

# AA Solar and SunPowerPlus

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## Our AA CHAMPION BATTERIES Limited Warranty

1. The batteries must be installed to a proper electrical standard for low voltage, high amperage service, and for the capacity of the battery, and in a location where the average temperature is less than 30 degrees C. The capacity of the batteries chosen must be appropriate for the service intended. I.E. Average discharge in normal usage: **20% average depth of discharge.**
2. The batteries must be charged in cyclic service with the following 3 step charging regimen: Bulk, Absorption and Float.
  - a. Bulk charge up to 2.48 VDC per cell (14.6 - 14.9 VDC 12 VDC system, 29.2 - 29.8 VDC 24 VDC system) **14.7 VDC RECOMMENDED for 12 VDC system and 29.4 RECOMMENDED for 24 VDC system ALL at 20 DEGREES C.**
  - b. **ABSORPTION** time, 1 hour for every 200 amp hour capacity used per cycle.
  - c. Float charge 2.28 VDC per cell (13.7 VDC 12 VDC system, 27.4 VDC 24 VDC system) **RECOMMENDED 13.7 VDC for a 12 VDC system, 27.4 VDC for a 24 VDC system, ALL at 20 DEGREES C.**
3. Batteries charged in standby service must be charged at 2.3 VDC per cell at 20 degrees C, and once a month charged at 2.42 VDC per cell at the C/20 rate for 5 hours.
4. The charger must have less than 3% AC ripple in all modes. Either switch-mode type or well filtered transformer rectifier type, voltage regulated.
5. Warranty for NP series 6 and 12 VDC batteries is 2 years without a battery monitor, or 5 years if installed with a shunt type battery monitor with disconnect relay (See Section 12), pro rata on 60 months. First year is full replacement if battery fails under warranty conditions and pro rata for a further 4 years based on 60 months and the recommended retail price at the time of warranty claim including GST.
6. Warranty for GM series 2 VDC cells is 6 years pro rata on 72 months. First 1 year full replacement if batteries fail under warranty conditions, and a further 5 years based on 72 months and the recommended trade price at the time of warranty claim including GST.
7. Full warranty only applies if used on true sine wave inverters. If used on modified sine wave or square wave type inverters the warranty is 2 years pro rata on 6 & 12 VDC batteries and 3 years pro rata on 2 VDC cell battery banks.
8. With the use of an inverter the battery size must be a minimum of 5 times the continuous Wattage of the inverter e.g. A 1000W inverter needs 5000Wh in battery. 5000Wh = 416Ah at 12V or 208Ah at 24V.
9. **If the Principle Charging source is PV (solar panels) their production must be enough to charge the batteries back fully on an average daily basis in summer and winter otherwise a limited warranty of 2 years prevails.**
10. All 12VDC and 6VDC batteries must be returned to AA Solar Ltd for warranty. 2 VDC cells must be returned to AA Solar Ltd for warranty unless prearranged with AA Solar Ltd.
11. No further or other warranties are implied or given and no liability is accepted for any consequential damages for any reason. The total liability or warranty claimed is limited to no more than the sum of the original amount paid for the battery or batteries only, and does not cover any cost of installation or removal what so ever.
12. System must be installed with a reliable shunt type battery monitor correctly calibrated with disconnect relay triggered by % Depth of Discharge, that gives accurate Charge/Discharge in amp/hours, and State of Charge and History for the batteries. The battery monitor must be programmed correctly and powered full time for the period of the warranty. If no monitor is installed the battery warranty is only two years for 6V and 12V batteries.
13. The use of Battery Temperature Sensors when the batteries are used in conjunction with solar Modules/solar regulator and/or inverter/charger units, is strongly recommended for more accurate battery charging.
14. Warranty is limited to original purchaser only and non transferrable.
15. All warranty claims must be accompanied with original invoice or a copy.
16. Warranty is limited to non-commercial applications. 90 days warranty only, for commercial applications.
17. There must not be more than 3 batteries connected in parallel.