FIREFLY CARBON FOAM VRLA BATTERY INTERNATIONAL WARRANTY POLICY & PREVENTIVE MAINTENANCE

This document constitutes the official, standard limited warranty policy and comprehensive operating guidelines for Firefly Carbon Foam Valve Regulated Lead Acid (VRLA) batteries.

1. Scope of Coverage & Product Eligibility

Firefly Energy warrants to the original end-user purchaser that Firefly Carbon Foam VRLA batteries are free from defects in material and workmanship, and against covered premature battery failure under normal, correctly designed, installed, charged, and operated standby and energy storage services as specified herein.

- **First End-User & Online Sale Qualification:** The warranty is valid only for claims arising out of the 'first end-user sale' by the Company, its authorized channel partners, certified OEMs, or batteries purchased directly from the Firefly Energy online store at shop.fireflyenergy.com (applicable for products delivered to qualifying territories, including the United States).
- **Cessation upon Transfer:** If the battery is transferred by way of sale, lease, rental, or any other means to any third party, the warranty shall cease and terminate immediately without notice.
- **Eligible Product Ranges:** This policy applies only to Firefly Carbon Foam VRLA batteries (comprising 12V, 2V, and 4V series).
- **Limit of Liability Scope:** The Company's liability is strictly limited to the technical repair, rectification, or replacement of the verified defective battery block(s) at its sole discretion.

2. Warranty Period and Approved Applications

The warranty is strictly bounded by both chronological age from sale and the date of manufacture. The standard warranty period and approved applications are defined below:

Battery Brand & Model	Warranty Period & Limit	Approved Standard Applications
Firefly Carbon Foam VRLA (12V, 2V, 4V Series)	36 Months (from commissioning or invoice) 39 Months (from manufacture date)	Standby UPS, Marine, Trucking, RVs, Grid-tied Inverters, and Pre-approved Stationary Storage

Warehouse / Transit Shelf Life: All lead-acid batteries self-discharge during transit and storage. Any inventory stored beyond 3 months from the bill of lading (B/L) date must receive a refreshing charge. Claims on batteries held in uncharged condition exceeding 6 months prior to commissioning are void.

3. Technical Specifications and Charging Guidelines

Achieving optimal operating lifetime requires strict adherence to Firefly's technical charging parameters. Deviation from these parameters voids the warranty.

3.1 Standard Charging Voltage Profiles (at 25°C)

- **Bulk Voltage Limit:** Bulk / Constant Current Charging at 2.35 Volts per cell (Vpc).
- **Absorption Voltage Limit:** Absorption / Constant Voltage Charging at 2.30 Volts per cell (Vpc).
- **Float Voltage Limit:** Float Charging Voltage at 2.25 Volts per cell (Vpc). Float voltage must be time limited.
- **Temperature Compensation:** A mandatory temperature compensation factor of 3 to 5 mVpc/°C must be active if the operating ambient temperature deviates from 25°C.
- **Ripple Allowed:** AC Ripple Voltage must be less than 2% RMS, with a regulation of ± 1%.

3.2 Critical Sizing and Interconnection Standards

- **Battery Sizing:** The battery bank must be correctly sized based on actual load requirements. Under-sizing forces rapid, deep cycling that accelerates degradation.
- **Charging Current Limits:** Charging current must be maintained between 10% and 25% of the rated capacity (C10 Ah). Sourcing <10% (0.1C) is insufficient and leads to undercharging.
- **Cable and Lug Sizing:** All interconnections must utilize proper cable sizing and high-quality lugging.
- **String Compatibility:** Batteries of different makes, capacities, ages, or technologies must never be mixed in the same series bank.
- **Parallel String Ceiling:** No more than four (4) parallel battery strings are recommended in any single system configuration.
- **Battery Monitoring System:** Use of BMS/balancing circuit is recommended when a string has more than 4 batteries in series.

4. Warranty Exclusions and Voiding Conditions

The warranty is strictly void and ceases to apply under any of the following exclusions:

- **Unauthorized Applications:** Operation in applications not explicitly approved, or outside published limits.
- **Environmental Abuse:** Storage outside recommended range (20°C to 30°C), exposure to direct sunlight, rain, moisture, or corrosive gases.
- **Mechanical Damage:** Physical damage, cracked containers, bent terminals, or loose connections.
- **Electrical Abuse:** Chronic undercharging, overcharging, continuous boost charging (>24 hrs), excessive AC ripple, or leaving battery discharged.
- **Tampering & Self-Service:** Unauthorized servicing or alteration of safety valves.
- **Serial Number Integrity:** Removal or defacement of battery serial numbers.
- **Incompatible Banks:** Mixing of old/new batteries or different capacities.
- **Commercial Rental:** Batteries rented, leased, or purchased from unauthorized grey-market distributors.

5. Claim Procedure, Verification, and Resolution Timelines

5.1 Administrative Verification & Simple Claim Procedure

- **Original Proof of Purchase:** The original untampered purchase invoice/bill must be produced.
- **Claim Initiation & RMA:** Customers must initiate a claim by emailing support@fireflyenergy.com with their order number, name, delivery address, and the specific reason for the request. Customers must wait to receive a Return Merchandise Authorization (RMA) number and packing instructions before shipping.
- **Shipping Timeline & Logistics:** The customer must ship the battery within 10 calendar days after receiving RMA approval, using a trackable, carrier-approved service. The RMA number must be included.
- **Unopened Return:** The battery must be returned unopened, fully intact (without any physical damage), complete with electrolyte, and freight paid.

5.2 Technical Verification and Capacity Testing

- **Right of Judgment:** The sole right to judge manufacturing defects lies exclusively with the Company.
- **Capacity Verification Protocol:** Testing must be conducted at 25±3°C using the specific discharge rate. Field estimates or OCV measurements are not conclusive.

- **Balance Warranty Only:** Replaced blocks carry only the unexpired balance of the original warranty.

5.3 Service Level Agreements (SLAs)

- **Within 48 Hours:** Acknowledgement and verification of registration records.
- **Within 5 Working Days:** Technical diagnosis or on-site inspection.
- **Within 10 Working Days:** Final claim adjudication, settlement dispatch, or repair resolution.

6. Special Conditions for High-Capacity Systems

The standard 36-month warranty for 2V/4V systems and large 12V strings is subject to strict audits:

- **Mandatory Commissioning:** Professional installation and formal commissioning by a certified partner.
- **Annual Maintenance Audits:** Pre-approved annual preventive-maintenance documentation.
- **Compulsory Maintenance Logs:** Recording individual block voltages, float voltages, temperatures, and discharge history.

7. Regional Statutory Compliance & Legal Framework

- **Exclusion of Consequential Damages:** The Company is not responsible under any circumstances for direct, special, incidental, or consequential damages. This exclusion specifically covers loss of profits, business interruption, loss of data, downtime, equipment cost/rental, removal or reinstallation labour, civil modifications, cabling, replacement transport costs, external contractor fees, or any other kind of direct or indirect loss.
- **Recharging Fees:** Recharging a battery found to be healthy but discharged, is not covered under the warranty and applicable cost shall be billed as an extra charge to the customer.
- **Statutory Levies and Taxes:** Any local taxes, octroi, or other statutory levies that become applicable on the battery under repair or other replacement related tariff shall be borne solely by the customer.
- **Severability of Clauses:** Any clause in this policy that is legally restricted or prohibited under applicable consumer protection laws in corresponding country shall be considered severable, and the remainder of the terms shall remain in full force and effect.
- **Exclusive Court Jurisdiction:** In alignment with standard industry legal frameworks, all legal proceedings, disputes, or differences arising out of or in connection with the purchase, use, or service of Firefly batteries shall be subject to the exclusive jurisdiction of the appropriate courts at Ahmedabad, Gujarat, India only.

8. Global Disposal, Recycling & Environmental Compliance

Lead-acid and advanced carbon foam batteries contain toxic and hazardous substances, including lead, sulfuric acid, and chemical additives. Improper disposal poses severe threats to human health and the environment. In strict compliance with global environmental standards, it is the mandatory responsibility of every importer, distributor and end-user to ensure that used batteries are disposed of and recycled in full accordance with the local, state, and national environmental regulations and statutory battery waste management rules of the country, while maintaining related records.

- **Compulsory Recycling:** All used and spent batteries must be returned in their original, unopened state to an authorized dealer, registered recycler, manufacturer, or designated collection centers for eco-friendly recycling.

- **Technical Hazard Warning:** Risk of fire, explosion, or chemical burns, if not handled properly. Do not attempt to open, disassemble, incinerate, or short-circuit the battery blocks.
- **Legal Penalties:** Violations of statutory environmental guidelines and improper disposal of lead-acid battery scrap may lead to severe legal penalties, prosecution, or fines by local Government Authorities, concerned dealer, channel partner or customers shall be responsible for in field compliances.

9. Contact Information

For warranty service, technical questions, or clarifications, please contact Firefly International Energy Co.:

- **Warranty Department:** 222 Valley Ln, Kennedale, TX 76060 USA
- **Phone Number:** 856 994 4019
- **Warranty & Returns Email & link:** support@fireflyenergy.com, refer support section on company's website home page.
- **General Inquiries (Wrong product/Shipping damage):** info@fireflyenergy.com
- **Online Store:** shop.fireflyenergy.com

Acknowledgment:

By retaining and using the Battery beyond the initial installation, the Original Purchaser acknowledges acceptance of all terms and conditions of this Limited Warranty.