



REVOV R100 100Ah Battery Pack

2nd LiFe 51.2V LiFePO4

The REVOV 2nd LiFe R100 is a 2nd LiFe 16 cell, 51.2V, 100Ah, 5.1kWh, Battery Module with built-in BMS with CAN Bus communications. Where inverter communications are required the unit's CAN bus communications provides State of Charge and other information to supported inverters. In installations where no communications to the inverter are required the REVOV 2nd LiFe R100 can act as a lead-battery replacement. Automotive grade 2nd LiFe cells and Revov 16 cell technology deliver superior performance under all loads. assembled to meet the highest standards of SAFETY, RELIABILITY and LONGEVITY.

It is the perfect choice to provide backup power and integrate into Solar systems where daily cycling of the system is desired. It is common to install just one battery to deal with blackouts but grow the system later. More batteries can be added easily onto a shared busbar for those reducing their grid power usage in a phased approach. The REVOV 2nd LiFe R100 can be orientated with the "face" to the front, top or side for convenient wall and 19" rack mounting.

Designed and Recommended Settings

		Package Dimensions (mm)			
Model (external label)	Type	L	H	W	Weight
R100 51.2V	LiFePO4 100Ah	530	220	500	50kg

		Equipment Excl. Packaging (mm)			
Revov Product Code:	Type	L	H	W	Weight
2LIFE-R9-UBMS-R100-5.1	51.2V battery	490	175	480	48kg

Technical Specifications			
General Settings	Dependent on inverter type		Notes
Inverter Voltage (V) Settings	Float Charge	54.5 V	Absorption 55 - 55.6 V Load and temperature dependent
	Bulk / Boost / Absorption Charge	55.5V	
	Low Voltage Disconnect	49 V	
Maximum daily Charge current (A)	@25°C ambient	50 A	
Recommended Charge current (A)		30A	Recommended
Max. Discharge Current Continuous) [A]		100 A	<u>100A In-line fuse recommended</u>
Recommended Recharge time (h)		3 h	Even 30A is sufficient
Charging Temperature (°C)		10 – 35°C	Recommended
Output power capacity (W)		5120 W	
Total Energy (kWh)		5.12 kWh	
Nominal voltage (V)		51.2 V	
Capacity (Ah)		100 Ah	
Scalability		Up to 16	Batteries in parallel

The Revov R100 battery is designed for parallel operation only - do not arrange in series for increased voltage. Series arrangement can result in damage to the Batteries and will void warranty!

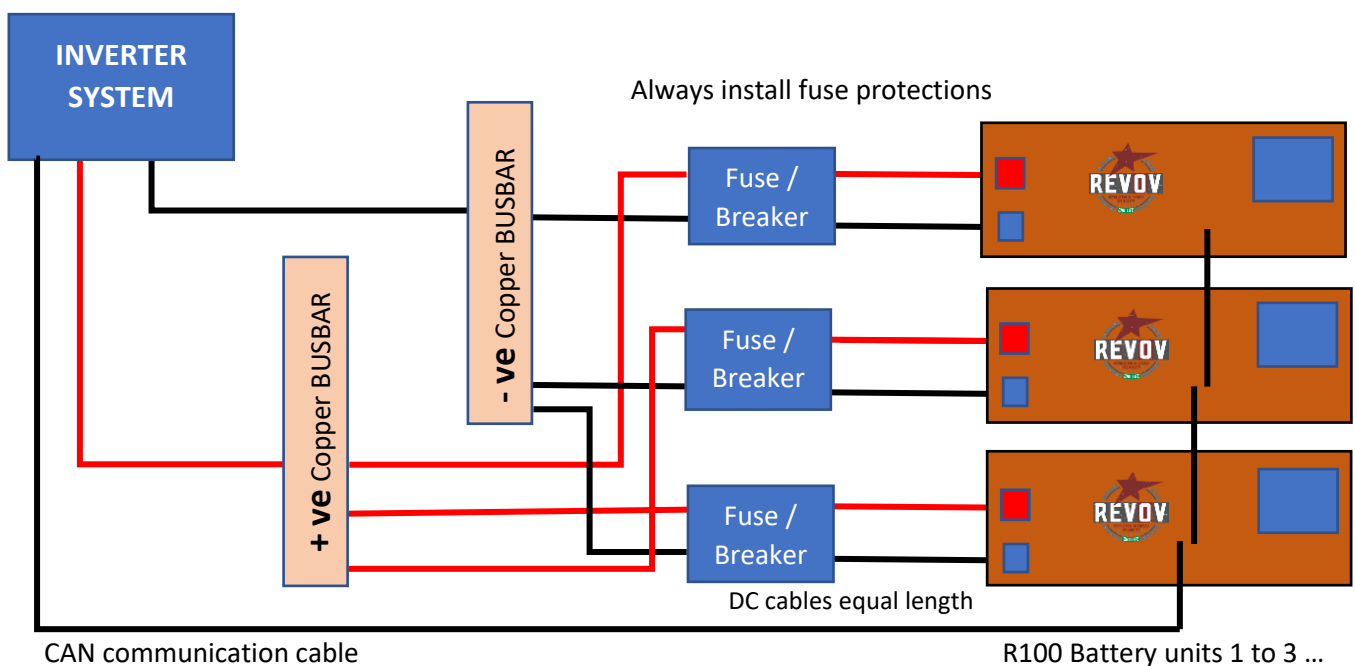
Do not discharge battery below Low Voltage Disconnect voltage. Do not discharge battery at rates greater than maximum continuous current.

- Settings are only a guide as to what must be on the Battery/BMS. Please ensure that the DC circuit losses are considered during Inverter setup. Inverters are also not calibrated instruments.
- The REVOV R100 system has a self-managing Battery Management System. The system still requires the user to input settings onto the inverter unless CAN communication is supported.
- Each battery bank is to be fused on both positive and negative with 100A (Max rated DC) fuse. Preferably trip-breaker or in-line fuses.
- Do not cross the positive and negative terminals. Install the positive cable first. Please make sure the terminals are not connected to any metal mounting, fixture, or body parts.
- Each battery is to be coupled to a common DC copper busbar if using more than 1 battery. Care must be taken with Parallel batteries with different open voltage as this may cause reverse currents, which could damage the batteries (done by qualified installers only).
- The R100 battery is designed to sit in a cabinet, or mount on the wall. It is recommended to put the Batteries on the wall to avoid water damage or floods.
- Safe and reliable installation requires trained and certified technicians/installers to design and install systems.

* Battery will auto-start. Green LEDs of the system should run, if not, press circular ON/OFF button softly into the ON position (depressed). If red light engages on start-up, contact REVOV for assistance.

Dip Switch Guide (Master and slaves)		
System	Address	Example
1	100000	First jumper up, rest down
2	010000	Second jumper up, rest down
3	110000	First two jumpers up, rest down
4	001000	Third jumper up, rest down
5	101000	First and Third jumper up, rest down
6	011000	Second and Third jumper up, rest down

BMV Settings	
Number	Setting
1	Ah of total batteries installed
2	0.3V lower than absorption
3	4%
4	4 min
5	1.05
6	0.98

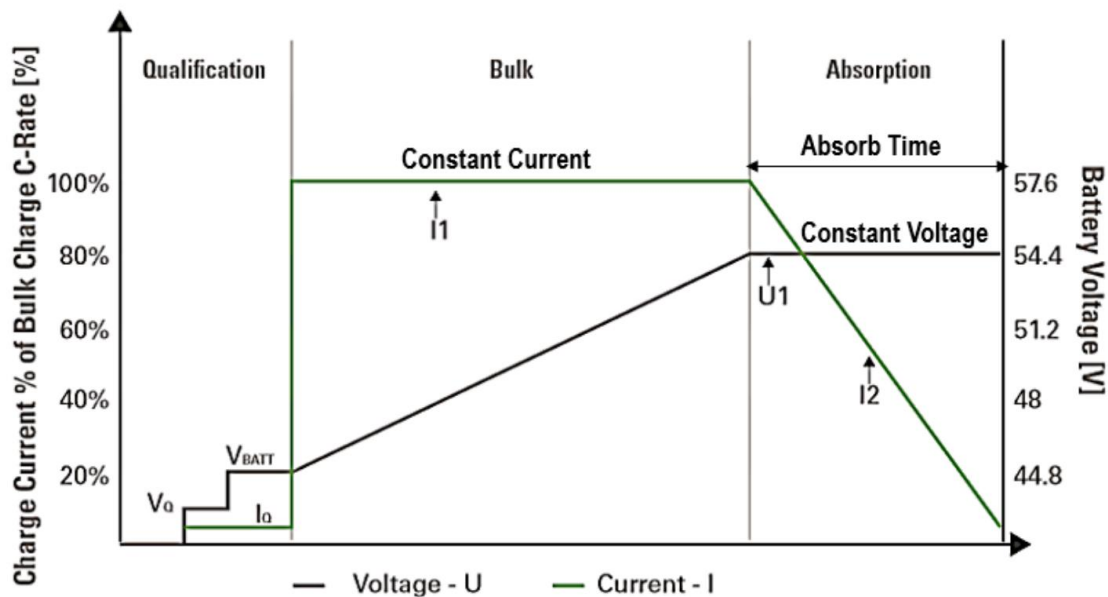


Parameter set up guide in Charger/Inverter

Before commissioning the energy storage system, the appropriate controller and inverter settings must be programmed as per the manufacturer's recommendations. Consult the Inverter manufacturer's manuals and/or access Revov technical support. Although Revov Lithium batteries can perform 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, this guideline document must be followed.

Understand Charge Stage

1. Bulk Charge: Charge at Constant Current (CC) to Bulk/Absorb Voltage.
2. Absorption Charge: Maintain Constant Bulk/Absorb Voltage (CV).
3. Terminate when charge current drops below 0.05C or 49V.
4. Unlike Lead Acid batteries, Lithium Ferro Phosphate batteries do not require Float Charge.
5. Do not enable Equalisation function in the inverter; but do set up the Equalisation parameters to Bulk values.



The Battery BMS provides multiple level protection function:

- Over Charge Voltage Protection
- Over Discharge Protection
- Over Current Protection for Discharge Via Thermal Control
- Short Circuit Protection
- ON/OFF Switch

If batteries enter a self-protective mode, negligible voltage readings will be present on the LCD until the unit resets. In some instances, after a prolonged shut down, or a draw to a low voltage, a charge might need to be manually applied to the energy storage bank. Should this occur, please contact Revov for technical support. Revov Lithium Batteries are designed to remain robust and safe under most circumstances.



Precautions

Warranty is void if any of these are not adhered to.

1. Do not immerse the battery in water.
2. Do not use or store the battery near sources of fire or heater.
3. Do not reverse the positive (+) or negative (-) terminals.
4. Do not connect the battery directly to wall outlets.
5. Do not put the battery into a fire or apply direct heat to it.
6. Do not short-circuit the battery by connecting wires or other metal objects to the positive (+) and negative (-) terminals.
7. Do not pierce the battery casing with a nail or other sharp objects, break it open with a hammer, or step on it.
8. Do not strike, throw, or subject the battery to severe physical shock.
9. Do not directly solder the battery terminals.
10. Do not attempt to disassemble or modify the battery in any way.
11. Do not place the battery in a microwave oven or pressurized container.
12. Do not use the battery in combination with primary batteries (such as dry cell batteries) or batteries of different cell count, cell-capacity, type, or brand.
13. Do not use the battery if it gives off an odour, generates heat, becomes discoloured or deformed, or appears abnormal in any way. If the battery is in use or being recharged, remove it from the device or charger immediately and discontinue use.
14. Do not dispose the battery before completely discharge.
15. Do not charge the battery by charging voltage over 57.0V.
16. Do not charge the battery by a charger with an automatic desulfation mode function (equalization).
17. Please fix the battery terminal with original screws and nuts securely. Battery may be damaged by the sparks because of the loose connections.
18. Keep out of reach of Children and Pets.

Transport Concerns

1. The battery should be transported with 70% charge state (approx.).
2. The battery should be packed with insulation and shockproof material to avoid damage from sudden jolts and collision.
3. The battery should be handled with care when loading and unloading during transport. Do not throw the batteries and avoid collision.
4. Do not transport the batteries together with flammable, explosive objects, or sharp metal goods.

Storage

5. The battery should be stored with 50% charge state (approx.).
6. The battery should be stored in a clean, dry, and ventilated environment (20-30°C), not in contact with any corrosive substance and away from heat and fire.
7. The battery should be charged completely once every 180 days when in storage.

The battery pack comprises multiple systems that are designed to prevent hazards resulting from failures. However, due to the nature of electrical systems, Revov cannot guarantee their absolute safety.

Leaking Batteries

If the battery pack leaks electrolyte, avoid contact with the leaking liquid or gas. If one is exposed to the leaked substance, immediately perform the actions described below.

8. Inhalation: Evacuate the contaminated area and seek medical attention.
9. Contact with eyes: Rinse eyes with flowing water for 15 minutes and seek medical attention.
10. Contact with skin: Wash the affected area thoroughly with soap and water, and seek medical attention
11. Ingestion: Induce vomiting, and seek medical attention

Fire

In case of fires, make sure that the extinguisher is available near the battery pack. If possible, move the battery pack to a safe area before it catches fire. Note: Fire Extinguisher Water, carbon dioxide, dry chemical powder and foam are the most effective means to extinguish a Lithium Ferrous Phosphate (LFP) battery fire.