



eTower Battery Guarantee

Original Release: September 2021

The eTower lithium iron phosphate batteries are supported by a limited product guarantee.

The eTower e5000 battery modules contain an energy capacity when new of at least 5kWh and 100Ah at a nominal voltage of 51,2V.

Subject to the provisions in this document, Freedom Won guarantees that the service life of an eTower e5000 battery will achieve at least a 10-year service life or deliver at least 4 000 charge-discharge cycles, whichever event should first occur.

The battery is defined as satisfactorily achieving this service duration or duty if it is still able to produce 60% or more of the model's stated new capacity in kWh from a complete discharge. The discharge test of an individual battery shall be done at a current equal to or less than 20% of the Ah rating, i.e.

➤ Amperes during discharge test = $0.20 \times 100\text{Ah} = 20\text{Amps}$

The integrated battery management system (BMS) calculates and records the number of cycles that have been completed by the battery, where one complete cycle in terms of this warranty is a discharge from 100% State of Charge (SoC) to 30% SoC – which is equivalent to 70% Depth of Discharge (DoD) – followed by a charge again to 100% SoC. Discharges deeper than 70% DoD and less than 70% DoD are also counted into the total number of warranty cycles on a pro rata basis.

Each eTower battery is preconfigured to prevent ordinary discharge below 90% DoD by commanding the connected inverter over the applicable communication interface to stop discharging. 100% DoD is allowed when the discharge from 90% to 100% DoD is only for the purposes of supplying the standby power draw to the inverter when there is no AC input available.

The eTower must not be kept and/or operated in a location that regularly experiences extended periods of ambient temperatures above 30 degrees Celsius or below zero degrees Celsius. The extreme safe ambient operating range is -20 to +50 degrees Celsius, however operation in the extreme range will significantly reduce the life of the battery, which impact is not covered by the warranty.

The battery may not be charged below 0°C or discharged below -20°C. In addition, the following temperature related operation will void the warranty:

- If the battery is operated or stored in ambient temperatures below -20°C
- If the battery is operated or stored in ambient temperatures above 45°C
- If the battery is operated or stored at temperatures above 30°C for more than 4 hours on average per day

The eTower must be installed indoors away from direct sunlight, precipitation, moisture, and sea mist.

If the eTower is installed in a small room with inverters and charge controllers it may be necessary to install an extraction fan or air conditioner to extract the heat generated by the inverters and charge controllers and to keep the room cool. Similarly, if the system is installed in a container the container must be out of direct sunlight and fitted with insulation cladding and extraction fans or air conditioners. Where possible the ambient temperature of the battery room must be maintained between 20°C to 25°C.



Should an eTower be found unable to produce 60% of its 'as new capacity' in kWh prior to the 10-year guaranteed service life, or 4 000 cycles being achieved, Freedom Won undertakes to service the battery to ensure that it thereafter again meets this performance objective. Freedom Won may however decide at its sole discretion to replace the battery if a repair is considered by Freedom Won to be uneconomical. Should a replacement battery or service be required that relates to the inadequate status or condition of the lithium cells contained in the battery, Freedom Won will cover a percentage of the cost of the replacement or service based on a fair use formula as follows:

- Battery age 0 to 5 years – Freedom Won will cover the full cost
- Battery age 5 to 6 years – Freedom Won will cover 50% of the cost
- Battery age 6 to 7 years – Freedom Won will cover 40% of the cost
- Battery age 7 to 8 years – Freedom Won will cover 30% of the cost
- Battery age 8 to 9 years – Freedom Won will cover 20% of the cost
- Battery age 9 to 10 years – Freedom Won will cover 10% of the cost

The balance of the replacement cost where applicable must be paid to Freedom Won by the owner or representing reseller/installer before the replacement battery is provided or before the service is actioned. The deemed replacement cost for a warranty replacement shall be the selling price at the Freedom Won list price according to the Freedom Won price list in release at the time of the claim. The service cost shall be calculated based on the prevailing parts selling prices plus labour at the standard service labour rate. Freedom Won reserves the right to decide on the most appropriate remedy at the time, being either replacement or service.

If the same model battery is not available at the time of the warranty claim Freedom Won undertakes to provide a suitable alternative solution.

Any references in this warranty to performance, service life, charge-discharge cycles, fair-use calculations, capacity retention, degradation, or minimum remaining capacity apply solely to the battery cells themselves, and do not apply to any other components of the eTower. The performance warranty does not constitute a guarantee against normal and expected capacity degradation of lithium battery cells over time, provided that such degradation remains within the limits expressly defined under the applicable performance warranty.

For the purposes of the performance warranty assessment, the capacity of the battery will be confirmed using kWh readings taken from an external kWh meter connected on the DC output cables of the battery. The discharge test shall be conducted at 0,2C from 100% SoC. The battery must be transported to Freedom Won or an authorised distributor to be assessed and tested in accordance with this warranty. The cost of removal, packaging and shipping shall not be covered by the warranty, nor shall the cost of re-installation.

A suspected underperforming battery must be received by Freedom Won for assessment before the warranty period has elapsed or the cycles are exceeded. The date applicable to the shared costs categories of the warranty shall be the date upon which the battery is received by Freedom Won for service or assessment.

Every eTower battery is fitted with a tamper seal on the cover. If this seal is damaged or compromised in any way or there is other evidence of tampering or abuse the guarantee becomes void.

In addition to the performance-related warranties and shared cost categories applicable to the battery cells, Freedom Won warrants that **all other non-cell components** forming part of the eTower will be free from defects in materials and workmanship for a period of ten (10) years from the commencement of the warranty period.



Subject to the exclusions set out in this warranty, Freedom Won will repair or replace, at no charge, any such **non-cell component** that fails or is defective during the warranty period, provided that the failure is not attributable to improper installation, misuse, abuse, negligence, unauthorised modification, or operation outside the specified parameters.

The exterior paint coating on the eTower is only guaranteed so far as it has been properly applied and a claim must be supported by evidence of defective materials or application – damage to the coating caused by impact or scuffing is not covered in this guarantee.

The warranty is only valid and applicable if the eTower was installed according to the requirements and instructions laid out in the eTower manual. The warranty is also only valid if the eTower and all associated charges such as delivery costs where applicable, are fully paid for by the reseller or installer, or if necessary, directly by the owner within 60 days of the final amount becoming due.

The guarantee period begins at the date of the final Freedom Won invoice, which shall include reference to the serial number of the battery as depicted on the tamper seal.

A warranty claim for an eTower must be accompanied by a proof of purchase that includes the following information:

- Seller details (name, address, contact information of the distributor or installer)
- Buyer details (name, address, contact information of owner or installer)
- Address of installation site
- Date of purchase
- eTower serial number that matches that of the subject battery of the claim

The absence of such proof of purchase including serial number will invalidate a warranty claim.

eTower batteries that are outside of the warranty period will still receive support from Freedom Won for up to 15 years after the date of initial purchase from Freedom Won provided that replacement parts are still available. Should parts not be available a trade in for a new Freedom Won battery may be considered.