

This warranty document is applicable to the products included in the following HV product ranges:

- iESS-cab Air-cooled Series
- iESS-cab Liquid-cooled Series
- iESS-rack Series
- iESS-Con Series

## 1. APPLICABILITY

- 1.1. The only warranty that will be applicable to the products mentioned here (above) will be the warranty set forth in this document. All other warranties, including but not limited to common law warranties against latent and patent defects, are specifically excluded.
- 1.2. The warranty provided in terms hereof shall only be deemed valid on condition that the product owner enters into a service level agreement (hereinafter "SLA") either with BlueNova or with a BlueNova -accredited electrical installer to ensure correct installation, maintenance and availability of technical support for each qualifying product to be covered by the warranty. In such cases, the warranty shall remain valid for each such product either for the period specified in the product-applicable section of this document, or for the duration specified for such purposes (if any) in the accompanying SLA, whichever expires first.
- 1.3. The warranty contained herein is further subject to the:
  - 1.3.1 provisions (specified in this section 1 of this document);
  - 1.3.2 product registration requirements (specified in section 2 of this document);
  - 1.3.4 exclusions (specified in section 5 of this document); and
  - 1.3.4 service terms (specified in section 7 of this document).
- 1.4 This warranty shall be enforceable only by the original owner of the system (as defined in Exhibit 1) provided that the owner had purchased the relevant product(s) included in the system in new (unused) condition from a BlueNova-accredited supplier, and that such supplier has registered the product(s) for warranty coverage (as described in section 2 of this document) within 30 days from the date of purchase.
- 1.5 Should the Customer fail to comply with any of the requirements listed in paragraph 1.4, the warranty shall not be valid, or of any force or effect.

## 2. PRODUCT REGISTRATION

- 2.1 The warranty provided in terms hereof shall be valid only for products mentioned herein that have been installed by a qualified BlueNova-approved electrical installer and subsequently registered by the same installer in the manner prescribed below within 30 days from the date of purchase of each such product.

The information required to register qualifying products for warranty coverage may be submitted electronically by completing the online [Product Registration Form](#) published on BlueNova's website.

The information required to complete the above-mentioned form includes but is not limited to:

- 2.1.1 battery-specific information (i.e. model name, serial number, purchase date, etc.);
- 2.1.2 information on the peripheral hardware installed with each battery in the same system (i.e. inverters, chargers, MPPT's, generators and solar panels);
- 2.1.3 all monitoring hardware, modules and associated peripherals; and
- 2.1.4 Site Acceptance Test (hereinafter "SAT") documents.

- 2.2 It is the duty of the owner to obtain confirmation from the installer that all products to be covered by this warranty have been duly registered.
- 2.3 No warranty claim will be processed unless the Product Registration Form has been completed and all required details provided.

### **3. LIMITED PRODUCT WARRANTY – Applicable to iESS-cab Air-cooled Series & iESS-rack Air-cooled Series**

- 3.1 In respect of the Lithium Iron Phosphate (LiFeO<sub>4</sub>) cells (hereinafter “the Cells”), the duration of the warranty shall be 10 years or 6000 cycles (whichever comes first), commencing on the date of completion of SAT, or within 30 days after Factory Acceptance Test (“FAT”), whichever shall occur first.
- 3.2 For the purposes of paragraph 3.1 a single cycle is defined as a discharge to maximum 80% depth of discharge of the SOH (state of health) % x battery’s capacity @C2 (capacity at a 2-hour discharge rate), at ambient 25 degrees Celsius followed by a recharge to 100% SOC (state-of-charge).
- 3.3 For the duration of the warranty term as set out in paragraph 3.1 BlueNova warrants, subject to the terms and conditions herein contained that:
  - 3.3.1. the Cells shall be free from defects in materials and workmanship; and
  - 3.3.2. the Cells will not experience a loss in capacity of more than 3% per annum under the following circumstances:
    - 3.3.2.1 Cycling at 1.64 cycle per day, 7 days per week, 52 weeks per year:

Provided that the Cells are cycled at 1.64 cycles per day, 80% DoD, 7 days per week, 52 weeks per year, the Cells will exhibit less than 3% capacity loss per year, resulting in <30% capacity loss over 10 years. The Cells will not experience a loss in capacity of more than 3% per annum. This equates to 6000 cycles in 10 years.
    - 3.3.2.2 Cycling at 2.3 cycles per day, 5 days per week, 52 weeks per year:

Provided that the Cells are cycled at 2.3 cycles per day, 80% DoD, 5 days per week, 52 weeks per year, the Cells will exhibit less than 3% capacity loss per year, resulting in <30% capacity loss over 10 years. The Cells will not experience a loss in capacity of more than 3% per annum. This equates to 6000cycles in 10 years.
- 3.4 In the circumstances provided under paragraph 3.1, BlueNova shall, in the event that it is economically viable in the opinion of BlueNova, either repair or replace the Cells at BlueNova’s discretion.

### **4. LIMITED PRODUCT WARRANTY – Applicable to iESS-Cab Liquid Cooled Series**

- 4.1 In respect of the Lithium Iron Phosphate (LiFeO<sub>4</sub>) cells (hereinafter “the Cells”), the duration of the warranty shall be 10 years or 6000 cycles (whichever comes first), commencing on the date of completion of SAT, or within 30 days after Factory Acceptance Test (“FAT”), whichever shall occur first.
- 4.2 For the purposes of paragraph 4.1 a single cycle is defined as a discharge to maximum 80% depth of discharge of the SOH (state of health) % x battery’s capacity @C2 (capacity at a 2 hour discharge rate), at ambient 25 degrees Celsius followed by a recharge to 100% state-of-charge. For the duration of the warranty term as set out in paragraph 4.1 BlueNova warrants, subject to the terms and conditions herein contained, that:
  - 4.2.1 the Cells shall be free from defects in materials and workmanship; and

4.2.2 the Cells will not experience a loss in capacity of more than 3.5% per annum under the following circumstances:

4.2.2.1 Cycling at 1.64 cycle per day, 7 days per week, 52 weeks per year:

Provided that the Cells are cycled at 1.64 cycles per day, 80% DoD, 7 days per week, 52 weeks per year, the Cells will exhibit less than 3.5% capacity loss per year, resulting in <35% capacity loss over 10 years. The Cells will not experience a loss in capacity of more than 3.5% per annum. This equates to 6000 cycles in 10 years.

4.2.2.2 Cycling at 2.3 cycles per day, 5 days per week, 52 weeks per year:

Provided that the Cells are cycled at 2.3 cycles per day, 80% DoD, 5 days per week, 52 weeks per year, the Cells will exhibit less than 3.5% capacity loss per year, resulting in <35% capacity loss over 10 years. The Cells will not experience a loss in capacity of more than 3.5% per annum. This equates to 6000 cycles in 10 years.

4.3 In the circumstances provided under paragraph 5.3, BlueNova shall, in the event that it is economically viable in the opinion of BlueNova, either repair or replace the Cells in BlueNova's discretion.

## 5. LIMITED PRODUCT WARRANTY – Applicable to iESS-Con Series

5.1 In respect of the Lithium Iron Phosphate (LiFeO<sub>4</sub>) cells (hereinafter "the Cells"), the duration of the warranty shall be 10 years or 6000 cycles (whichever comes first), commencing on the date of completion of SAT, or within 30 days after Factory Acceptance Test ("FAT"), whichever shall occur first.

5.2 For purposes of paragraph 5.1 a single cycle is defined as a discharge to maximum 80% depth of discharge of the SOH (state of health) % x battery's capacity @C2 (capacity at a 2-hour discharge rate), at ambient 25 degrees Celsius followed by a recharge to 100% state-of-charge.

5.3 For the duration of the warranty term as set out in paragraph 5.1 BlueNova warrants, subject to the terms and conditions herein contained that:

5.3.1 the Cells shall be free from defects in materials and workmanship; and

5.3.2 the Cells will not experience a loss in capacity of more than 3.5% per annum under the following circumstances:

5.3.2.1 Cycling at 1.64 cycle per day, 7 days per week, 52 weeks per year:

Provided that the Cells are cycled at 1.64 cycles per day, 80% DoD, 7 days per week, 52 weeks per year, the Cells will exhibit less than 3.5% capacity loss per year, resulting in <35% capacity loss over 10 years. The Cells will not experience a loss in capacity of more than 3.5% per annum. This equates to 6000 cycles in 10 years.

5.3.2.2 Cycling at 2.3 cycles per day, 5 days per week, 52 weeks per year:

Provided that the Cells are cycled at 2.3 cycles per day, 80% DoD, 5 days per week, 52 weeks per year, the Cells will exhibit less than 3.5% capacity loss per year, resulting in <35% capacity loss over 10 years. The Cells will not experience a loss in capacity of more than 35% per annum. This equates to 6000cycles in 10 years.

5.4 In the circumstances provided under paragraph 6.3, BlueNova shall, in the event that it is economically viable in the opinion of BlueNova, either repair or replace the Cells in BlueNova's discretion.

## 6. WARRANTY ON THE MASTER BOARD, CELL BOARDS & OTHER ELECTRONIC COMPONENTS

- 6.1 For the master board, cell boards & other supporting electronic components (internally & externally) integrated in any of the products listed in paragraph 3 - 6 the duration of the warranty shall be 03 years commencing on sign-off of the associated Product FAT.
- 6.2 For the duration of the warranty term as set out in this paragraph 6.1, BlueNova warrants that such components shall be free from defects in materials and workmanship, subject to the terms and conditions contained herein.
- 6.3 In the circumstances provided under paragraph 6.2, BlueNova shall, in the event that it is economically viable in the opinion of BlueNova either repair or replace the relevant component.

## 7. WARRANTY ON THE BATTERY INVERTER & ALL OTHER COMPONENTS WITHIN THE 6m/12m CONTAINER

- 7.1 All 3rd party equipment in the container will be subject to the warranty of the Original Equipment Manufacturer ("OEM") which is made available by BlueNova on a pass-through basis only. BlueNova will assist the Customer to notify warranty claims to the OEM, for the 1st year after SAT, or 30 days after FAT (whichever shall occur first). No spare parts will be held by BlueNova, unless detailed in a separate SLA. Extended warranties on key equipment may upon specific request be negotiated subject to the OEM's terms and conditions.

## 8. WARRANTY EXCLUSIONS

- 8.1 All warranties outlined in this document shall not apply if the battery or any component thereof:
  - 8.1.1 has not been recharged to 100% SOC at least once per week;
  - 8.1.2 has been repaired or serviced by any person other than a BlueNova registered installer;
  - 8.1.3 is used in an application where requirements demand a battery of a different size/ampere hour capacity;
  - 8.1.4 is fitted below the appropriate ampere hour capacity (at the 2-hour discharge rate) of the system that it is intended for;
  - 8.1.5 is damaged due to negligence, improper use/application, abuse, excessive/abnormal wear and tear;
  - 8.1.6 is fitted close to a heat source that raises the temperature on a constant basis above the levels prescribed by the manufacturer;
  - 8.1.7 is recharged while the ambient temperature of the immediate environment around the battery falls outside the following temperature range: 0°C ~ 45°C;
  - 8.1.8 is discharged while the ambient temperature of the immediate environment around the battery falls outside the following temperature range: -20°C ~ 45°C or is damaged due to environmental conditions;
  - 8.1.9 is damaged due to environmental conditions or any other damage arising from accidents, civil commotion, political unrest or rioting;
  - 8.1.10 is used contrary to the OEM specifications.
- 8.2 In addition to the circumstances set out in paragraph 8.1, the warranty does not apply or extend to any BlueNova batteries or components that have been subjected to the following adverse conditions:
  - 8.2.1 shipping damage, loose wiring (external), rusted or corroded hardware;
  - 8.2.2 abuse, neglect or physical damage (accidental or otherwise);
  - 8.2.3 discharged beyond the recommended daily SOC (depth of discharge) as outlined in BlueNova literature;

- 8.2.4 exposed to excessive hot or cold temperatures, or otherwise damaged from excessive heat;
- 8.2.5 installed under operating conditions or with applications above the rated capacity of the product;
- 8.2.6 improperly sized or over-/undersized, charging systems;
- 8.2.7 overcharged or lack of periodic equalisation charges as required;
- 8.2.8 use of the battery in an uncharged condition (i.e. continuous use while excessively discharged);
- 8.2.9 damaged by peripheral electrical equipment;
- 8.2.10 batteries that have had serial and/or date codes destroyed, altered or tampered with where proof of purchase is not available;
- 8.2.11 improperly stored (battery units not in use or in storage must be kept at all times at a minimum 40% SOC and maximum of 50% SOC);
- 8.2.12 damaged by breakage, freezing, explosion, fire, wreckage, charging or installed in reverse polarity, melted and/or broken terminals;
- 8.2.13 not used, operated and/or maintained in accordance with instructions and precautions outlined in the BlueNova Product User Manual and accompanying technical resources;
- 8.2.14 installed with an inverter / charger that has not been approved for use by BlueNova; or
- 8.2.15 deviation from the terms and conditions agreed to in the accompanying SLA.

## 9. WARRANTY SERVICE

- 9.1 To address any battery issues related to any components covered by this warranty, contact the distributor, dealer or installer from which the battery was purchased to verify (establish) the battery's condition / defect.  
  
Alternatively, contact BlueNova Technical Support on +27(0)21 205 2000 or [support@bluenova.co.za](mailto:support@bluenova.co.za) directly for instruction on how to proceed with a warranty claim and/or assistance with troubleshooting.
- 9.2 The owner shall be required to fill in and submit the [Warranty Claim Form](#) available on <https://www.bluenova.co.za/> or via the link below for each product in question, accompanied by a copy of the proof of purchase showing the date of purchase and/or installation date.
- 9.3 Any repairs, or replacement under the warranty shall not extend the original term of the warranty as provided in terms hereof. The warranty shall at all times be valid only for the original warranty period.
- 9.4 Batteries that do not meet the requirements set out in this document to qualify for a claim under the warranty will be returned to the Customer at the Customer's expense and a testing fee may be charged.
- 9.5 Any costs for transportation, taxes, installation and/or removal, recharging, system tests, loss of time or use of, equipment, service calls, or rentals are specifically excluded and BlueNova shall not have any liability in respect thereof.

**EXHIBIT 1 (Air-cooled Batteries)  
ENERGY RETENTION CALCULATION**

**1 YEARS 1 THROUGH 10 FOLLOWING DATE OF SALE**

1.1 For purposes of this Exhibit 1:

- 1.1.1 Actual Energy Retention Percentage means the energy discharged by the System as a whole (as measured at the AC output of the inverter(s)) at Standard Test Conditions, expressed as a percentage of the Nameplate Energy Capacity;
- 1.1.2 Nameplate Energy Capacity means the installed kWh energy capacity certified on the FAT (Factory Acceptance Test);
- 1.1.3 Rebate means to the extent applicable, the Rebate payable to the Customer, calculated in accordance with Exhibit 2;
- 1.1.4 Standard Test Conditions - when measuring the Actual Energy Retention Percentage, (i) the System shall be fully charged to 100% state of charge and then fully and continuously discharge at Nominal Power (as defined in the product specifications) to 0% state of energy, (ii) the ambient temperature at the System location and the initial temperature of all battery modules are 25°C±5°C, and (iii) the initial temperature of all battery modules when the system starts both charging and discharging shall be 25°C±5°C; and
- 1.1.5 System means iESS, as specified in Annexure A.

1.2 BlueNova warrants that for the warranty year specified in the table below and as long as 6000 cycles are not exceeded, the Actual Energy Retention Percentage of the System shall be equal to or greater than the applicable “Minimum Energy Retention Percentage” for the relevant year or accumulated cycles :

Period (Warranty years following date of sale)	Accumulated Cycles	Minimum Energy Retention Percentage (2 hours systems)
1	600	97.00%
2	1200	94.00%
3	1800	91.00%
4	2400	88.00%
5	3000	85.00%
6	3600	82.00%
7	4200	79.00%
8	4800	76.00%
9	5400	73.00%
10	6000	70.00%

- 1.3 In the event that the Actual Energy Retention Percentage for a particular year is less than the Minimum Energy Retention Percentage set out above, BlueNova shall have the option to either remedy the Minimum Energy Retention Percentage capacity, or make payment of a Rebate to the Customer as calculated in accordance with illustrated example in Exhibit 2.
- 1.4 In the event that the Actual Energy Retention Percentage after 6000 accumulated cycles is less than 80%, the Customer is entitled to the payment of a Rebate as calculated in accordance with illustrated example in Exhibit 2.

**EXHIBIT 2 – CALCULATION OF REBATE**

To the extent applicable, the rebate payable in respect of a warranty claim shall be calculated on an annual basis as follows:

$$[ \text{MERP} ( \text{Warranty Year } n ) - \text{AERP} ( \text{Warranty Year } n ) ] \times 365 [ \sum_n \text{MERP} ( \text{Warranty Year } i ) \times 365 \text{ days} ] \times \text{System Price}$$

where:

- n = Number of warranty years elapsed since the date of sale, rounded up to nearest warranty year.
- MERP = For any warranty year, the minimum energy retention percentage, as defined in Exhibit 1, for that specific warranty year.
- AERP = For any warranty year, the actual energy retention percentage, as defined in Exhibit 1, for that specific warranty year.

**ANNEXURE A – FACTORY ACCEPTANCE TEST (FAT)**

(The FAT will be used to indicate the actual capacity of the battery and also provide an indication of all the components included in the container, where applicable)