



**NP LEAD-CARBON SOLAR BATTERY**  
- WARRANTY STATEMENT -

**YHI Power Pty Ltd** warrants Neuton Power Lead- Carbon range Solar Batteries to the original purchaser, if purchased from YHI POWER branches in Australia - against defects in materials and workmanship, in the correct applications, under the manufacturer’s prescribed conditions of use, maintenance and service, for the periods of time, from the date of goods delivery - as stated below in Warranty Conditions, and subject to the conditions contained herein. YHI Power provides different warranty periods for different battery types (2V/12V), as shown in the chart below:

Battery Type	Warranty Period
FCP-500/1000	5 years
NLC12-50	2+2 years
NLC12-100	2+2 years

**Conditions:**

- Battery will not be considered defective unless it fails to deliver 60% or more of its rated capacity during the warranty period.
- The battery DOD of each cycle should be controlled less or equal to 70%.

$$DOD = (I_{load} * T_{discharge}) / C_{discharge}$$

**C<sub>discharge</sub> = C<sub>rate</sub> \* K<sub>t</sub>d**, based on the discharge rate (as calculated based on the last record of load capacity and battery capacity)

K<sub>t</sub>d, the time discharge factor, is an adjustment factor used when the battery is not discharged in 10h mode. K<sub>t</sub>d is determined from the table below:

Discharge time	0.08	0.17	0.25	0.33	0.5	1
K <sub>t</sub> d	0.12	0.20	0.26	0.31	0.38	0.53

Discharge time	2	3	5	6	8	10
K <sub>t</sub> d	0.67	0.76	0.86	0.89	0.95	1.00

- For FCP and NLC series batteries, the battery should be installed horizontally to ensure longer service life.

4. Each battery must be the proper size, design, and capacity for its intended application at 25±5 degrees Centigrade.
5. Battery management parameters must be set according to YHI Power proposal. (See attached technical manual.)
6. Maximum DOD of FCP batteries is 70%, equalization charge must be done once per two weeks for maintenance.
7. Each battery must be fully charged after each discharging or periodic boost full charging. (See attached technical manual.)
8. Each battery must be charged, discharged, stored, and serviced in accordance with the manufacturer's written instructions. (See attached technical manual.)
9. The user agrees that the manufacturer's representative shall have access to equipment furnished hereunder for the purpose of inspection at reasonable hours and intervals.
10. The warranty period shall be adjusted based on actual operating conditions, such as temperature and frequency of discharge, as published by YHI Power. The warranty period will be reduced 50% for every 8 degrees centigrade increase in operating temperature above 25 degrees centigrade (the base temperature).
11. The limited warranty is rendered void if the battery becomes unserviceable due to fire, wreckage, freezing, neglect, abuse, any act of God, the use of battery additions, or if the battery has been serviced by some facility other than an authorized YHI Power branch.

#### **Warranty Claims:**

1. Warranty claim must be sent by the buyer to YHI Power within three (3) business days of the failure.
2. Any storage and maintenance of the battery shall be in accordance with manufacturer's published operation manual. (See attached technical manual.)
3. For warranty claims, YHI Power will only provide new replacement batteries on an ex-works basis.
4. All claims shall be dealt with between YHI Power and the buyer directly. YHI Power would support buyer for investigation if needed.
5. YHI Power will claim the battery during the warranty period on the basis of faulty block(s) but not as whole string(s) according to <IEEE Std 1188-2005 IEEE recommended practice for maintenance, testing, and replacement of Valve-Regulated Lead-Acid (VRLA) batteries for stationary applications>.
6. A battery backup performance test is to be used to determine if a battery is faulty. Any other method must be approved by YHI Power in advance.
7. The buyer must provide sufficient battery performance information to YHI Power for the claim. YHI Power will reclaim faulty battery or batteries if the complaint is verified.
8. YHI Power is not responsible for batteries that fail due to improper charging or installation; damage caused by excessive heat, wreckage, freezing; damage caused by abuse or neglect; or any act of God.
9. YHI Power is not responsible for batteries that fail due to mechanical or electrical defects which restrict function and safety, such as leaks, etc., within the warranty period.
10. YHI Power will also take measurements of actual environment and power conditions for reference if needed.
11. For critical warranty issues, YHI Power reserves the right to investigate battery operation conditions and draw conclusions. The buyer must provide site access, accompanied by an Australia based engineer and local transportation for YHI Power engineers.

12. YHI Power reserves the right to reclaim faulty batteries. The buyer must send all faulty batteries to YHI Power warehouse.
13. If upon initial inspection and installation, the battery fails to meet the published performance rating per the latest YHI Power catalog data at the time of shipment or the user identifies any defects in material or workmanship that would impair the battery's service life or performance, the user will be instructed to hold the battery pending inspection by a YHI Power representative. YHI Power will verify and either repair or replace any defective battery by YHI Power decision.
14. If the seller determines that a product for which warranty service is claimed is not defective or nonconforming, the buyer will cover all costs of handling, inspecting, testing, disposal, and transportation, and, if applicable, traveling and related expenses.
15. Any goods returned to YHI must be at customer's freight expense.
16. Warranty is limited to repair or replacement of cells only and excludes labor, consequential and incidental damages to other equipment.

If the distributor or original user makes a claim, a claim report must be provided to YHI Power to verify the results. The report should contain all pertinent information required for YHI Power to evaluate the claim. Within three (3) business days of reception of the claim report, YHI Power will determine which remedy, or replacement actions are appropriate and contact the distributor or original user. YHI Power has the right to reclaim the product for examination.

#### **Appendix: Warranty Claim Form**



**YHI POWER PTY LTD**  
Battery Power You Can Rely On

#### **YHI POWER PTY LTD**

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**ABN 59 063 419 849**

TEL 1300 722 028  
FAX 1300 722 328

[www.yhipower.com.au](http://www.yhipower.com.au)

## Neutron Power Solar Battery Warranty Claim Form

Claim Basic Information				
Customer Name		Contract No.		Invoice No. with Supplier
Operation Field		Site Address		Battery Type
Claim Problem		Claim Qty.(Pcs)		Claim Batt. Serial No
Installation Date		Claim Date		Under Warranty?

Battery Operation Condition				
Operation Area	<input type="checkbox"/> Outdoor <input type="checkbox"/> Operation Temp. (    °C)	Power Mode	<input type="checkbox"/> Battery+ Grid <input type="checkbox"/> Battery+ Solar <input type="checkbox"/> Battery+Grid+Solar <input type="checkbox"/> Battery+ Grid+DG <input type="checkbox"/> others (                    )	
	<input type="checkbox"/> Indoor Enclosure Room <input type="checkbox"/> Indoor Ventilated Room <input type="checkbox"/> Indoor AC room <input type="checkbox"/> Operation Temp. (    °C)	Solar Panel	<input type="checkbox"/> Total Output Power (    KWp) <input type="checkbox"/> Maximum Output Current (    A) <input type="checkbox"/> Maximum Output Volt. (    V)	DG start Mode and condition <input type="checkbox"/> Manual <input type="checkbox"/> Auto (Start under the condition of (                    ))
Battery installation	<input type="checkbox"/> Only one string(    Pcs) <input type="checkbox"/> (    ) strings parallel connection, (    Pcs)	Grid Failure Frequency	<input type="checkbox"/> (    ) times per day <input type="checkbox"/> (    ) hrs per time	Load <input type="checkbox"/> Load Name (                    ) <input type="checkbox"/> Load Power (           A) <input type="checkbox"/> Load Working Duration (                    )

Charge controller Details				
Controller Brand & Type		Battery Protection (SOC/ LVD)	Remaining Capacity < (    %)	Discharge Voltage < (    V)
Charge Voltage & Current	<input type="checkbox"/> Float Charge Voltage(    V) <input type="checkbox"/> Boost Charge Voltage / Duration(    V) / (    hrs)	<input type="checkbox"/> Maximum / Average Charge Current (    A) / (    A) <input type="checkbox"/> If there is difference between the display voltage value and measurment voltage value <input type="checkbox"/> Yes (                    ) <input type="checkbox"/> No		
Discharge Voltage& Current	<input type="checkbox"/> For one string the real time battery discharge current (    A) <input type="checkbox"/> For parrell connection:Str1:(    A)、 Str2:(    A)、 Str3:(    A)	<input type="checkbox"/> If there is difference between the display value and measurment value <input type="checkbox"/> Yes (                    ) <input type="checkbox"/> No		
Battery & Accessories Conditon	<input type="checkbox"/> Battery container crack <input type="checkbox"/> connection cable length(    )m, connection cable sectional area(    ) Sq.mm	<input type="checkbox"/> Battery buldge <input type="checkbox"/> Battery loose connection cable & bolt	<input type="checkbox"/> Battery leakage <input type="checkbox"/> Battery heating (Position:                    )	

DischargeTest Datasheet							
Battery Batch No.	Voltage before discharge(v)	Voltage at the beginning of the discharge	Voltage after discharge (    ) minutes	Voltage after discharge (    ) minutes	Voltage after discharge (    ) minutes	Voltage after discharge (    ) minutes	Dischage end voltage(V)

Customer Service & Technical Engineer's comment or initial diagnostic results of the claim before sharing with YHI POWER.

Remark: 1. Once receive the claims from end user, Customer complete this form and submit it to YHI POWER for claim analysis and solution. 2. For low back-up claim, the discharge test report must be provided, battery charger & controller settings details is also needed. 3. The proof of purchase such as the original invoice is needed.