



2022 brochure



# 12V Lithium Iron Phosphate Batteries w/ built in Bluetooth BMS and App functionality

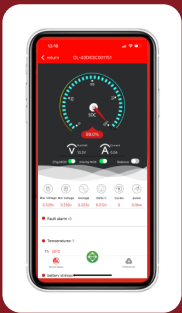
20Ah | 60Ah | 80Ah | 100Ah | 120Ah | 150Ah | 200Ah | 300Ah  
24V 150Ah  
5 Years Warranty



BC range of  
AC to DC chargers  
2 output  
Live voltage output  
Linear wave DC charger



Sterling Power's range of  
DC to DC chargers  
Live voltage output  
Linear wave DC charger  
Current limiting  
Protects alternator + battery.  
Ideal for charging when driving

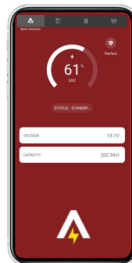


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**INTRODUCTION WELCOME GUIDE**

**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 Battery Quick Guide**

| Part No | Capacity Ah | Charge V | Charge Current (max) | Discharge Current (max) | Bluetooth | series limit | Dimensions (cm) LHW | Weight (kg) | Battery Terminal |
|---------|-------------|----------|----------------------|-------------------------|-----------|--------------|---------------------|-------------|------------------|
| AL1220  | 20Ah        | ≤14.4V   | 20A                  | 40A                     | no        | 48V          | 19 x 18.7 x 7.7     | 2           | 4mm M4           |
| AL1260  | 60Ah        | ≤14.4V   | 50A                  | 120A                    | yes       | 48V          | 28 x 17.2 x 17.6    | 8           | T1 DIN           |
| AL1280  | 80Ah        | ≤14.4V   | 60A                  | 140A                    | yes       | 48V          | 26 x 21 x 16.5      | 11          | 8mm M8           |
| AL12100 | 100Ah       | ≤14.4V   | 70A                  | 150A                    | yes       | 48V          | 33 x 21.5 x 17      | 13          | 8mm M8           |
| AL12120 | 120Ah       | ≤14.4V   | 80A                  | 150A                    | yes       | 48V          | 41 x 23.5 x 17      | 15          | 8mm M8           |
| AL12150 | 150Ah       | ≤14.4V   | 80A                  | 150A                    | yes       | 48V          | 41 x 23.5 x 17      | 18          | 8mm M8           |
| AL12200 | 200Ah       | ≤14.4V   | 150A                 | 300A                    | yes       | 48V          | 53.2 x 20.7 x 21.5  | 22          | 8mm M8           |
| AL12300 | 300Ah       | ≤14.4V   | 150A                 | 300A                    | yes       | 48V          | 53.2 x 20.7 x 21.5  | 36          | 8mm M8           |
| AL24150 | 150Ah       | ≤28.8V   | 80A                  | 150A                    | yes       | 48V          | 53.2 x 20.7 x 21.5  | 34.5        | 8mm M8           |
| LB12100 | 100Ah       | ≤14.4V   | 100A                 | 100A                    | yes       | 48V          | 31.8 x 22.5 x 16.5  | 11          | 8mm M8           |
| LB12200 | 200Ah       | ≤14.4V   | 200A                 | 200A                    | yes       | 48V          | 50.5 x 25.5 x 17.2  | 28          | 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.

**Warranty**

We provide 5 years warranty on all of our products.

**Lithium Benefits**

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 off of 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.

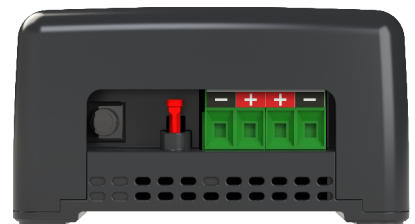


**PRODUCT SPECIFICATIONS** 230VAC to 12V | 24V 2 output battery charger - BC Charger Series

- Charger Type** 190VAC - 260VAC input 50/60Hz - 5 stage battery charger
- Battery Charger Efficiency** 94%
- Nominal Voltage** 12V and 24V models - live output | linear
- Nominal Current** 20A and 40A models | with half power mode and 8 hours night mode
- Battery Chemistries** Lithium, LeadAcid 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 11.2cm 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  
Reverse Polarity (fused)
- Temperature sensor** Comes in box - temperature compensation + 0DegC trip on lithium
- Warranty** 5 years



**Appearance**  
BC Series



| 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       |

**Bluetooth**  
BC Series Charger



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



## PRODUCT SPECIFICATIONS Bluetooth BMS functions and Features

**AL Series Systems** All AL series batteries, bar the AI1220, feature the following benefits on the app.

**SOC %** Displays state of charge in % - gives an approximate indication of the capacity remaining in the battery

**sum volt** This refers to the total voltage across the battery.

**current** This shows the current entering or leaving the battery - the net figure. +ve for entering | -ve for leaving

**Power KW** This is a simple calculation of net power. Voltage x current.

**Diff Volt** 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.

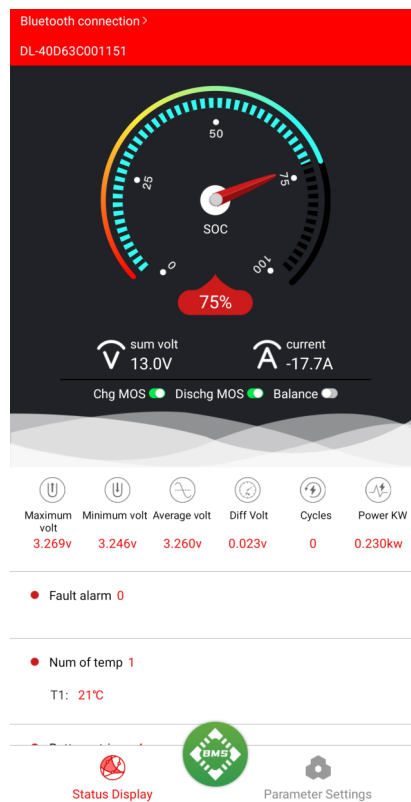
**Parameter Adjustment** One of the successful features of this App is the ability to adjust the parameters of the BMS to tailor make the batteries for their intended use. We set a generic factory preset and any adjustments are password protected.

**App name** Smart BMS

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

Main Image  
Smart BMS App Home Page

Smaller Images  
Smart BMS Parameter page examples



| project                    | parameters | Setting   |
|----------------------------|------------|-----------|
| cell volt high protect     | 3.72V      | Enter set |
| cell volt low protect      | 2.72V      | Enter set |
| sum volt high protect      | 14.80V     | Enter set |
| sum volt low protect       | 10.80V     | Enter set |
| diff volt protection       | 0.25V      | Enter set |
| Chg overcurrent protect    | 60.0A      | Enter set |
| dischg overcurrent protect | 140.0A     | Enter set |

| project                  | parameters | Setting   |
|--------------------------|------------|-----------|
| chg high temp protect    | 75°C       | Enter set |
| chg low temp protect     | 0°C        | Enter set |
| disChg high temp protect | 75°C       | Enter set |
| disChg low temp protect  | -20°C      | Enter set |
| diff Temp protect        | 255°C      | Enter set |
| MOS temp protect         | 0°C        | Enter set |



## PRODUCT SPECIFICATIONS AL1220

|                               |   |
|-------------------------------|---|
| Battery Capacity              | 20 Ampere hour (20Ah)   256Wh   |
| Nominal Voltage               | 12V   |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Cylindrical cells   |
| Series Limit                  | 4 (48V bank)  |
| Parallel Limit                | Infinite  |
| Dimensions and Weight         | 19.0L x 18.7H x 7.7W (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                  | <ul style="list-style-type: none"><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect (40A draw, per battery)</li><li>• Short circuit protection</li></ul> |
| 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                     | M5  |
| Warranty                      | 5 years   |

Appearance  
AL1220





## PRODUCT SPECIFICATIONS AL1260

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|                               |  |
|-------------------------------|--|
| Battery Capacity              | 60 Ampere hour (60Ah)   768Wh  |
| Nominal Voltage               | 12V  |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells  |
| Series Limit                  | 4 (48V bank)   |
| Parallel Limit                | Infinite   |
| Dimensions and Weight         | 28.0L x 17.2H x 17.6W (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)   |
| Max Continuous Discharge Rate | 2C (120A)  |
| BMS Features                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect (&gt;120A draw, per battery)</li><li>• Short circuit protection</li></ul> |
| 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   |





## PRODUCT SPECIFICATIONS AL1280

|                               |   |
|-------------------------------|---|
| Battery Capacity              | 80 Ampere hour (80Ah)   1024Wh  |
| Nominal Voltage               | 12V   |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells   |
| Series Limit                  | 4 (48V bank)  |
| Parallel Limit                | Infinite  |
| Dimensions and Weight         | 26.0L x 21.0H x 16.5W (CM) - 11KG   |
| 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 (60A)  |
| Max Continuous Discharge Rate | 1.75C (140A)  |
| BMS Features                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect</li><li>• Short circuit protection</li></ul> |
| 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  
AL1280







## PRODUCT SPECIFICATIONS AL12100

|                               |  |
|-------------------------------|--|
| Battery Capacity              | 100 Ampere hour (100Ah)   1280Wh   |
| Nominal Voltage               | 12V  |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells  |
| Series Limit                  | 4 (48V bank)   |
| Parallel Limit                | Infinite   |
| Dimensions and Weight         | 33.0L x 21.5H x 17.0W (cm) - 13KG  |
| 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 (70A)   |
| Max Continuous Discharge Rate | 1.5C (150A)  |
| BMS Features                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li></ul> |
| 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  
AL12100





## PRODUCT SPECIFICATIONS AL12120 | AL12150

|                               |  |
|-------------------------------|--|
| Battery Capacity              | 120Ah - 1536Wh   150Ah - 1920Wh  |
| Nominal Voltage               | 12V  |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells  |
| Series Limit                  | 4 (48V bank)   |
| Parallel Limit                | Infinite   |
| Dimensions and Weight         | 41.0L x 23.5H x 17.0W (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                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li></ul> |
| 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<br>AL12150   |





## PRODUCT SPECIFICATIONS AL12200

|                               |  |
|-------------------------------|--|
| Battery Capacity              | 200 Ampere hour (200Ah)   2560Wh   |
| Nominal Voltage               | 12V  |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells  |
| Series Limit                  | 4 (48V bank)   |
| Parallel Limit                | Infinite   |
| Dimensions and Weight         | 53.2L x 20.7H x 21.5W (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                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li></ul> |
| 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





**PRODUCT SPECIFICATIONS** **AL12300**

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|                               |  |
|-------------------------------|--|
| Battery Capacity              | 300 Ampere hour (300Ah)   3840Wh - <b>actual measured capacity ~330Ah = 4224Wh</b>   |
| Nominal Voltage               | 12V  |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells  |
| Series Limit                  | 4 (48V bank)   |
| Parallel Limit                | Infinite   |
| Dimensions and Weight         | 53.2L x 20.7H x 21.5W (CM) - 36KG  |
| 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                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 10.8V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li></ul> |
| 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



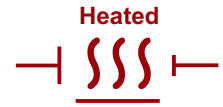


## PRODUCT SPECIFICATIONS AL24150

|                               |  |
|-------------------------------|--|
| Battery Capacity              | 150 Ampere hour (150Ah)   3840Wh - <b>actual measured capacity ~170Ah = 4352Wh</b>   |
| Nominal Voltage               | 24V  |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells  |
| Series Limit                  | 2 (48V bank)   |
| Parallel Limit                | Infinite   |
| Dimensions and Weight         | 53.2L x 20.7H x 21.5D (CM) - 34.5KG  |
| 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                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (29.6V or above on input)</li><li>• Low voltage disconnect (Individual cells below 2.7V, battery voltage of 21.6V)</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li></ul> |
| 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





## PRODUCT SPECIFICATIONS **LB Series Batteries**

**LB Series Batteries** All LB series batteries have a number of features that are unique to their family. Including heated features, a bespoke app and unique communication protocols.

**Low temperature heating** One of lithium's biggest limitations from being globally accepted as standard is their limitations regarding operational temperatures. When in a low temperature state, and receiving charge from a charge source, 80W of that charge current will actively go (per battery) to the internal heating elements on the batteries to provide the well insulated cells with warmth to get them above (or keep them above) freezing. This allows charging and operation in even the most extreme environments that would otherwise not be an option. The temperature elevates at a rate of about 1°C every 8 minutes.

**Interbattery Communication** The LB series of batteries have communication ports for up to 16 batteries to be connected with communication cable. This, when paired with a communication box that is in active development and nearly ready for release, will allow collated information of the entire battery bank to be read from one single point.

**CANBUS Support** Perhaps uniquely, the LB series of lithium battery also offers CANBUS connection ports and a communication protocol that we can provide to those who can make the best use of it.

**AMPS Bluetooth** Our premium battery deserves a premium BMS system and the LB series of batteries benefits from our bespoke AMPS app. Offering the client/user information on how long the battery has until it is fully charged or depleted, the current coming in or out of the battery (down to a fraction of an Amp), the state of charge of the battery, the capacity of the battery and the temperature of the battery system.

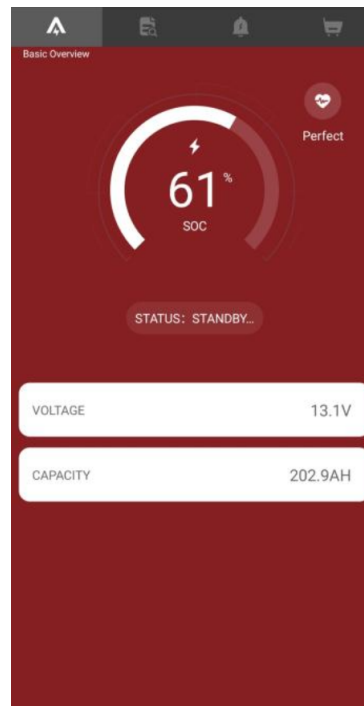
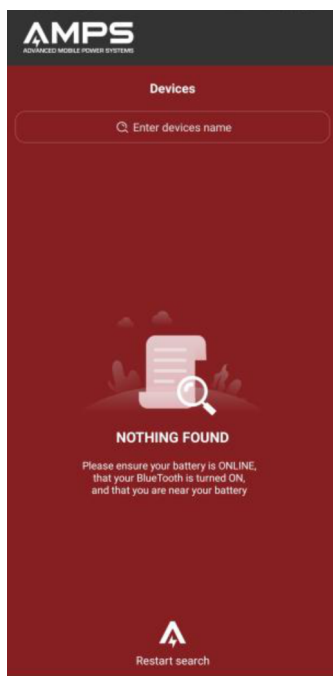
The app also has a number of user-first additions, including easy access to AMPS support information and the ability to rename your batteries to best organise what is what in your system.

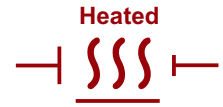
**Highest Quality** When designing the LB series of batteries, we realised quickly that the advanced system required the highest build quality to ensure best operation for our users and customers. We have used only the best cells and housing we could find to ensure that this premium product performs and feels as good as you want it to.

**State Of Charge Meter** The faceplate of all LB batteries features a small and simple battery monitor gauge to give you a brief estimate on the capacity remaining in the battery, at the push of a button.

**Serviceable** While we hope we never need to service a battery, the top-plate of the lithium case is removable (sealed by screws) to gain access to the BMS and battery system within. This should only be done by AMPS technicians.

### AMPS App



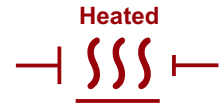


## PRODUCT SPECIFICATIONS LB12100

|                               |   |
|-------------------------------|---|
| Battery Capacity              | 100 Ampere hour (100Ah)   1280Wh  |
| Nominal Voltage               | 12V   |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells   |
| Series Limit                  | 4 (48V bank)  |
| Parallel Limit                | Infinite  |
| Dimensions and Weight         | 31.8L x 22.5H x 16.5W (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                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li><li>• Plus all features on page 12</li></ul> |
| 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  
LB12100





**PRODUCT SPECIFICATIONS** **LB12200**

|                               |   |
|-------------------------------|---|
| Battery Capacity              | 200 Ampere hour (200Ah)   2560Wh  |
| Nominal Voltage               | 12V   |
| Battery Chemistry             | LiFePO <sub>4</sub> Chemistry - Prismatic cells   |
| Series Limit                  | 4 (48V bank)  |
| Parallel Limit                | Infinite  |
| Dimensions and Weight         | 50.5L x 25.5H x 17.2W (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                  | <ul style="list-style-type: none"><li>• Bluetooth interface for battery information</li><li>• Low temperature battery disconnect (0°C for charge, -20°C for discharge)</li><li>• Over voltage disconnect (14.8V or above on input)</li><li>• Low voltage disconnect</li><li>• Cell imbalance disconnect (Cell voltage differential of above 0.3V)</li><li>• Automatic cell voltage balancing</li><li>• Over current disconnect protection</li><li>• Short circuit protection</li><li>• Plus all features on page 12</li></ul> |
| 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







**CHARGING** Recommend Battery Chargers and DC to DC charging

**AMPS AC to DC Battery Charger / from mains**

To charge our lithium batteries we recommend using our very own range of battery chargers - the BC series.

Ensure, when charging your batteries, you keep the current rating and voltage rating within the specification of the batteries.

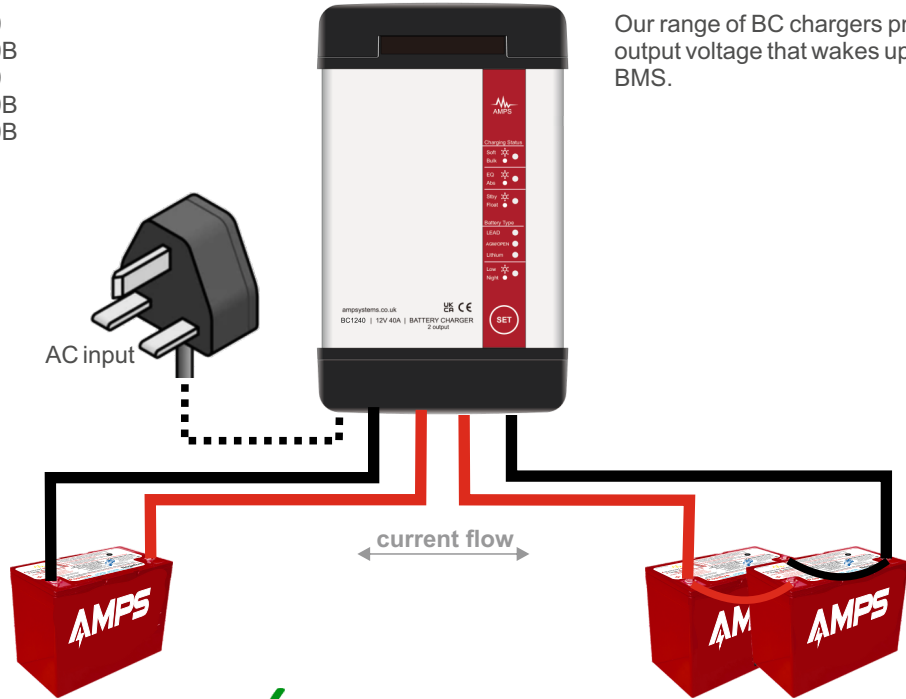
For example, the 12V 20Ah AL1220 battery should not be charged with our 12V 40A (BC1240) battery charger.

When paralleling batteries to increase Ah capacity, the charger current rating can increase proportionately. For example, 2x AL1220 in parallel can be charged with a BC1240.

Most of our battery chargers are comfortably under the charge rating of the batteries.

If charger rating is too high, the BMS inside the battery shall trip to protect the battery.

- BC1220
- BC1220B
- BC1240
- BC1240B
- BC2420B



Our range of BC chargers provide a live output voltage that wakes up the battery BMS.

- Lead acid style battery ✓✓
- AMPS lithium battery ✓✓
- Other lithium batteries ✓✓

- Lead acid style battery ✓✓
- AMPS lithium battery ✓✓
- Other lithium batteries ✓✓

**Sterling Power DC to DC Battery Charger - Charging when driving / cruising along**

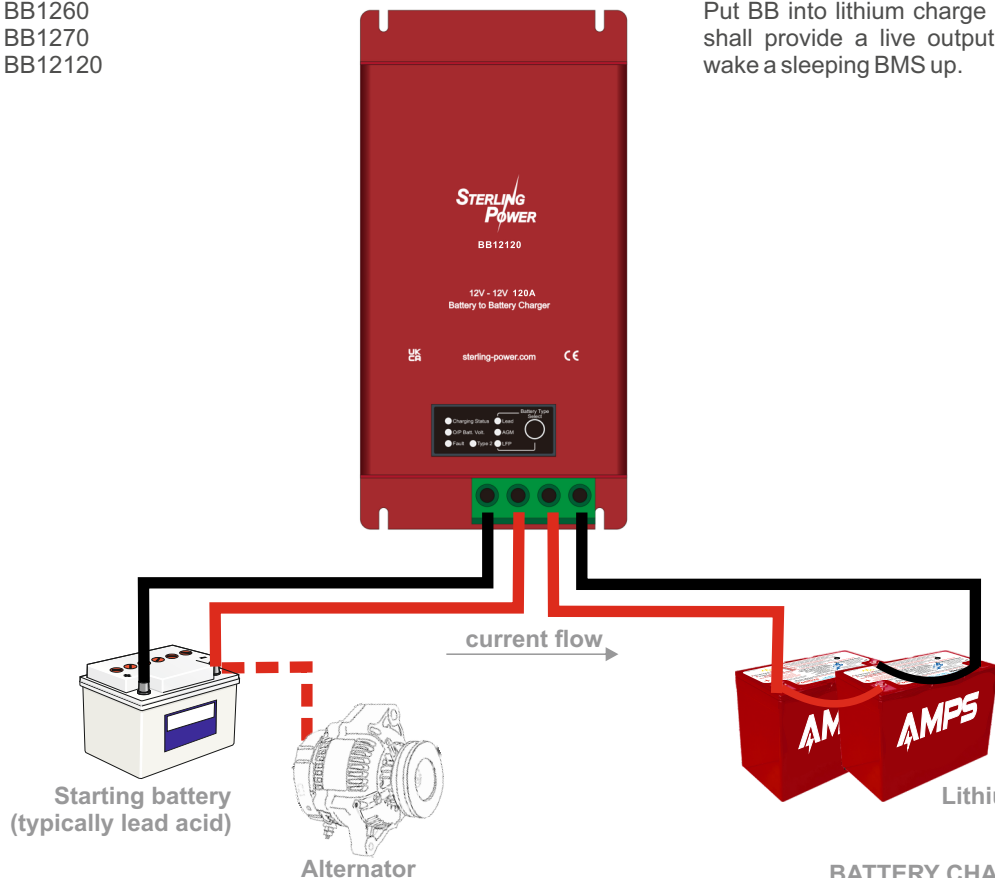
Battery to Battery Chargers / DC to DC chargers provides lithium batteries with the correct charging current and charging voltage.

As above, ensure your DC to DC charger is within the current spec of the battery(s) you wish to charge up.

Also, ensure your DC to DC charger is ~70% or lower than your alternator's current rating. Lithium batteries are prone to asking maximum performance from your alternator - resulting in your alternator over heating.

The DC to DC chargers essentially provide appropriate current levels at the correct voltage charging profile.

- BB1230
- BB1260
- BB1270
- BB12120



Put BB into lithium charge mode. This shall provide a live output voltage to wake a sleeping BMS up.

Starting battery (typically lead acid)

Alternator

Lithium Battery



Unit 8 Wassage Way  
Hampton Lovett Industrial Estate  
Droitwich  
Worcestershire  
WR9 0NX  
[ampsystems.co.uk](http://ampsystems.co.uk)  
01905 771771