



TLSL-100 100Ah
TLSL-135 135Ah

Owners Manual



Overview

These Thumper slimline lithium iron phosphate (LiFePO₄) batteries are for situations where space is at a premium. They measure just 75mm high and weigh less than 25kgs. Each is fitted with 2 x 120A Anderson, wired as both input and output for easy connection to your equipment or solar charger output. Each size unit utilises the same battery management system found in the standard LiFePO₄ battery series for safe operation at all times, plus a handy voltage & capacity readout.

Warnings

This battery utilises LiFePO₄ chemistry which is the safest type of lithium chemistry for use in mobile vehicle applications. However you should adhere to the following warnings:

- Avoid mechanical shock of the battery.
- Do not expose the battery to fire or open flame.
- Do not pierce the battery.
- Do not disassemble the battery or its housing.
- Do not drill into or modify the enclosure in any way.
- Do not expose to moisture or water ingress
- Do not store the battery below -20°C or above 60°C

Installation

This battery has been designed for permanent installation in a car, caravan or 4WD as a portable power source for connected appliances. The battery must be installed and affixed to a surface using the mounting tabs on the housing to prevent it from becoming a projectile in a vehicle accident. The slimline design allows the battery to be mounted behind or under a seat, into custom cabinets or on the internal walls of your camper or caravan.

Ensure your installation location will provide adequate ventilation (25mm clear space around the battery), taking into consideration the operating discharge temperature of the

battery. This battery is not suitable for installation in:

- Vehicle engine bay or a high heat environment.
- External/exposed locations where moisture is present.
- Inside compartments dedicated to carrying gas.

If in doubt we encourage you to engage a professional to install the battery into your vehicles power system.

Once installed in a suitable location the battery can be connected using the dual 120A input output terminals on the side of the battery enclosure. You should use the included connection cables for this purpose as the mating connector is not suitable for use with a genuine grey Anderson 120 Amp connector.



It does mate with a blue 120 connector, should you wish to terminate your own cabling). The included cable is 16mm² (4AWG) gauge and suitable for carrying the full discharge rating of the battery. Ensure any connected wiring matches this specification. It must be suitable for carrying up to 10DA current.

Note that there is no internal fuse protection on the Anderson style output connections. For safety you MUST use an external in-line fuse rated to 10DA for each connection. The BMS is designed for up to 10DA continuous charge and discharge. Please take this into consideration when connecting your chosen method of charging and your appliance loads.

Charging

LiFePO₄ lithium batteries require slightly different charging parameters compared to their lead acid counterparts. As such you should use a AC charger, DC-DC charger or solar regulator which features a LiFePO₄ compatible mode. The

IMPORTANT NOTE: Battery is supplied at 30% charge from the factory for safety compliance.

You must charge the battery before use for accurate readings to be achieved.

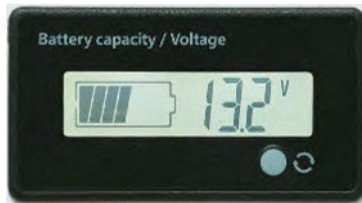
Recommended charging voltage for these batteries is 14.2-14.6V. The recommended charge current is 50A.

IMPORTANT NOTE: It is not recommended to only charge via a Voltage Sensitive Relay (VSR) with this battery. A VSR connected to an auxiliary lithium and main lead acid battery will not operate correctly due to the higher cell voltage in the lithium battery. A LiFePO4 compatible DC to DC charger is a superior alternative and recommended.

Battery Management System

This battery is fitted with an internal battery management system or BMS. This internal circuit ensures safer discharging and charging. The BMS is designed to prevent over-voltage via overcharging, cell damage from overdischarging and dangerous conditions such as short circuits and excessive temperature.

LCD Readout



The front mounted LCD readout provides battery capacity and voltage reading. To conserve energy the display will switch off after a period of time. Press the button underneath the display to activate the display.

System Configurations

This battery can be wired up to a maximum of 4 units in series (12-48V), and in parallel there is no limit to the number that may be used in a single system.

50 Amp Black Anderson

The 50 Amp Anderson fitted to the Thumper Slim line is fitted to an internal 50 Amp automatic reset circuit breaker. This outlet is wired as bi-directional so may be used as INLET or OUTLET.

Victron Smart Shunt (Optional fit)

These units are available with an internal Victron Smart Shunt Battery monitor. The Victron smart shunt is fitted internally within the Lithium pack and is designed to be monitored via the Victron Connect app.

This is a FREE app available from your app store on your smart device. The Victron smart shunt is rated to 500 Amps in capacity and will monitor all loads (both in and out) from the battery from all Anderson connectors (including the 2 x 120 Amp and 1 x 50 Amp Anderson connector). The Victron smart shunt has been pre-set to the correct settings prior to purchase. There is no reason to change any of these settings after purchase. For more information on the app, please refer to the Victron instruction manual.

Warranty Statement

This product warranty is for 5 years from date of purchase from its resellers to the consumer. If this item is part of an installation or another product, please contact the installer or supplier for your warranty. During the warranty period, we undertake to repair or replace your product at no charge if found to be defective due to a manufacturing fault. The warranty excludes damage by misuse or incorrect installation (i.e. failure to install and operate device according to specifications in the supplied instruction manual), neglect, shipping accident, or no fault found, nor by use in a way or manner not intended by the supplier.

For repair or service please contact your PLACE OF PURCHASE.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. NOT FIELD SERVICEABLE.

| Specifications | TLSSL-100 | TLSSL-135 |
|--------------------------------|----------------------|------------------|
| Electrical | | |
| Nominal Voltage: | | 12.8V |
| Amp Hour Capacity: | 100AH | 135AH |
| Reserve Capacity @ 30A: | 200 min | 270 min |
| Energy Density: | 1280Wh | 1728Wh |
| Resistance - Milliohms: | <50 | <45 |
| Efficiency - round trip: | | >99.5% |
| Self Discharge per Month: | | <3% |
| Max 4 - series connections: | | 12-48V |
| Parallel connections: | | No Limit |
| Mechanical | | |
| Dimensions: | 600 x 275 x 75mm | 600 x 410 x 75mm |
| Weight: | 20KGS | 25KGS |
| Terminal Type: | Anderson 120A (Blue) | |
| Terminal Current: | 1C Max | |
| Case Material: | SSP | |
| Case IP Rating: | IPSO | |
| Cell Type - Chemistry: | LiFePO4 | |
| Temperature | | |
| Discharge Temperature: | -20 to 60°C | |
| Charge Temperature: | -20 to 45°C | |
| Storage Temperature: | -5 to 35°C | |
| BMS High Temp Cut Off: | 80°C | |
| BMS Reconnect Temp: | 50°C | |
| IP: | 50 | |
| Charge | | |
| Recommend Charge current: | 50A | |
| Max Charge current: | 100A | |
| Charge current (0 to -10°C): | <20A | |
| Charge current (-20 to -10°C): | <20A | |
| Recommend charge voltage: | 14.2 - 14.6V | |
| BMS Charge voltage cut off: | 15.0V | |
| BMS Reconnect voltage: | 14.4V | |
| Balancing voltage: | 13.6V | |
| Discharge | | |
| Max Cont Discharge current: | 100A | |
| BMS Current Cut Off: | >100.SA 105 | >120.5 105 |
| BMS Current Cut Off: | >200A 305 | >150A 35 |
| BMS Current Cut Off: | >250A 35 | >200A 15 |
| BMS Voltage Cut Off: | 10V | |
| BMS Reconnect Voltage: | 12V | |