

## Hubble Lithium AM-2 Battery Warranty

This warranty covers the Hubble Lithium AM-2 51V 5.5KWh wall mount lithium series of batteries, which is backed by Hubble Lithium (Pty) Ltd.

The battery has a 15 year intended design life, however Hubble Lithium (Pty) Ltd warranty's that the battery cells should achieve at least 10 years' service life or deliver at least 3000 charge, discharge cycles as counted by the BMS, which ever event is achieved first.

The warranty period starts from the date of purchase from Hubble Lithium (Pty) Ltd tax invoice. The customers invoice must reflect the serial number of the unit on the invoice from Hubble Lithium (Pty) Ltd. The original invoice (digital or printed) must be provided to Hubble Lithium upon a warranty claim.

### Warranty Conditions:

1. The battery is intended to be used for standby backup or daily cycling in UPS and Inverter systems including solar Inverters. Other unintended uses for the battery will lead to the warranty being void.
2. 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.
3. The battery is intended to be used indoors only. Outdoor use will render the warranty void.
4. The batteries must not have been contaminated with any foreign or corrosive matter.
5. The warranty does not cover damage due to neglect or abuse such as improper installation, freezing, fire, flooding, or any acts of nature.
6. The warranty does not cover surges or spikes from the inverter or charging device that could damage the battery.
7. If the battery or batteries were installed incorrectly and not according to the manual with correct settings it could result in damage. Incorrect installation and setup will invalidate the warranty.
8. Incorrect sizing of the inverter, charger, or solar system can damage the battery and void the warranty.
9. Batteries must be provided with a refresh charge every 5-6 months, while in storage, prior to final installation.
10. 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.
11. 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 specification parameters, then the warranty will be void.

12. If the serial number has been tampered with or has been removed from the device the warranty will be void.
13. Warranty will be void if the BMS records a internal temperature of 55 degrees Celsius or higher.
14. If the battery is interconnected or mixed with other non Hubble batteries the warranty is void.
15. If the battery has been opened or serviced by any person other than Hubble Lithium.
16. If the battery has been short circuited or the BMS records a Short Circuit event, the warranty will be void.
17. If the battery is damaged due to incorrect or improper installation or negligence or excessive wear and tear.
18. If the Inverter damages the battery due to voltage spikes or overloading the battery or incorrect DC voltages are applied to the battery, then the warranty is immediately void.
19. If the inverter/charger used on the battery is out of specification or incorrectly sized for the battery.
20. Any damage to the battery caused by peripheral electrical equipment will void the warranty.

For complete off grid installations with no utility power as part of the installation, the Installer/Client is to ensure that that the batteries are fully charged at least once every 14 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 guaranteed.

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.

The operating temperature for the battery is designed to be 0 to 55 degrees Celsius, however it is recommended to keep the battery below 25 degrees Celsius to maximise the life cycles of the battery. The cycle life is negatively affected by temperatures above 25 degrees and cannot be guaranteed if the battery is operated in temperatures exceeding 25 degrees Celsius.

The Hubble 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 immediately be void.

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.



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Warranty claims process:

In the event of a possible warranty claim, the following steps should be taken:

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 6<sup>th</sup> of June 2021.

Hubble Lithium (Pty) Ltd