

## Hubble Lithium AM-5 Battery Warranty

### Introduction

This warranty covers the Hubble Lithium AM-5 51V 5.1KW wall mount lithium series of batteries (the "Battery").

The Battery is designed for and intended to have a 15 year life span. The Battery has a built in reserve margin capacity to ensure the Battery life span is maximised, and the Battery is thus rated to deliver at least 100ah of power when new.

### Battery Warranty

The warranty period commences on the date of purchase from Hubble Lithium (Pty) Ltd ("Hubble Lithium") as reflected in the relevant Hubble Lithium tax invoice.

Hubble Lithium warrants that the Battery cells will achieve at least 10 years' service life or deliver at least 3000 charge-discharge cycles as counted by the BMS, whichever event occurs first.

### Warranty Conditions:

1. The customer's invoice must reflect the serial number of the relevant Battery on the Hubble Lithium invoice. The original invoice (digital or printed) must be provided to Hubble Lithium in order to commence a warranty claim
2. The Battery is intended to be used for standby backup or daily cycling in UPS and Inverter systems including solar Inverters. Other uses for the Battery will void the warranty.
3. A fuse or suitable DC breaker must be installed between the inverter/charge/ups and the Battery or battery bank. Failure to install a suitable rated fuse or DC breaker can damage the Battery and will void the warranty.
4. The Battery is intended to be used indoors only. Outdoor use will render the warranty void.
5. The Battery must not have been contaminated with any foreign or corrosive matter. Contamination will void the warranty.
6. The warranty does not cover damage due to neglect or abuse such as improper installation, freezing, fire, flooding, or any acts of nature.
7. The warranty does not cover surges or spikes from the inverter or charging device that could damage the Battery.
8. If the Battery was installed incorrectly and not according to the manual with correct settings it could result in damage. Incorrect installation and setup will void the warranty.
9. Incorrect sizing of the inverter, charger, or solar system can damage the Battery and void the warranty.
10. Batteries must be provided with a refresh charge every 5-6 months, while in storage, prior to final installation.
11. Warranty will be void if the firmware or BMS on the device has been deliberately tampered with or to try and reset cycle values or any data for warranty evaluation purposes.
12. If it is found that the Battery is being overloaded through large current draws above the intended rating of the Battery, which is outside the intended or indicated specification parameters, the warranty will be void.
13. If the serial number has been tampered with or has been removed from the device the warranty will be void.
14. Warranty will be void if the BMS records (single instance or more) an internal temperature of higher than 55 degrees Celsius.
15. If the Battery is interconnected or mixed with other non-Hubble batteries the warranty is void.
16. If the Battery has been opened or serviced by any person other than Hubble Lithium the warranty is void.
17. If the Battery has been short circuited or the BMS records a Short Circuit event, the warranty will be void.
18. If the Battery is damaged due to incorrect or improper installation or negligence or excessive wear and tear the warranty is void.
19. If the Inverter damages the Battery due to voltage spikes or overloading the Battery or incorrect DC voltages are applied to the Battery, the warranty is void.
20. If the inverter/charger used on the Battery is out of the Battery usage specification or incorrectly sized the warranty will be void.
21. Any damage to the Battery caused by peripheral electrical equipment will void the warranty.
22. It is forbidden to connect any 3rd party devices to the service ports, which is the RS232 and RS485 ports. These ports are reserved for workshop maintenance only and is for programming the BMS. Connecting any 3rd party devices to the RS232 or RS485 ports will void the warranty.
23. For complete off grid installations with no utility power as part of the installation, the Installer/Client is required to ensure that that the Batteries are fully charged at least once every 7 days to enable the BMS cell balancer to activate and perform cell balancing. This is a necessary step to prolong and protect the cells life. The cell balancer only activates on 100% charge. If the balancer does not activate for an extended period, then the cells could eventually become unbalanced and can cause undercharged cells to degrade in performance and could result in eventual cell cycle life being greatly reduced. Cell cycle life or performance in these scenarios cannot be warranted and the warranty will be void.

24. While the operating temperature for the Battery is designed to be 0 to 55 degrees Celsius, it is required, in order to sustain the warranty, that the customer keep the Battery temperature below 35 degrees Celsius when operating the Battery. This is also to maximise the life cycle of the Battery. The cycle life is negatively affected by temperatures above 35 degrees. The cycle life cannot be guaranteed if the Battery is operated in sustained or recurring temperatures exceeding 35 degrees Celsius. Operation of the Battery in such circumstances will void the warranty.
25. The Battery is fully integrated and contained and is thus non serviceable and not intended to be opened by anyone except authorised service centres. If it has been found that the unit has been tampered with or has been opened or attempted to be opened, the warranty will be void.
26. In the event that the Battery cannot be serviced or repaired, a prorated warranty will apply. Any repairs or replacement parts will not extend the original warranty period.

#### BMS Warranty

The integrated BMS module is designed to last over 15 years, however a standard 2-year warranty is provided for the BMS and all related probes and sensors.

#### Warranty claims process:

In the event of a possible warranty claim, the following procedure is required to be followed:

1. Contact your authorised reseller and advise them of the issue.
2. The reseller must send or arrange with end user to send the Battery to one of our service centres.
3. The service centre will evaluate the Battery and validate if a claim is substantiated.
4. The service centre might request additional information, like site and install location or a site visit etc. from the client.
5. If a claim has been validated, repairs and servicing of the Battery will be performed.
6. Any replaced parts will become the property of Hubble Lithium (Pty) Ltd.
7. It is for the client to arrange delivery and collection of the unit.

Herewith confirmed on 1<sup>th</sup> of September 2022.

Hubble Lithium (Pty) Ltd