

Fortress Power Limited Warranty - LFP Series, eVault & eFlex

**10 Years within the United States and Canada
5 Years outside of the United States and Canada**



LIMITED WARRANTY for LFP-5/10, eVault and eFlex Series

**10 Years within the United States and Canada
5 Years outside of the United States and Canada**

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1 – LIMITED WARRANTY COVERAGE

The Fortress Power Lithium Ferrite Phosphate Batteries LFP-5/10, eFlex, and eVault (“Product(s)”) as supplied and distributed by Fortress Power, LLC, (“Fortress Power”) a Pennsylvania corporation, are warranted (the “Limited Warranty”) by Fortress Power, LLC against manufacturing defects in materials and workmanship. Within the United States and Canada coverage is on a prorated basis for a period of ten (10) years (“10 Year Limited Warranty Period”); or for 6,000 cycles, 80% DOD; or for 2000 cycles, 100% DOD; whichever comes first. Outside the United States and Canada coverage is for a period of (5) years (“5 Year Limited Warranty Period”); or 3,000 cycles, 80% DOD; or for 1000 cycles, 100% DOD; whichever comes first. All installations of Fortress Products worldwide on marine vessels or mobile vehicle applications are covered by the 5 Year Limited Warranty Period. To be eligible, all Fortress Products must be installed by a licensed professional using the Fortress Power Installation Manual and the Fortress Power Integration Guide (both available at www.fortresspower.com/resources)



IMPORTANT The Fortress Power Installation Manual and the Fortress Power Integration Guide for Battery Parameter Setting with various Inverters/Chargers are available to download at www.fortresspower.com/resources

Table 1.0 –Total Energy Throughput According to Maximum Depth of Discharge (DOD) for each Fortress product.

Fortress Battery Model	80% DOD	90% DOD	100% DOD
eVault 18.5 (48V)	87.2 MWH	48.9 MWH	36.3 MWH
eFlex 5.4 (48V)	25.6 MWH	14.4 MWH	10.7 MWH
LFP-10 (48V)	48.1 MWH	27.1 MWH	20.0 MWH
LFP-5K (48V)	24.0 MWH	13.5 MWH	10.0 MWH
LFP-5K (24V)	24.0 MWH	13.5 MWH	10.0 MWH

The terms of the 10 Year and 5 Year Limited Warranties (i) begin on the original date of purchase of the Fortress Power Product as indicated on the Limited Warranty Registration Card submitted to Fortress Power and (ii) continues through the Limited Warranty Period. This Limited Warranty applies only to the original end-use purchaser of the Fortress Power Product and is transferable only if the Fortress Power Product remains installed in the Original Use Location. Fortress Power does not warrant, or guarantee workmanship performed by any person or firm installing the Fortress Power Product. This Limited Warranty does not cover the cost of installation, removal, shipping, or reinstallation. This Limited Warranty does not cover faults in design or installer error such as, but not limited to, reverse polarity or misuse of system wide equipment or inaccurate programming of all ancillary equipment in your system.

This Limited Warranty applies only to a Fortress Power Product (a) purchased from Fortress Power or an authorized Fortress Power distributor, dealer, or reseller and (b) and properly installed by a licensed professional.

The liability of Fortress Power under this Limited Warranty shall be limited to the repair or replacement of the Fortress Power Product, at Fortress Power’s sole discretion. Fortress Power will not be responsible for any other types of losses or costs of any type pertaining to the use of its products. If the Fortress Power Product is found to be defective as a result of any manufacturing defect in materials and workmanship during the Limited Warranty Period, Fortress Power will, at its sole discretion either (i) repair the Product, (ii) replace the Product. (ii) Replace the Product with a similar Fortress Power Product (iv) or will credit the remaining depreciated value of the Product to be applied to the purchase of a new Fortress Power Product. If a Fortress Power Product is replaced, the defective Fortress Power Product will become the property of Fortress Power and must be returned to Fortress Power free of any third-party ownership claims. The Warranty period of any repaired Fortress Power Product or its replacement is twelve (12) months from the date of shipment

from Fortress Power, or the remaining term of the Limited Warranty Period, whichever is greater.



NOTE: PLEASE SEE THE IMPORTANT NOTICES IN THE APPENDIX (Appendix A)

2 – GUIDE FOR OPERATING PARAMETERS

Although Fortress Power Lithium batteries are capable of performing at very high rates and depths of discharge within a very wide temperature range, in order to achieve extended life cycles and to comply with the Warranty, the following guidelines should be followed:

2.1 – CHARGE PARAMETERS

Charger/Inverter configuration recommendation for best performance please refer to Appendix B:

	6000 Cycles	3000 Cycles	2000 Cycles
Equalized Support	Off	Off	Off
Capacity Limit	Please refer to the product datasheet		
Equalized Voltage	Every 30 days		
Recharge Voltage	52V	51V	47
Bulk Voltage	54.4V	54.6V	55.5V
Absorb Voltage	54.4V	54.6V	55.5V
Low Battery Cut Out Voltage	50.7V	48.4V	44
High Battery Cut Out Voltage	61V	61V	61V
Float Voltage	Turn off, if possible 54.4V		
Max Charge Current	eVault: 100A per battery eFlex: 70A per battery LFP-5: 50A per battery LFP-10: 70A per battery	eVault: 170A per battery eFlex: 70A per battery LFP-5: 50A per battery LFP-10: 80A per battery	eVault: 170A per battery eFlex: 100A per battery LFP-5: 80A per battery LFP-10: 80A per battery
Max Discharge Current	eVault: 180A per battery eFlex: 70A per battery LFP-5: 50A per battery LFP-10: 100A per battery	eVault: 180A per battery eFlex: 70A per battery LFP-5: 50A per battery LFP-10: 100A per battery	eVault: 180A per battery eFlex: 100A per battery LFP-5: 80A per battery LFP-10: 100A per battery

Recommended operating parameters of charger/Inverters For 2,000 & 3,000 Cycles:

- Operating temperature range: 32 °F to 120 °F (0 °C to 49°C)

Recommended operating parameters of charger/Inverters For 6,000 Cycles:

- Operating temperature range: 50 °F to 110 °F (10°C to 43°C)

Storage must be equal to or more than twice the rated output of the Inverter at the End-of-Cycle-Life capacity is Equivalent to 70% Retained Capacity

Do not expose battery to high temperatures. Fortress Power Lithium Batteries should be stored out of direct sunlight under the following temperature conditions.

Storage Temperature (Min./Max.): 41°F/5°C – 95°F/35°C Relative Humidity (Min./Max.): 5%~75% RH

2.2 – SIZING QUICK GUIDE

Proper system sizing is vital to the health and proper operation of your battery. Using an inverter with a charging rate in excess of the maximum recommended charge rate of the battery **can cause the battery to malfunction** due to safety mechanisms. Therefore, it is important to size the number of batteries correctly, depending on the power of the inverter. The table in Appendix B lists some common inverters and the minimum number of batteries necessary to avoid malfunction. Please refer to the installation manuals of your battery and inverter for a sizing guide for specific details on proper sizing.

3 – REGISTRATION FOR LIMITED WARRANTY

To activate this Limited Warranty, the attached Limited Warranty Registration Form Appendix C must be completed and forwarded to Fortress Power pursuant to the instructions set forth in the Limited Warranty Registration Form. The registration form can also be filled out on our website at the following link: www.fortresspower.com/product-warranty page. The Limited Warranty registration form must be authorized and affirmed by Fortress to be effective. Fortress will send confirmation of affirmation within 5 days of receipt of Limited Warranty Registration form. This Limited Warranty applies only to the Fortress Power Product that are (i) registered on the Limited Warranty Registration Form attached to this Limited Warranty and (ii) installed in the Original Use location which shall be described by inserting the address of the Original Use Location in the space “Address of Installation” provided in the Limited Warranty Registration Form and name of installer/ distributor or supplier.

4-OBTAINING LIMITED WARRANTY SERVICE

To request warranty service, your installer/distributor/supplier must contact Fortress Power in writing within the Limited Warranty Period. Fortress Power or its authorized representative will attempt to troubleshoot the Fortress Power Product at the Original Use Location to determine whether the Fortress Power Product is defective. If Fortress Power determines that warranty service is required, Fortress Power will issue a Return Material Authorization (“RMA”) number. A request by you for an RMA number requires that you provide in writing to Fortress Power all the following information:

- Proof of date and place of purchase in the form of a copy of the purchase invoice for the original Fortress Power Product.
- The Fortress Power Product model number and serial number.
- Description of the problem; and
- Shipping address for the repaired or replaced equipment.

After receiving the RMA number, you must pack the Fortress Power Product authorized for return, along with the information described above, in the original Fortress Power Product shipping container or packaging providing equivalent protection. Fortress Power is not responsible for shipping damage caused by an improperly packaged Fortress Power Product, the repairs this damage might require, or the cost of these repairs.

If, upon receipt of the Fortress Power Product, Fortress Power determines the Product is defective and that the defect is covered under the terms of this Limited Warranty, Fortress Power will then approve the Limited Warranty claim and will repair or replace the Product without charge to the user.

5 – EXCLUSIONS AND LIMITATIONS

This Limited Warranty does not apply to the Fortress Power LFP-5/10, eVault, eFlex batteries or any Fortress Power Products under the following conditions: (i) if the Fortress Power Product has exceeded the Limited Warranty Period or exceeded the number of cycles covered or (ii) if the Fortress Power Product or any Fortress Power Product part has been modified or damaged by the following:

- Installation or Removal
- Alteration or Disassembly
- Normal Wear and Tear
- Accident or Abuse (Being Dropped, etc.)
- Corrosion - Inappropriate Environmental Exposure
- Repair or Service Provided by an Unauthorized Repair Facility
- Lightning
- Operation Contrary to Manufacturer Product Instructions
- Fire, Flood, or Acts of God
- Excessive Heat or Cold Conditions
- Water Damage
- Shipping or Transportation
- Incidental or Consequential Damage Caused by Other Components of the Power System Including but not Limited to Inverters, Charge Controllers, Breakers, Bypass Switches, Fuses, etc.
- Any Product Whose Serial Number has been Altered, Defaced, or Removed
- Continually used and maintained in temperatures below 32°F (0°C) or above 90°F (32°C).
- Operation in a Non-Intended Use, or a Use Which Exceeds the Recommended or Permitted Limits or Loads of the Fortress Power Product.

THIS LIMITED WARRANTY IS THE EXCLUSIVE WARRANTY APPLICABLE TO THE FORTRESS POWER PRODUCT. FORTRESS POWER EXPRESSLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTIES OF THE FORTRESS POWER PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY AFTER THE LIMITED WARRANTY PERIOD.

FORTRESS POWER ALSO EXPRESSLY LIMITS ITS LIABILITY IN THE EVENT OF A PRODUCT DEFECT TO REPAIR OR REPLACEMENT IN ACCORDANCE WITH THE TERMS OF THIS LIMITED WARRANTY, AND EXCLUDE ALL LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR THE FORTRESS POWER PRODUCT NOT BEING AVAILABLE FOR USE OR LOST REVENUES OR PROFITS, EVEN IF FORTRESS POWER HAS BEEN ADVISED OF THE POTENTIAL FOR SUCH DAMAGES. SOME STATES (OR JURISDICTIONS) MAY NOT ALLOW THE EXCLUSION OR LIMITATION OF CERTAIN WARRANTIES OR DAMAGES, SO SOME OF THE ABOVE EXCLUSIONS MAY NOT APPLY TO YOU.

If there is any inconsistency between this Limited Warranty and any other agreement or statement included with or relating to the Fortress Power Product or services, this Limited Warranty shall govern. If any provision of this Limited Warranty is found invalid or unenforceable, it shall be deemed modified to the minimum extent necessary to make it enforceable and the remainder of this Limited Warranty shall remain valid and enforceable according with its terms.

5 – CONSUMER PROTECTION AND OTHER LAWS

Some US States or other jurisdictions may not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. These governmental entities may provide for additional warranty rights and remedies, and the provisions contained in this Limited Warranty are not intended to limit, modify, take away from, disclaim or exclude any mandatory Warranty requirements provided by these jurisdictions, including certain implied Warranties. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary based upon location.

Your acceptance and use of the Fortress Power Product constitutes acceptance of the terms, conditions, and limitations of this Limited Warranty. The terms, conditions and limitations of this Limited Warranty will supersede any other agreement or document relating to the subject matter hereof, including, but not limited to, the terms and conditions that are part of a purchase order covering the Fortress Power Product or other document sent to Fortress Power by you relating to the Fortress Power Product.

6 – CONTACTING FORTRESS POWER

To obtain Warranty service, please contact us: Fortress Power, LLC
505 Keystone Road,
Southampton, Pennsylvania, 18966
+1 877.497.6937
warranty@fortresspower.com www.FortressPower.com

Instructions for Warranty registration:

You must register your product to validate your Limited Warranty. Please fill out the attached form and send to warranty@fortresspower.com within 30 days of your purchase. Please include a copy of your purchase invoice with registration form. The Limited Warranty Registration form can also be filled out on our website at the following link: www.fortresspower.com/product-warranty page.

APPENDIX A – Important Notices



Important notices: Circuit Breakers, Disconnects and Fuses should be employed throughout several points of a Power storage and generation installation to effectively isolate and protect all components of the system to safeguard against faults, short circuits, polarity reversals or a failure of any component in the overall system. Fuses, breakers, wire ratings and values should be determined by established standards and evaluated by certified electricians, licensed installers, and regional code authorities. Although each Fortress Power Lithium Battery contains an internal BMS with circuitry that protects the Lithium Ferrite Phosphate cells from overcharge, over- discharge and excessive load amperage, the Fortress Power Lithium Batteries must always be installed with a charge controller and the appropriate settings to protect the Fortress Power from open PV voltage and other high voltage charging sources. The Fortress Power Lithium Battery Management System (BMS) alone will not protect the Fortress Power Lithium batteries from these extreme electrical phenomena. Failure to adhere to installation protocol will void the Warranty.



CAUTION: All Fortress batteries can only be commissioned when the batteries are fully charged. Failure to do so will void the warranty.



CAUTION: Only use a Fortress Power approved LFP charger if ancillary charging is required before installation, testing, or troubleshooting. Failure to use a Fortress Power approved LFP charger will damage the battery and void the warranty.



CAUTION: Charging LFP batteries at temperatures below freezing. Do not attempt to charge the battery below 32 F (0 degrees C). Attempts to charge at subfreezing temperatures can adversely affect SOH and cycle life and will void the Warranty. If the battery must be charged below 32 F (0 degrees C), the rate of charge must be at no more than 5% of the battery's rated capacity (C/20).



CAUTION: Improper sizing and/or charge parameters can cause the battery to malfunction. It is necessary to both correctly size a system and enter the correct charge parameters into your charge controller and/or inverter. Please see sections 2.1 and 2.2 for these topics. Failure to check these may result in a dysfunctional system.

APPENDIX B – Inverter Sizing Guide

	Inverter	eVault 18.5	eFlex 5.4	LFP10	LFP-5K-48V	LFP-5K-24V
		51.2Vnom	51.2Vnom	51.2Vnom	51.2Vnom	25.6Vnom
Schneider Electric	XW Pro 6848	1	3	2	3	—
	XW+ 6848	1	3	2	3	—
	XW+ 5548	1	2	2	2	—
	SW 4048	1	2	1	2	—
	SW 4024	—	—	—	—	—
	SW 2524	—	—	—	—	3
OutBack Power	Radian 8048A	1	3	2	3	—
	Radian 4048A	1	2	1	2	—
	SkyBox SBX 5048	1	2	1	2	—
	VFXR 3648A	1	2	1	2	—
	VFXR 3524A	—	—	—	—	—
	FXR 3048A	1	2	1	2	—
	FXR 2524A	—	—	—	—	3
Sol-Ark	8K	1	3	2	3	—
	12K	1	3	2	3	—
SMA	Sunny Island 6048	1	3	2	3	—
	Sunny Island 4548	1	2	1	2	—
Magnum / Sensata	MS 4448	1	2	1	2	—
	MS 4048	1	2	1	2	—
	MS 4024	—	—	—	—	—
	MS 2024	—	—	—	—	2
Selectronic	SP PRO SPMC 481- AU	1	2	1	2	—
	SP PRO SPMC 482- AU	1	3	2	3	—
Samlex	EVO-4024	—	—	—	—	—
	EVO-2224	—	—	—	—	2
Victron Energy	Quattro 48/3000/35	1	2	1	2	—
	Quattro 48/5000/70	1	2	1	2	—
	Quattro 48/10000/140	2	3	2	3	—
	Quattro 48/15000/200	2	5	3	—	—
	Quattro 24/5000/120	—	—	—	—	—
	MultiPlus 24/2000/50	—	—	—	—	2
	MultiPlus 24/3000/70	—	—	—	—	3
	BlueSolar or SmartSolar 75/10	—	—	—	—	1
BlueSolar or SmartSolar 75/15	—	—	—	—	1	

This table indicates the minimum number of batteries required for the 6000 charge/discharge cycle warranty. Proper sizing guidelines must be followed to ensure the longevity of the batteries.



APPENDIX C – Limited Warranty Registration Form

Customer					
Name:					
Address of Installation (one form per location):					
Phone:					
Email:					
To be completed by certified installer or licensed electrician:					
Contact Name:					
Company Name:					
Address:					
Phone:					
Email:					
Product Installation Information:					
Product Name/Model:					
Product Quantity:					
Serial Numbers:					
1		6		11	
2		7		12	
3		8		13	
4		9		14	
5		10		15	
<i>For orders that exceed (15) batteries please provide Serial Numbers on a separate page.</i>					
Date of Product Purchase:					
Where was the product purchased?					
Date of Installation:					
Date of Commissioning:					
Are the batteries used for Mobil Application? Yes or No					
Marine Vessel Application? Yes or No					
***Fortress Product Installation Location (i.e. garage, basement, RV, Marine etc.):					
***Please refer to Section 5 for Exclusions and Limitations of the Warranty					
System Type:		DC Coupled	<input type="checkbox"/>	AC Coupled	<input type="checkbox"/>
				AC Charging (no solar PV)	<input type="checkbox"/>
Charging Sources (check all that apply and specify):					
		<input type="checkbox"/>	Solar PV Array	Solar PV Array Size (Watts):	
		<input type="checkbox"/>	Wind	Wind Turbine Size (Watts):	
		<input type="checkbox"/>	Generator	Generator Size (Watts):	
		<input type="checkbox"/>	Utility	*AGS Included (Y/N):	
For DC Coupled Systems:					
Inverter Make & Model:					
Inverter Quantity:					
Charge Controller Make & Model:					
Charge Controller Quantity:					
For AC Coupled Systems:					
Grid-Tie Inverter (GTI) Make & Model:					
Grid-Tie Inverter Quantity:					

System Monitoring Login & Password (if applicable):			
Installation Quality Control Checklist:			
Please check all boxes below when completed. All boxes must be checked to process the Warranty.			
		Battery bank sizing is in line with Appendix B of the Limited Warranty Letter	
		Charging rate is configured in accordance to section 2.1 of the warranty letter	
		Battery bank is wired in parallel, using appropriate gauge cables and bussing	
		Accompanying equipment (Inverter & Charge Controller) is programmed to Fortress's setting guide	
		The battery bank is fully charged when the system is commissioned	
Registration Form Completed By:			
Date:			

Print the Fortress Power Warranty Registration, fill out the form, scan and email to warranty@fortresspower.com.

You may also fill this Warranty Registration out on our website at <https://www.fortresspower.com/product-warranty/>

Including a complete single line electrical drawing of the system and/or installation photos as email attachments is appreciated.