

Owners Manual



Overview

These 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 120A Anderson input and output plugs for easy connection to your equipment or solar charger output. Each 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 SB120 connector (it does mate with a blue SB120 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 100A 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 100A for each connection. The BMS is designed for up to 100A 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. The battery must be fully charged before first use.

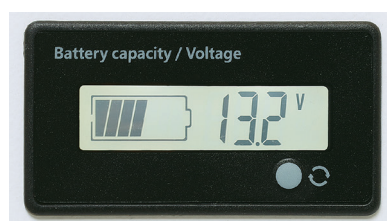
recommended charging voltage for these batteries is 14.2-14.6V. The recommended charge current is 50A.

IMPORTANT NOTE: Do not use 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.

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 overvoltage 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.

Specifications	SL4576W	SL4580W
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:	IP50	
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:	>100.5A 10S	>120.5 10S
BMS Current Cut Off:	>200A 30S	>150A 3S
BMS Current Cut Off:	>250A 3S	>200A 1S
BMS Voltage Cut Off:	10V	
BMS Reconnect Voltage:	12V	

Warranty Statement

Altronic Distributors warrants this product for 5 years from date of purchase from Altronic or 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 and for compensation for any other reasonably foreseeable loss or damage. 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.

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