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Freedom LiTE Battery Guarantee

Manufacturer Details:

Company Name:

Freedom Won (Pty) Ltd

Factory Address:

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Modderfontein
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INTRODUCTION

The range of Freedom LiTE lithium iron phosphate batteries is supported by an extensive product guarantee, which is backed by Freedom Won (Pty) Ltd, registered in the Republic of South Africa.

This warranty covers the following battery ranges:

- Freedom Won LiTE Home (5kWh to 30kWh)
 - Freedom Won LiTE Home 5/4
 - Freedom Won LiTE Home 10/8
 - Freedom Won LiTE Home 15/12
 - Freedom Won LiTE Home 20/16
 - Freedom Won LiTE Home 30/24
- Freedom Won LiTE Business 52V (40kWh to 80kWh)
 - Freedom Won LiTE Business 40/32 52V
 - Freedom Won LiTE Business 60/48 52V
 - Freedom Won LiTE Business 80/64 52V
- Freedom Won LiTE Business HV (40kWh to 80kWh)
 - Freedom Won LiTE Business 40/32HV
 - Freedom Won LiTE Business 60/48HV
 - Freedom Won LiTE Business 80/64HV

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- Freedom Won LiTE Commercial (100kWh to 700kWh)
 - Freedom Won LiTE Commercial 100/80HV
 - Freedom Won LiTE Commercial 200/160HV
 - Freedom Won LiTE Commercial 300/240HV and HV+
 - Freedom Won LiTE Commercial 400/320HV and HV+
 - Freedom Won LiTE Commercial 500/400HV and HV+
 - Freedom Won LiTE Commercial 700HV+
- Freedom Won LiTE Industrial (800kWh)
 - Freedom Won LiTE Industrial 800/640HV+
- Freedom Won LiTE Marine (5kWh to 30kWh)
 - Freedom Won LiTE Marine 5/4 13V, 26V and 52V
 - Freedom Won LiTE Marine 10/8 13V, 26V and 52V
 - Freedom Won LiTE Marine 20/16 13V, 26V and 52V
 - Freedom Won LiTE Marine 30/24 13V, 26V and 52V

Two performance warranty variations may apply to the LiTE range depending on the operational duty and/or environmental conditions. The STANDARD PERFORMANCE WARRANTY applies for batteries operated closer to the ideal conditions. The ALTERANTE PERFORMANCE WARRANTY applies to batteries operated under harsh duty and environmental conditions. The performance of the battery in this context refers to the number of cycles the battery offers, linked to the battery storage capacity remaining.

The GENERAL WARRANTY covers aspects that do not relate to the conditions of operation or battery performance.

STANDARD PERFORMANCE WARRANTY

The STANDARD PERFORMANCE WARRANTY from Freedom Won guarantees that the Freedom LiTE battery will achieve at least a **10-year** service life or deliver an equivalent in kWh of at least **6 000 charge-discharge cycles**, whichever event should first occur.

To qualify for the STANDARD WARRANTY The Freedom Won LiTE must not be kept and/or operated in a location that regularly experiences extended periods of ambient temperatures above 25 degrees Celsius or below zero degrees Celsius. The extreme battery internal operating range applicable to this warranty is -20 to +40 degrees Celsius. In terms of the warranty the battery may not be charged below 0°C, although discharge is allowed down to -20°C. The following temperature scenarios will cause the STANDARD WARRANTY to be voided:

- Internal battery temperatures below -20°C,
- Internal battery temperatures above 40°C,
- Internal battery temperatures experienced for more than **two hours per day on average** in the 10-year warranty period in the temperature **region 25-30°C**,
- Internal battery temperatures experienced for more than **30 minutes per day on average** in the 10-year warranty period in the temperature **region 30-35°C**,
- Internal battery temperatures experienced for more than **1 minute per day on average** in the 10-year warranty period in the temperature **region 35-40°C**,

The STANDARD WARRANTY requires that the LiTE is not operated above 0.5C in discharge, and 0.25C in charge. The designer must ensure that the system setup will comply with these limitations to maintain validity of the STANDARD WARRANTY. Refer to LiTE Installation Manual for further information.

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Should any of the above parameters be exceeded the warranty may be transferred to the ALTERNATE PERFORMANCE WARRANTY should the battery conditions comply with those of the ALTERNATE PERFORMANCE WARRANTY.

The battery room temperature must be maintained at sufficiently low temperature to ensure that the internal temperature of the battery remains within the specified limits and durations. This may require room temperatures anywhere between 16°C and 25°C, depending on the duty of the battery. A hard-working battery may require a room temperature at the lower end of this range. In hot environments (with ambient temperatures regularly exceeding 25°C) the battery room **must** be fitted with air conditioning to maintain a room temperature in the required range and in order to qualify for the STANDARD PERFORMANCE WARRANTY.

Note: Above temperature restrictions relate to battery longevity and do not pertain to safety concerns. The battery is designed to operate safely up to 60°C.

ALTERNATE PERFORMANCE WARRANTY

The ALTERNATE PERFORMANCE WARRANTY from Freedom Won guarantees that the Freedom LiTE battery will achieve at least a **10-year** service life or deliver an equivalent in kWh of at least **4 000 charge-discharge cycles**, whichever event should first occur.

To qualify for the ALTERNATE PERFORMANCE WARRANTY The Freedom Won LiTE must not be kept and/or operated in a location that regularly experiences extended periods of ambient temperatures above 35 degrees Celsius or below zero degrees Celsius. The extreme battery internal operating range is -20 to +60 degrees Celsius. In terms of the warranty the battery may not be charged below 0°C, although discharge is allowed down to -20°C. The following temperature scenarios will void the STANDARD WARRANTY:

- Internal battery temperatures below -20°C
- Internal battery temperatures above 60°C
- Internal battery temperatures experienced for more than **six hours per day on average** in the 10-year warranty period in the temperature region 30-35°C
- Internal battery temperatures experienced for more than **one hour per day on average** in the 10-year warranty period in the temperature region 35-45°C
- Internal battery temperatures experienced for more than **10 minutes per day on average** in the 10-year warranty period in the temperature region 45-60°C

Should any of the above parameters be exceeded the performance warranty on the battery will become void.

The battery room temperature must be maintained at sufficiently low temperature to ensure that the internal temperature of the battery remains within the specified limits and durations. This may require room temperatures anywhere between 16°C and 25°C, depending on the duty of the battery. A hard-working battery may require a room temperature at the lower end of this range. In hot environments (with ambient temperatures regularly exceeding 35°C) the battery room **must** be fitted with air conditioning to maintain a room temperature in the required range to maintain the ALTERNATE PERFORMANCE WARRANTY conditions.

Note: Above temperature restrictions relate to battery longevity and do not pertain to safety concerns. The battery is designed to operate safely up to 60°C.

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PERFORMANCE WARRANTY – GENERAL CONDITIONS

Under the applicable performance warranty, the battery is defined as satisfactorily achieving the 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 shall be done at a current equal to or less than 10% of the Ah rating, or 0.1C, i.e.

- Amperes during discharge test = $0.10 \times \text{Freedom LiTE Ah rating}$

Example for Freedom LiTE Home 10/8

- Amperes during discharge test = $0.10 \times 200 = 20 \text{ Amps}$

The integrated battery management system (BMS) calculates and records the pro rata 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 20% SoC – which is equivalent to 80% Depth of Discharge (DoD) – followed by a charge again to 100% SoC. Discharge deeper than 80% DoD and less than 80% DoD is also counted into the total number of cycles on a pro rata basis. The 80% DoD discharge and recharge warranty cycle is based on the observed capacity of the battery throughout the battery's warranty life.

Each Freedom LiTE battery is preconfigured to prevent ordinary discharge below 90% DoD. 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. It is the responsibility of the installer or designer to ensure that the battery and solar capacities are adequate to achieve an **average** daily DoD of 80% or less, or to ensure that the inverter reverts to grid consumption at or above 80% DoD (for grid connected systems). The additional margin (from 80% to 90% DoD) is only intended to be used for abnormal circumstances such as grid outages for grid connected systems and for cloudy weather or above expected demand for off grid systems.

The performance warranties apply to batteries operating in a daily cycling scenario, where on average the battery runs through at least half of one warranty cycle per day and at most two warranty cycles per day.

GENERAL TERMS AND CONDITIONS

The LiTE must be installed indoors away from direct sunlight, precipitation, extreme moisture, and sea spray. Failure relating to water/moisture ingress or corrosion resulting from the presence of environmental corrosion agents is not covered by the warranty.

Should a LiTE be found unable to produce 60% or more of its 'as new capacity' in kWh prior to the 10-year service life, or having achieved the cycles applicable to the applicable valid warranty, Freedom Won undertakes to service the battery or to replace with a similar battery or to augment with an additional similar battery to ensure that the battery or batteries thereafter again meets this performance objective.

The capacity of the battery will be confirmed using kWh readings taken from the BMS, which may be corroborated by any suitable DC meter. The discharge test shall be conducted at 0.1C from 100% SoC.

The LiTE is fitted with a high-performance DC breaker. This device has an operational cycle life limit that is reduced by high inrush currents into some types of connected battery inverters and must not be re-closed repeatedly if the breaker has been tripping because of an internal or external problem. The breaker should not be re-closed after a trip without first contacting Freedom Won or an accredited representative for troubleshooting assistance. The DC Bus must be pre-charged before switching on the breaker (see operation

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and installation manual). Breaker failure relating to neglecting to pre-charge the DC bus is not covered by this warranty.

Damage relating to a lightning strike, surges, or other external causes is not covered by the warranty.

Freedom Won or one of its designated partners will perform necessary servicing on site, or alternatively (at Freedom Won's discretion) require shipping of the battery to Freedom Won or an accredited service centre. If a Freedom Won or partner technician is required to travel to a site to perform maintenance related to a warranty claim, commercial or standard travel costs will be covered by the warranty. Non-commercial travel (air charter etc.) and special fees (to enter parks etc.) are not covered by Freedom Won. Should Freedom Won, in relation to a warranty claim, request a LiTE to be transported to Freedom Won or a service centre, the cost of the preparation for transport, transport to and from the service centre, and re-installation, is not covered by this warranty.

A report on a suspected underperforming battery must be received by Freedom Won before the warranty period has elapsed or the cycles are exceeded. Freedom Won will require the owner or installer to adequately demonstrate the lack of performance or alternatively to facilitate remote internet access for Freedom Won to the battery in order to run the performance test.

Every Freedom LiTE is fitted with a tamper seal on the back cover. If this seal is damaged or compromised in any way without authorization from Freedom Won, or there is other evidence of tampering or abuse the guarantee becomes void.

Apart from the lithium cells themselves, the 10-year guarantee extends to the proper operation of the remainder of the devices in or on the LiTE provided that it has been operated strictly within the parameters described in the specification sheet and installation manual.

The exterior paint coating on the LiTE 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 LiTE was installed and commissioned by a suitably qualified installer that has been approved by Freedom Won or one of Freedom Won's channel partners (distributors). Should the LiTE need to be relocated this must also be done by an approved installer. Visit the Freedom Won website address applicable to your region for contact details – either to request installer suggestions or to verify an installer you already know. This can be achieved directly with Freedom Won, or with your preferred Distributor.

The warranty is also only valid if the LiTE and all associated charges, such as delivery costs, is fully paid for by the installer or, if necessary, directly by the owner, within 60 days of the final amount becoming due. Freedom Won reserves the right to refuse warranty support on a battery that has not been fully paid for i.e. in the case of outstanding payments to the installer or to Freedom Won.

The guarantee period begins at the date of the final sale invoice, which shall include reference to the serial number of the battery as depicted on the nameplate label.

LiTE batteries that are outside of the warranty period will still receive support from Freedom Won for 15 years after the date of initial purchase from Freedom Won.

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Note specifically pertaining to LiTE products sold in Australia:

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 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.

Warranty claims for LiTE products should be addressed as follows:

Warranty claims pertaining to products sold in Africa, Malaysia, the Philippines, Europe and the United Kingdom:

Attention: Service Manager

Email: support@freedomwon.co.za

Physical Address:

Freedom Won (Pty) Ltd
19 Hereford Rd
Longmeadow Business Estate
Modderfontein
Edenvale
1609
Gauteng Province
South Africa

www.freedomwon.co.za

Warranty claims pertaining to products sold in Australia, New Zealand and all other countries of the Oceania region:

Attention: Hennie Coleman

Email: sales@freedomwonaustralia.com

Contact Number: +61 447 304 101

Physical Address:

Stalwart Energy Australia Pty Ltd (ABN 17 132 808 694)
U220, 17 Partridge Ave
Castle Hill
2154, NSW
www.freedomwonaustralia.com