisation Device (ALD) output is stabilised and 'anchored' in a sense. ery charger would not have a stable input to
Standard BB Install	BB1230 B12100 B12200	<text><text></text></text>
		BATTERY CHARGING 30



THANK YOU	Thank you for considering AMPS. Happy travels.	
Further consideration	You may also be interested in some of our associated catalogues as they may include equipment not mentioned in this brochure.	
	If you are interested in placing an order or asking a question, please contact help@ampsystems.co.uk or visit our website.	
Automotive Catalogue A	Sterling Power	
Marine Catalogue B	Sterling Power	
Accessories Catalogue C	Sterling Power	
AMPS Lithium Catalogue D		



Electric Vehicle Charger (EVC)

What the box includes: - 1x 22kW EV Charger - 1x Type 2 plug with 5m of tethered cable - 1x Plug holster - Screws / bolts for installation

EV Charger Specifications: - up to 22kW | 415VAC 50/60Hz - 3 Phase connection at 22kW (415VAC) - 3Engle Phase connection up to 7kW (220-240VAC) - 32A relay - Screws / bolts for installation - AC30mA + DC 6mA - CE, TUV, UKCA - IP54 waterproof AMPS

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