

## 10-YEAR LIMITED WARRANTY

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# Ark Battery is pleased to offer a 10-year limited warranty on all products.

## Section 1 Warranty Start Date

All products purchased from Ohio-based, Ark Battery LLC (or one of its authorized resellers) are warranted against defects in materials and workmanship for a period of 10 years, or for the rated cycle life, whichever comes first. The warranted, rated cycle life can be found on the two charts on pages four and five of this manual.

The term of this warranty shall begin on the date of the invoice or other proof of purchase presented by the original end-user. If the invoice presented by the original end-user is dated for six or more months (183 days) later than the invoice date from Ark Battery LLC to its authorized reseller, the warranty term shall revert to the original invoice date.

## Section 1.1: Warranty Qualifications

The warranty policy of Ark Battery LLC shall cover the following defects:

- 1. Cycle life discrepancies greater than 3% of ratings. See the two charts on pages four and five of this manual.
- 2. Charge/discharge performance irregularities.
- 3. Loose connections internal and/or external.
- 4. Excessively defaced exterior. (Not including shipping damage.)

## Section 1.2 Ark Battery Liabilities

The liability of Ark Battery under this warranty policy shall be limited, at Ark Battery's discretion, to either repair or replace the defective product. A replacement product shall be fully functional with equal to or greater than cycle life as shown by the two capacity retention charts on pages four and five of this manual.

Any products repaired or replaced by Ark Battery shall be the property of Ark Battery. Defective products shall be returned to Ark Battery prior to the shipment of any replacement products.

This warranty policy is the exclusive warranty applicable to any and all Ark Battery products.

## Section 1.3 Obtaining Warranty

#### To obtain a warranty service from Ark Battery LLC, contact us by one of the following: Phone: 888-662-7522 Email: info@arklithium.com

An Ark Battery representative will assist you in troubleshooting your product to determine if it is defective. If possible, the end-user should call from the site of the battery system installation.

Please be prepared to provide the following:

- 1. Battery model number and serial number
- 2. Number of batteries in the bank
- 3. Details of other components in the system including, but not limited to, inverters, charge controllers, cabling methods, etc.
- 4. A picture of the system
- 5. Descriptions of the issue including events leading up to the problem

If the product is deemed defective by our representative, an RMA number will be issued along with instructions on how to return the product.

#### Do not ship a product without first obtaining an RMA number.

## Section 1.4 Warranty Schedule

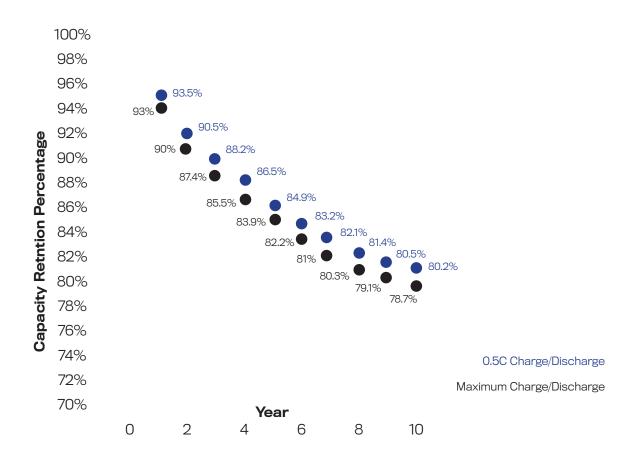
Year	Replacement Covered by Ark Battery LLC		
1	Full Replacement		
2	Full Replacement		
3	Full Replacement		
4	Full Replacement		
5	Prorated Replacement		
6	Prorated Replacement		
7	Prorated Replacement		
8	Prorated Replacement		
9	Prorated Replacement		
10	Prorated Replacement		

Coverage percentage shall be based on MSRP at time of purchase or at time of warranty, whichever is lower. The percentage covered shall be applied as credit towards a new product.

## **Battery DOD vs. Degradation Acceptable Limits**

#### Chart 1

<b>All Ark Battery Models</b> Minimum Capacity Retention Guarantee By Year (1 Cycle Per Day at 100% DOD)							
No.	Service Life	Guaranteed Value of Capacity Retention Rate (cycle/day, 0.5C)	Guaranteed Value of Capacity Retention Rate (cycle/day, maximum charge/discharge rate)				
1	1st Year	93.5%	93%				
2	2nd Year	90.5%	90%				
3	3rd Year	88.2%	87.4%				
4	4th Year	86.5%	85.5%				
5	5th Year	84.9%	83.9%				
6	6th Year	83.2%	82.2%				
7	7th Year	82.1%	81%				
8	8th Year	81.4%	80.3%				
9	9th Year	80.5%	79.1%				
10	10th Year	80.2%	78.7%				



#### Chart 2

Guranteed Cycle Life Curves For All Models At Various C-Rates and DODs (Depths of Discharge)*						
DOD	1C	0.5C	0.3C			
20%	8000	10000	11200			
40%	6200	8000	9100			
60%	5000	6500	7500			
80%	3900	5000	5800			
100%	3000	4000	4500			

These charts assume that all charging and discharging equipment is programmed according to all relevant Ark Battery spec sheets. Download our spec sheets at arklithium.com. The maximum charging and discharging voltage range is 46V-57.6V (0% to 100%).

Ark Batteries can safely be discharged to 0% without voiding the warranty.

\*80% Capacity retention is considered end of cycle life.

### **Inverter Sizing Guide**

	lun voutour	ARK 512100	ARK 512200	ARK 256200
	Inverter	51.2Vnom	51.2Vnom	25.6Vnom
Schneider Electric	XW Pro 6848	2	2	
	XW+ 6848	2	2	
	SW 4048	2	1	
	SW 4024			2
	Radian 8048A	3	2	
	Radian 4048A	2	2	
	SkyBox SBX 5048	2	2	
Outback Power	VFXR 3648A	2	2	
	VFXR 3524A			2
	FSX 3048A	2	2	
	FXR 2524A			2
	FXR 2012A			
	5K	2	2	
	8K	2	2	
Sol-Ark	12K	2	2	
	15K	3	2	
SMA	Sunny Island 6048	3		
	Sunny Island 4548	3		
Magnum/Sensata	MS 4448	2	2	
	MS 4048	2	2	
	MS 4024			2
	MS 2024			2
All Other Inverters/Chargers	0-2,000w 24V			2
	2,000-4,000w 24V			2
	4,000-8,000w 24V			3
	0-2,000w 48V	2	1	
	2,000-4,000w 48V	2	2	
	4,000-8,000w 48V	2	2	
	8,000-12,000w 48V	3	2	

This table indicates the minimum number of batteries required, with each respective inverter, to qualify for our 10-year limited warranty. Proper sizing guidelines must be followed to ensure the longevity of the batteries.

This Limited Warranty does not apply to the Ark Battery products under the following conditions: (i) if the Ark Battery product has exceeded the Limited Warranty Period or exceeded the number of cycles covered or (ii) if the Ark Battery product or any Ark Battery product part has been modified or damaged by the following:

- 1. Installation or removal
- 2. Alteration or disassembly
- 3. Normal wear and tear
- 4. Accident or abuse (being dropped, etc.)
- 5. Corrosion inappropriate environmental exposure
- 6. Repair or service provided by an unauthorized repair facility
- 7. Lightning
- 8. Operation contrary to manufacturer product instructions
- 9. Fire, flood, or other catastrophic event
- 10. Excessive heat or cold conditions
- 11. Water damage
- 12. Shipping or transportation
- 13. 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.
- 14. Any product whose serial number has been altered, defaced, or removed
- 15. Continually used and maintained in temperatures below 32°F (0°C) or above 100°F (32°C).
- 16. Operation in a Non-Intended Use, or a Use Which Exceeds the Recommended or Permitted Limits or Loads of the Ark Battery product.

This limited warranty is the exclusive warranty applicable to Ark Battery LLC products. Ark Battery expressly disclaims any other expressed or implied warranties of Ark Battery products, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. No warranties whether express 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.

Ark Battery also expressly limits its liability in the event of a product defect to repair or replace 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 Ark Battery product not being available for use or lost revenues or profits, even if Ark Battery 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 Ark Battery LLC products 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.

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 Ark Battery products 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 Ark Battery products or other document sent to Ark Battery by you relating to the Ark Battery products.