

DC BATTERY CHARGERS & OVER-RIDE SWITCH

The Thumper Lithium Battery Hub includes optional models for a DC battery charger (Projecta or Redarc).

The DC battery charger is hard-wired and internally protected with circuit breaker protection. The DC charger is wired to two dedicated 50 Amp Anderson connectors on the Thumper Battery Hub, labelled 'Alternator Input' and 'Unregulated solar input'.

Alternator Input: The DC charger is designed to alter the input voltage from the vehicle to provide a regulated 'Lithium compatible' charge to the Thumper Battery Hub.



Vehicle charging must be connected via the Anderson labelled 'Alternator Input' in order to use the DC Battery Charger. If the DC charger is left to operate without an override, then the DC charger will engage its charge only when the vehicle's start battery reaches a voltage of approx. 13.2 volts.

In order to over-ride any low voltage issues the vehicle may experience, the Thumper Battery Hub has been equipped with a 'Low Voltage Switch'. The low voltage switch is designed to work in conjunction with the DC battery charger and the wiring loom (provided) to allow the DC charger to operate as 'ignition activated', instead of activating on voltage.



Switch in ON position:

When 'ON' the ignition switch will illuminate blue and will act to immediately to engage the DC charger with the vehicle's ignition.

When in the ON position, the DC charger will no longer act as an isolator.

It is recommended to install the vehicle wiring loom if using this switch in the ON position, as the isolator in the wiring loom provided will act to separate the vehicle's main start battery from the Thumper Battery Hub.

Switch in OFF position:

When 'OFF' the switch will allow the DC Charger to act as voltage sensitive. The DC charger will require the vehicle start battery to reach a minimum voltage of approx. 13.2 Volts in order to engage the charging. When the main vehicle battery falls below 12.7 Volts, indicating the vehicle is no longer charging, then the DC charger will disconnect.

This 'voltage sensitive' method does not operate successfully in most new model vehicles that experience low voltage issues. It is recommended to install the vehicle wiring loom and use the switch in the ON position.

Unregulated solar input:

The Anderson connector labelled 'Unregulated solar input' allows for the connection of an unregulated solar panel. In order to use this connection, the panel must not have a regulator fitted. The voltage input of the solar panel must be between 9-28 volts and must not exceed 420 watts.

Vehicle wiring loom:

The Battery Hub includes a complete vehicle wiring loom. Please refer to the TUR-L instructions for fitting.

	100 AH	120 AH
Battery Chemistry	LiFePO4	LiFePO4
Nominal Voltage	12.8 V	12.8 V
Amp Hour Capacity	100 AH	120 AH
Dimensions (L*W*H mm)	355*190*260	355*190*260
Weight	11.6kg	13.0kg
Case Material	ABS	ABS
BMS build-in	Yes	Yes
Recommended Charge Voltage	14.2 ± 0.20V	14.2 ± 0.20V
Maximum Charge Voltage	14.8 ± 0.20V	14.8 ± 0.20V
Recommended Charge Current A	25 A	30 A
Max Charge Current A	100 A	120 A
Charge Current (0° to -10°C)	<0.1C	<0.1C
Charge Current (-20° to -10°C)	<0.5C	<0.5C
Recom. Discharge Voltage	10.8 ± 0.20V	10.8 ± 0.20V
Max. Discharge Voltage	8.8 ± 0.20V	8.8 ± 0.20V
Max. Discharge Current	100 A	120 A
Efficiency - round trip	> 99.5%	> 99.5%
Self Discharge per month	< 3%	< 3%
Parallel connection	Non-limited	Non-limited
Case IP Rating	IP65	IP65
Design Life	20 years	20 years
Cycle Life (1C, 25°C@80% DOD)	> 4,000	> 4,000
Cycle Life (0.2C, 25°C@80% DOD)	> 6,000	> 6,000
Cycle Life (0.2C, 25°C@100% DOD)	> 2,000	> 2,000
Discharge Temperature	-23° to 65°C	-23° to 65°C
Charge Temperature	-3° to 65°C	-3° to 65°C
Storage Temperature	-20° to 45°C	-20° to 45°C
Warranty on Battery (excludes DC)	5 years*	5 years*

NEED MORE POWER? .. ADD A LINK HUB!

What do you do if you need more power? Thumper now offer a simple solution of a Thumper Battery LINK HUB! The Link Hub is designed in two models in both 100 AH and 120 AH capacity, to include an option with and without sockets. The Link Hub simply 'BINDS' with the Master Hub to increase AH and discharge capacity to offer the ability to run larger discharge appliances for longer durations.

The Bluetooth App will allow the option to reset the AH capacity to monitor both Hub's together, or continue to monitor separately. The App will allow the user to either run both Hub's in parallel with one another, equally sharing the discharge or charge load between the two, or, instead the user may keep the Link Hub as a reserve battery and activate it only when they wish to start using. All of this and more is available from the FREE Bluetooth App!

Thumper LITHIUM BATTERY HUB



Information booklet

The Thumper Battery Hub has been designed to offer both portability and reliability with its light weight and compact design. Now equipped with Bluetooth technology for remote battery monitoring of capacity, cell temperature and remote power shut down; The features of the Thumper Lithium Battery Hub are truly second to none.

Available in several models, including a 100 AH or 120 AH capacity and with the option of a DC battery charger, the Thumper Battery Hub includes everything required for an independent battery system.

The Thumper Lithium Battery Hub is the smallest, most compact, independent battery system available today. It offers the largest usable battery capacity compared to any rival product available on the market with 100% usable capacity down to 12.4 volts and is 100% Bluetooth monitored.

Built in Australia by Blue Apple Thumper

Your Australian 12 Volt Specialist

Service Ph: 08 8391 3121

GENERAL INFORMATION

The Thumper Lithium Battery Hub contains Lithium Phosphate LiFePO4 Prismatic cells. The battery holds a 5 year manufacturing warranty and is designed as the ideal option as a independent dual battery system.

The Thumper Lithium Battery Hub uses extremely safe and virtually maintenance free technology. The battery is internally secured for protection in harsh off-road conditions and has been designed with thermal stability protection, over voltage protection, under voltage protection and internal short circuit protection.

The battery is protected with dual temperature sensors on both the individual battery cells and the Battery Management System (BMS), both of which are easily monitored via a FREE downloadable Bluetooth App.

Monitoring the charge condition of the Battery Hub is an easy process through the Bluetooth App - see information in later sections.

Not into apps? No problem, simply use the digital voltage meter fitted to the battery for a guide on the battery charge condition.

INCLUDED IN THE PACKAGE

The Thumper Lithium Battery Hub includes everything you will need for a complete battery set up. Included in the package is:

- Thumper Lithium Battery Hub (models available with and without DC battery charger)
- Thumper Lithium 10 Amp LiFePO4 240 Volt Battery Charger (not included with the Link pack)
- Secure Mounting Tray and battery strap
- Complete vehicle wiring loom for in vehicle charging (TUR-L)

THE BLUETOOTH APP - MONITORING YOUR BATTERY

The Thumper Lithium Battery Hub is fitted with one of the most comprehensive Bluetooth monitoring Apps available on the market.

The App offers the ability to monitor and control:

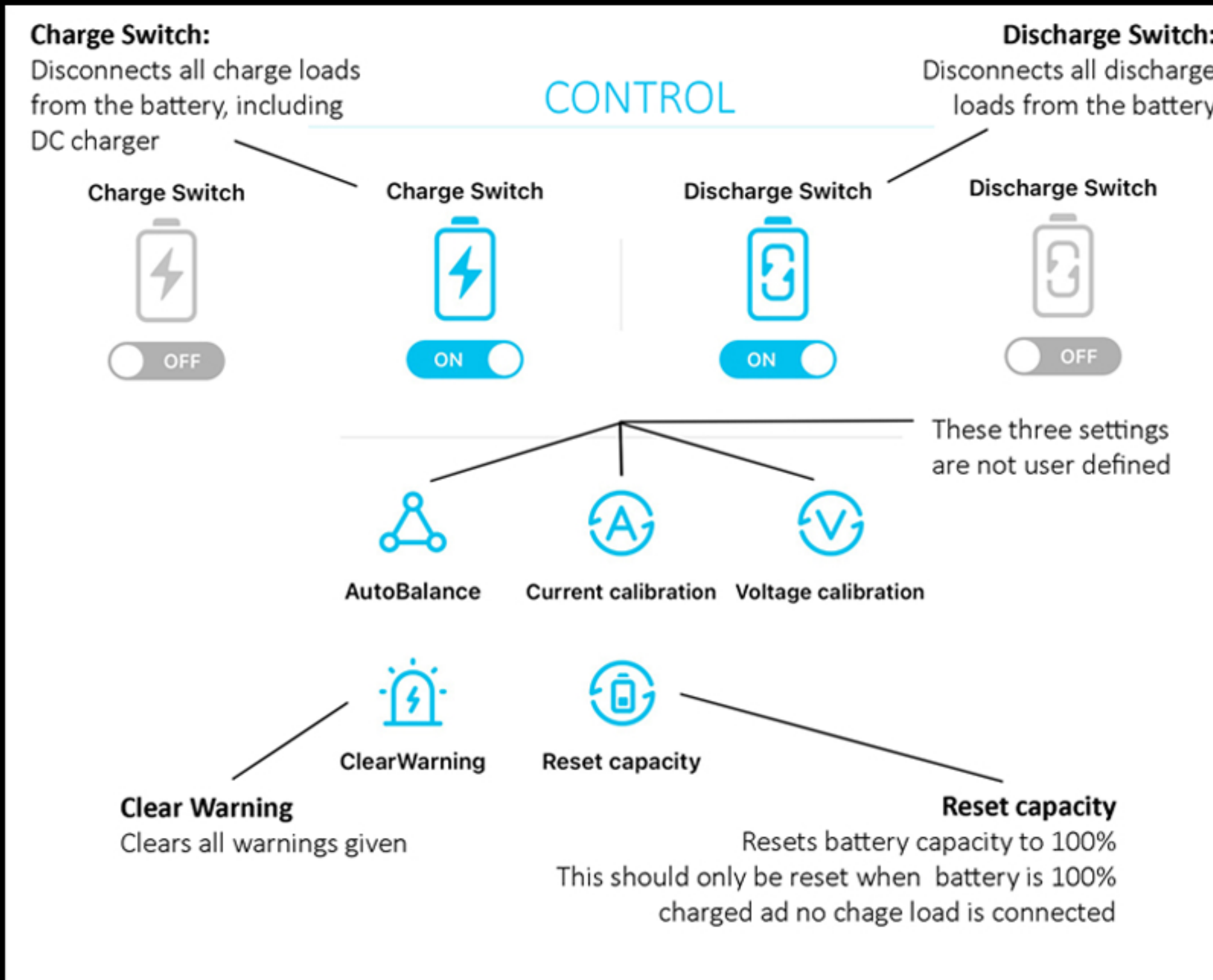
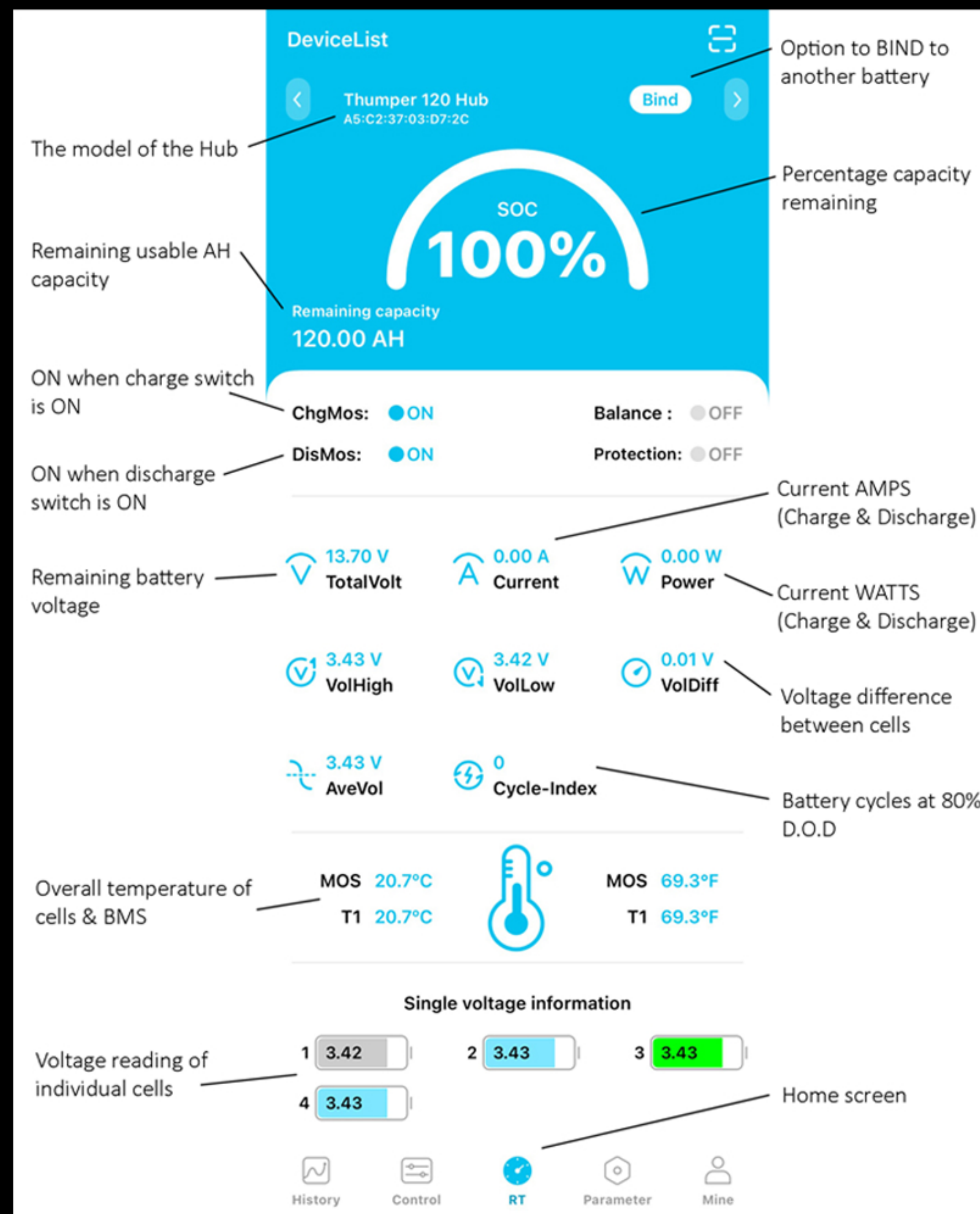
- Battery capacity
- Battery Voltage
- Percentage remaining capacity (Example: 0% - 100%)
- Battery charging current
- Battery discharge current
- Battery output disconnect
- Battery charge disconnect
- Number of cycles consumed
- Auto cell calibration
- Auto cell protection
- Estimated time remaining
- Estimated charging time
- AH capacity - Including remaining AH & AH consumed
- Total cell balancing
- High cell voltage
- Low cell voltage
- Cell voltage difference
- Monitoring of dual battery sensors
- Ability to parallel link and re-program AH capacity

Thumper offer a number of videos to explain in more detail the operation of the Bluetooth App, however, a few key points are covered in this brochure.

For any technical advice regarding the App, we recommending contacting our team direct directly.

THE BLUETOOTH APP - MONITORING YOUR BATTERY

Below is an overview of the App HOME SCREEN



BATTERY ISOLATION SWITCH

The Thumper Lithium Battery Hub is fitted with a rear isolation switch. This switch will manually disconnect all loads from the battery.

Ensure the switch is disconnected when the battery is in storage (toggle will be in down position). Reset the toggle in a flush position in order to activate the loads on the battery.



Note: The battery switch will be disconnected when originally purchased and must be reset before use.

240 VOLT CHARGING

The Thumper Lithium Battery Hub includes a 240 Volt 10 Amp battery charger. This dedicated lithium LiFePO4 charger is fully regulated and designed to ensure that no overcharging will occur. The Thumper Lithium Battery Hub may be stored connected to the 240 Volt battery charger, however, it is not necessary.



The charger is designed to connect directly into the 50 Amp Anderson located on the front of the Battery Hub labelled '12 Volt Input / Output'.

When connected, the battery charger will illuminate with a red LED light. Only once the battery has reached a full charge will the 240 volt battery charger light turn GREEN.

BATTERY & DISCHARGE CAPACITY

The Thumper Lithium Battery Hub offers 100 AH / OR 120 AH of **usable** battery capacity and is fitted internally with a 'Battery Management System' (BMS) rated to 100 / 120 Amps, respectively.

Understanding the capacity:

100 Amp BMS is equal to approx. 1200 watts of power. This refers to the maximum discharge capacity ONE battery can release in order to run heavy appliances such as Inverters, air compressors, etc. The maximum output on the Thumper Lithium 100 AH Battery Hub is 1200 watts and the 120 AH battery is 1440 watts.

Need more power? Simply add a Link hub to increase your capacity and discharge capacity*more in later sections

Low draw appliances are designed to connect directly into the 12 volt accessory sockets located on the front of the Thumper Battery Hub.

Appliances with heavier draws, up to 50 Amps, can be connected via the 50 Amp Anderson connector labelled '12 Volt Input / Output'.



For larger output requirements, exceeding 50 Amps but limited to 100 / 120Amps, respectively, it is recommended to use one of the two 120 Amp Anderson connectors fitted to the top of the Battery Hub.