

## ARK Battery A1/A2 Versions Differences Declaration

### General Introduction

Growatt's ARK low and high voltage batteries have a new version of iteration, A2 version has been optimized based on A1 version. This article will mainly discuss the differences between A2 version and A1 version, as well as the mixed usage scenarios of the new and old versions, so as to help installers/distributors distinguish between them.



### Differences between the old and new versions

#### 1. ARK-LV Battery

##### ➤ Side cover

New version battery used a damping shaft, and the side cover would not rebound when opened. The opening angle can reach 150°, and the cover opening direction is outward, using one screw to lock the side cover, which is convenient for on-site installation.

	ARK 2.5L-A1 (Old version)	ARK 2.5L-A2 (New version)
Side cover	The opening angle of the side cover of the old version battery is less than 90°	
	Opening direction is inward	
	Two screws lock the side cover	

➤ **Light display**

The new version of the ARK-LV battery indicator light and button moved to the outside for easy access to information and maintenance.

	ARK 2.5L-A1 (Old version)	ARK 2.5L-A2 (New version)
Light display	Battery indicator light is hidden, not easy to observe the battery status	 

➤ **Cable routing**

The battery to the PCS cables can be routed from the top and from the rear side, which is more convenient for on-site installation.

	ARK 2.5L-A1 (Old version)	ARK 2.5L-A2 (New version)
Cable routing	The battery to the PCS cables can only be routed from the top	

➤ Charging temperature

The new version of the battery cell supports -10°C low-temperature charging, enabling the battery to be charged in colder environmental conditions

	ARK 2.5L-A1 (Old version)	ARK 2.5L-A2 (New version)
Charging temperature	Supports 0°C charging	 Supports -10°C low temperature charging

## 2. ARK-HV Battery

➤ Side cover

New version battery used a damping shaft, and the side cover would not rebound when opened. The opening angle can reach 150°, and the cover opening direction is outward, using one screw to lock the side cover, which is convenient for on-site installation.

	ARK 2.5H-A1 (Old version)	ARK 2.5H-A2 (New version)
Side cover	The opening angle of the side cover of the old version battery is less than 90 °	 The opening angle can reach 150 °
	Opening direction is inward	 Opening direction is outward
	Two screws lock the side cover	 One screw locks the side cover for easy fixing

➤ Light display

New version battery's light panel on the front of the BMS Controller for easy access to battery information and maintenance.

	ARK 2.5H-A1 (Old version)	ARK 2.5H-A2 (New version)
Light display	Battery indicator light is inside the side cover	 Light panel on the front of the BMS Controller for easy access to battery information and maintenance

➤ **Cable routing**

The battery to the PCS cables can be routed from the top and from the rear side, which is more convenient for on-site installation.

	ARK 2.5H-A1 (Old version)	ARK 2.5H-A2 (New version)
Cable routing	The battery to the PCS cables can only be routed from the top	 The battery to the PCS cables can be routed from the top and from the rear side

➤ **Power cable plug**

The wiring port has been optimized. Battery/PCS positive and negative power cables can not be interconnected and are compatible with older power cables, preventing on-site wiring errors and ensuring accuracy.

	ARK 2.5H-A1 (Old version)	ARK 2.5H-A2 (New version)
Power cable plug	Battery/PCS positive and negative power cables can be interconnected	 Battery/PCS positive and negative power cables can not be interconnected and are compatible with older power cables

➤ **Charging temperature**

The new version of the battery cell supports -10°C low-temperature charging,

enabling the battery to be charged in colder environmental conditions.

	ARK 2.5H-A1 (Old version)	ARK 2.5H-A2 (New version)
Charging temperature	Supports 0°C charging	 Supports -10°C low temperature charging

## How to identify old and new batteries

### ➤ ARK-LV Battery

	ARK 2.5L-A1 (Old version)	ARK-2.5L-A2 (New version)
Product picture		
Side cover	Has two screws to lock the side cover, and the opening direction is inward	One screw locks the side cover for easy fixing and the opening direction is outward
Light display	Battery indicator light is inside the cover	Battery indicator light is external, which can directly be seen for the battery information
Nameplate	If the nameplate has “-A1” on the model number, it is a new version of the battery	If the nameplate has “-A2” on the model number, it is a new version of the battery

	<p><b>ARK 2.5L-A1</b></p> <table border="1"> <tr><td>Model</td><td>ARK 2.5L-A1</td></tr> <tr><td>Nominal Voltage</td><td>51.2V</td></tr> <tr><td>Nominal/Rated Capacity</td><td>50Ah/65Ah</td></tr> <tr><td>Nominal/Rated Energy</td><td>2550Wh/3200Wh</td></tr> <tr><td>Rated Current</td><td>25A</td></tr> <tr><td>Ingress Protection</td><td>IP 65</td></tr> <tr><td>Operating Ambient Temperature</td><td>-10°C ~ +50°C</td></tr> <tr><td>Protective Class</td><td>I</td></tr> <tr><td>Maximum Short Current and Duration</td><td>300A, 0.005s</td></tr> </table> <p>CE, RoHS, Made in China</p>	Model	ARK 2.5L-A1	Nominal Voltage	51.2V	Nominal/Rated Capacity	50Ah/65Ah	Nominal/Rated Energy	2550Wh/3200Wh	Rated Current	25A	Ingress Protection	IP 65	Operating Ambient Temperature	-10°C ~ +50°C	Protective Class	I	Maximum Short Current and Duration	300A, 0.005s	<p><b>ARK 2.5L-A2</b></p> <table border="1"> <tr><td>Model</td><td>ARK 2.5L-A2</td></tr> <tr><td>Nominal Voltage</td><td>51.2V</td></tr> <tr><td>Nominal/Rated Capacity</td><td>50Ah/65Ah</td></tr> <tr><td>Nominal/Rated Energy</td><td>2560Wh/3200Wh</td></tr> <tr><td>Rated Current</td><td>25A</td></tr> <tr><td>Ingress Protection</td><td>IP 65</td></tr> <tr><td>Operating Ambient Temperature</td><td>-10°C ~ +50°C</td></tr> <tr><td>Protective Class</td><td>I</td></tr> <tr><td>Maximum Short Current and Duration</td><td>300A, 0.005s</td></tr> </table> <p>CE, RoHS, Made in China</p>	Model	ARK 2.5L-A2	Nominal Voltage	51.2V	Nominal/Rated Capacity	50Ah/65Ah	Nominal/Rated Energy	2560Wh/3200Wh	Rated Current	25A	Ingress Protection	IP 65	Operating Ambient Temperature	-10°C ~ +50°C	Protective Class	I	Maximum Short Current and Duration	300A, 0.005s
Model	ARK 2.5L-A1																																					
Nominal Voltage	51.2V																																					
Nominal/Rated Capacity	50Ah/65Ah																																					
Nominal/Rated Energy	2550Wh/3200Wh																																					
Rated Current	25A																																					
Ingress Protection	IP 65																																					
Operating Ambient Temperature	-10°C ~ +50°C																																					
Protective Class	I																																					
Maximum Short Current and Duration	300A, 0.005s																																					
Model	ARK 2.5L-A2																																					
Nominal Voltage	51.2V																																					
Nominal/Rated Capacity	50Ah/65Ah																																					
Nominal/Rated Energy	2560Wh/3200Wh																																					
Rated Current	25A																																					
Ingress Protection	IP 65																																					
Operating Ambient Temperature	-10°C ~ +50°C																																					
Protective Class	I																																					
Maximum Short Current and Duration	300A, 0.005s																																					
Package	No label	New version of ARK 2.5L-A2/ARK 2.5H-A2 batteries with A2 label on the carton to differentiate between old and new batteries																																				

## ➤ ARK-HV Battery

	<b>ARK 2.5H-A1 (Old version)</b>	<b>ARK-2.5H-A2 (New version)</b>
Product picture		
Side cover	Has two screws to lock the side cover, and the opening direction is inward	One screw locks the side cover for easy fixing and the opening direction is outward
Light display	Battery indicator light is inside the cover	Battery indicator light is on the front of the Control Module

	If the nameplate has “-A1” on the model number, it is a new version of the battery	If the nameplate has “-A2” on the model number, it is a new version of the battery																												
Nameplate	<p>ARK 2.5H-A1 Lithium Ion Battery Download Manual</p> <table border="1"> <tr><td>Model</td><td>ARK 2.5H-A1</td></tr> <tr><td>Nominal Voltage</td><td>51.2V</td></tr> <tr><td>Nominal/Rated Capacity</td><td>50Ah/45Ah</td></tr> <tr><td>Nominal/Rated Energy</td><td>2560Wh/2300Wh</td></tr> <tr><td>Rated Current</td><td>25A</td></tr> <tr><td>Ingress Protection</td><td>IP-65</td></tr> <tr><td>Operating Ambient Temperature</td><td>-10°C ~ +50°C</td></tr> </table> <p>CE ROHS REACH Made in China</p>	Model	ARK 2.5H-A1	Nominal Voltage	51.2V	Nominal/Rated Capacity	50Ah/45Ah	Nominal/Rated Energy	2560Wh/2300Wh	Rated Current	25A	Ingress Protection	IP-65	Operating Ambient Temperature	-10°C ~ +50°C	<p>ARK 2.5H-A2 Lithium Ion Battery Download Manual</p> <table border="1"> <tr><td>Model</td><td>ARK 2.5H-A2</td></tr> <tr><td>Nominal Voltage</td><td>51.2V</td></tr> <tr><td>Nominal/Rated Capacity</td><td>50Ah/45Ah</td></tr> <tr><td>Nominal/Rated Energy</td><td>2560Wh/2300Wh</td></tr> <tr><td>Rated Current</td><td>25A</td></tr> <tr><td>Ingress Protection</td><td>IP-65</td></tr> <tr><td>Operating Ambient Temperature</td><td>-10°C ~ +50°C</td></tr> </table> <p>CE ROHS REACH Made in China</p>	Model	ARK 2.5H-A2	Nominal Voltage	51.2V	Nominal/Rated Capacity	50Ah/45Ah	Nominal/Rated Energy	2560Wh/2300Wh	Rated Current	25A	Ingress Protection	IP-65	Operating Ambient Temperature	-10°C ~ +50°C
Model	ARK 2.5H-A1																													
Nominal Voltage	51.2V																													
Nominal/Rated Capacity	50Ah/45Ah																													
Nominal/Rated Energy	2560Wh/2300Wh																													
Rated Current	25A																													
Ingress Protection	IP-65																													
Operating Ambient Temperature	-10°C ~ +50°C																													
Model	ARK 2.5H-A2																													
Nominal Voltage	51.2V																													
Nominal/Rated Capacity	50Ah/45Ah																													
Nominal/Rated Energy	2560Wh/2300Wh																													
Rated Current	25A																													
Ingress Protection	IP-65																													
Operating Ambient Temperature	-10°C ~ +50°C																													
Package	No label	New version of ARK 2.5L-A2/ARK 2.5H-A2 batteries with A2 label on the carton to differentiate between old and new batteries																												
	<p>LITHIUM ION BATTERIES Model: <input type="checkbox"/> ARK 2.5L-A1 <input checked="" type="checkbox"/> ARK 2.5H-A1 <input type="checkbox"/> ARK 2.5L-A2</p>	<p>A2 Notice It is not recommended to mix A1 and A2 version battery pack in one system.</p>																												

## Mixed Use of New&Old Versions Battery

The old and new versions of the battery can be used together, but it is not recommended to mix them to ensure optimal performance. If use the new and old versions of the battery in one system, there will be differences in the appearance of the left and right sides of the front view of the new and old batteries, as well as in the opening direction of the side covers. The old version of the battery does not support charging and discharging below 0 °C, so charging and discharging below 0 ° C is not allowed when mixing the old and new batteries. The available capacity of the system is based on the minimum battery (old version battery) capacity.

For the cables between battery modules, the cables of the new version can be used for the old version of the batteries, and the cables of the old version can be used

for the new version of the batteries. However, the cables from the control modules to the inverter cannot be used interchangeably between the new and old versions of the control modules.

#### ➤ ARK-LV Battery

	ARK 2.5L-A1 (Old version)	ARK 2.5L-A2 (New version)
ARK 2.5L-A1 (Old version)	√	√*
ARK 2.5L-A2 (New version)	√*	√

\* If use the new and old versions of the battery in one system, the system will operate according to the old MAP, and do not support charging and discharging below 0 °C.

#### ➤ ARK-HV Battery

	Control module (Old version)	Control module (New version)
ARK 2.5H-A1 (Old version)	√	√*
ARK 2.5H-A1 and ARK 2.5H-A2	√*	√*
ARK 2.5H-A2 (New version)	√* (It can be upgraded to support charging and discharging below 0 °C)	√

\* If use the new and old versions of the battery in one system, the system will operate according to the old MAP, and do not support charging and discharging below 0 °C.