



Volta Sodium Battery Pack

EBL-4.5

Installation Manual

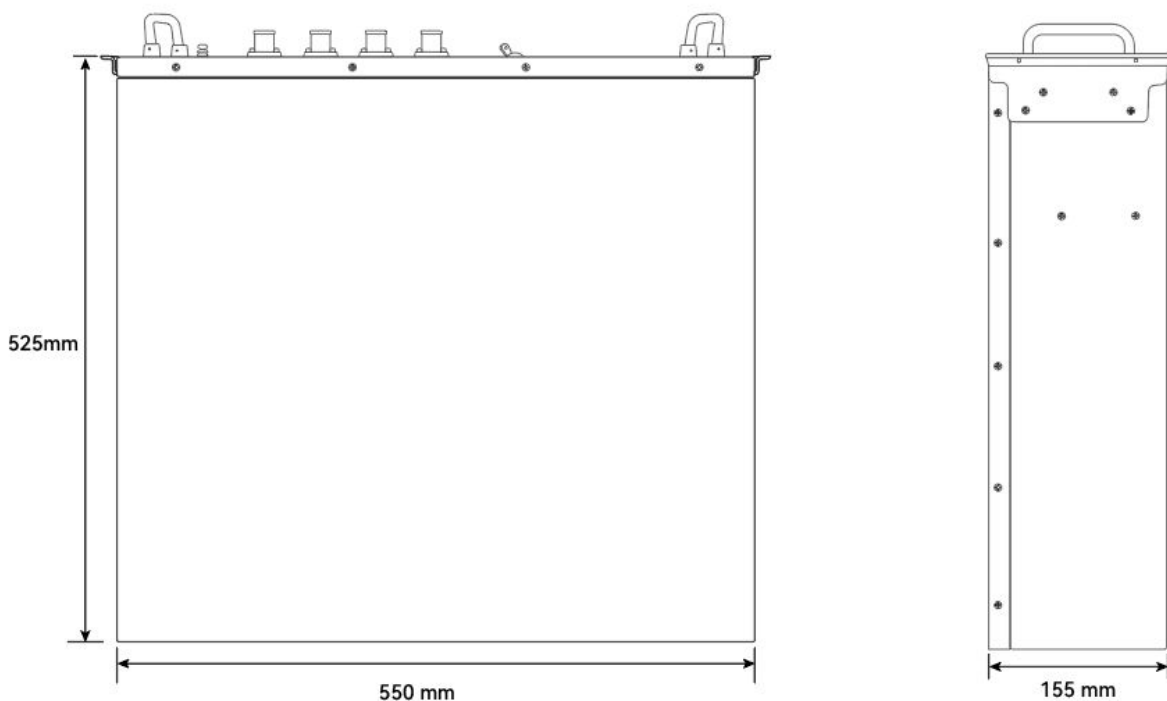
A Sustainable, Reliable, and Scalable Energy Storage Solution

The Eleven Energy 4.5 kWh Sodium Battery Pack combines innovative sodium-ion technology with sustainable design, offering reliable energy storage that's eco-friendly, durable and adaptable to your needs.

This manual provides detailed information about the battery pack, including installation guidelines, electrical connections, configuration and commissioning procedures and technical specifications.

Before installing and operating the product, please read this manual carefully to ensure you are familiar with the safety instructions, features, and functions of the inverter.

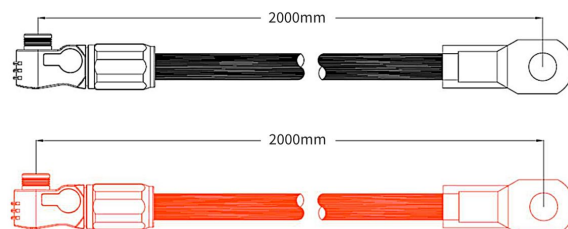
Battery Pack Dimensions



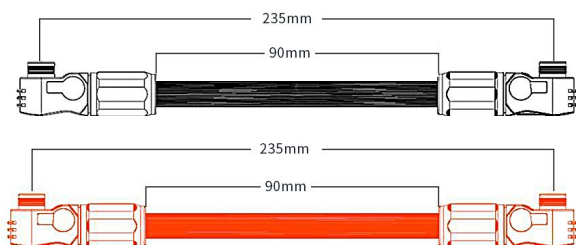
Box Content



Battery Pack
Qty: 1



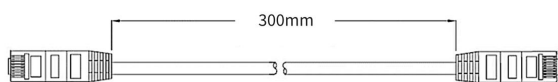
**Inverter-Battery Power
Cable Set**
Qty: 1



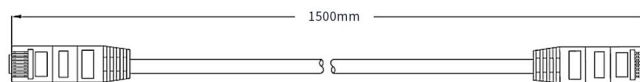
**Battery-Battery Parallel
Cable Set**
Qty: 1



Grounding Cable
Qty: 1

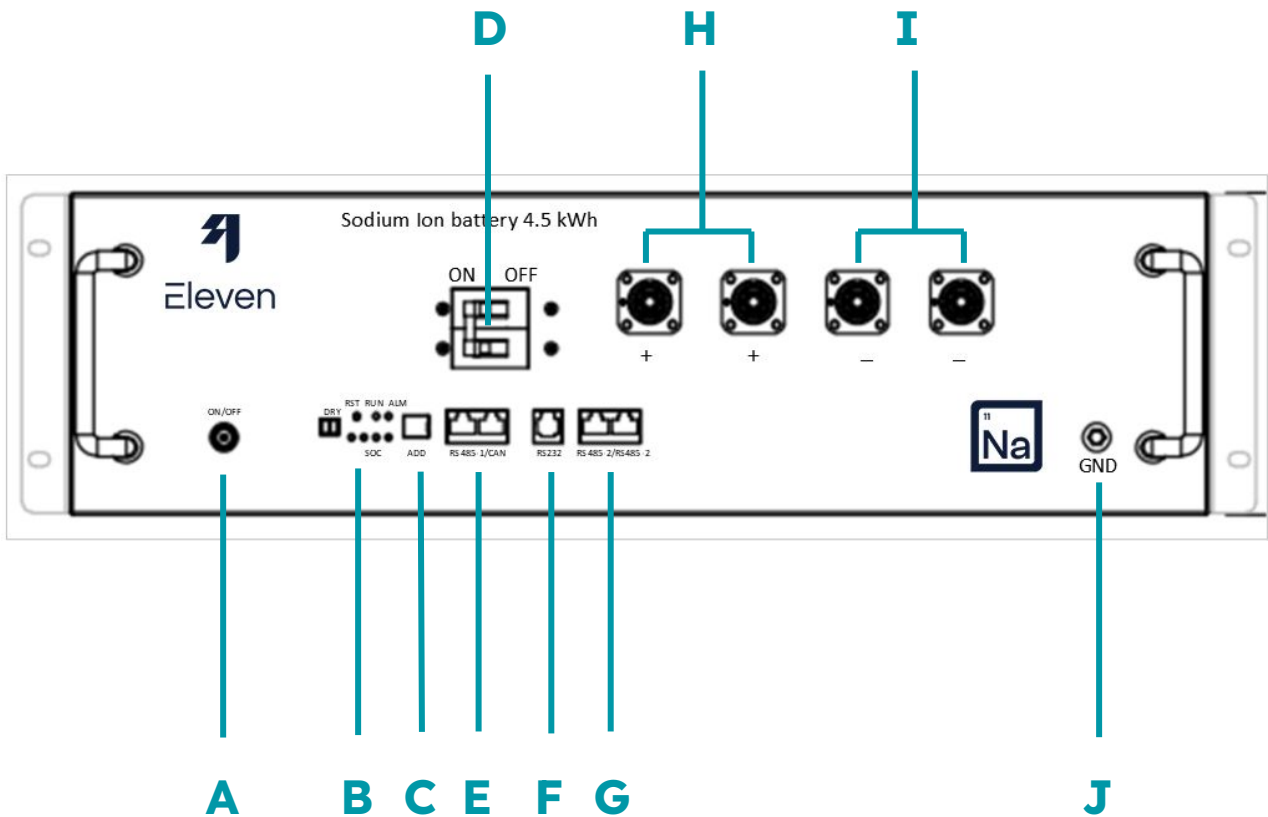


**Battery-Battery Parallel
Communication Cable**
Qty: 1



**Inverter-Battery
CAN BUS Cable**
Qty: 1

If any damaged or missing parts are found, please contact us immediately.



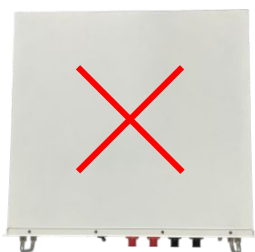
A	Battery ON/OFF Switch
B	Battery Status Indicator Lights
C	ADD: Parallel Battery Setting Dip Switch
D	Battery Circuit Breaker
E	RS485-1/ CAN: Inverter Communication Ports
F	RS232: Battery Diagnosis Port
G	RS485-2/ RS485-2: Battery Parallel Connection Ports
H	+ Battery Positive Terminal
I	- Battery Negative Terminal
J	GND: Battery Grounding Connection Point

Safety and Precautions

This document is intended exclusively for professional electricians accredited for the installation of battery storage systems and thoroughly familiar with UK electrical standards and regulations. **All electrical installations must be carried out by a qualified and UK registered electrician and in accordance with the IEE Wiring Regulations (BS 7671 - 18th Edition).**



- The battery pack is designed to work with an Eleven Energy Hybrid Inverter. Please do not connect this battery pack to any other brands of inverters or battery packs.
- An earth bond must be installed between all batteries and inverters.
- Do not connect the battery packs in series.
- Avoid installing the battery pack near water or fire sources.
- If wall-mounted, ensure the mounting wall is fire-resistant and sturdy enough to support the inverter's weight, with **a minimum thickness of 100 mm**. It must always be wall-mounted above a **minimum of 50 mm**.
- For external installations, the battery pack must be placed inside of a Eleven Energy **Outdoor Battery Enclosure**.
- Do not use the battery if there are any deformities, such as bulging or leakages
- Do not disassemble, puncture or throw the battery pack.
- Do not attempt to repair the battery pack.
- In the event of a fire, only dry powder fire extinguishers can be used.
- Do not store or install the battery pack upside down or sideways. Avoid directly stacking the battery packs on top of each other.



Upside Down



Sideways



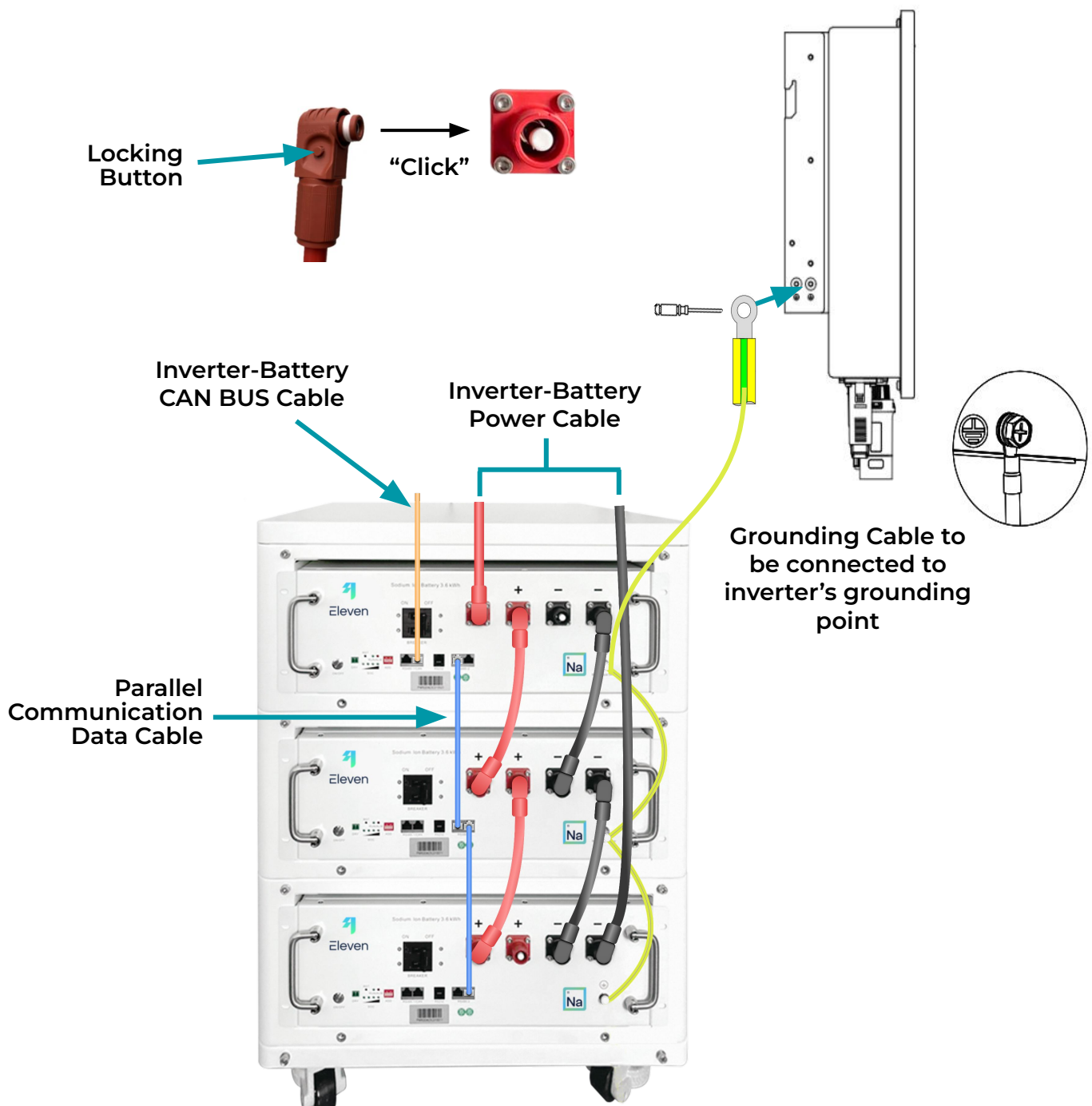
Directly stacked together

Battery Connection

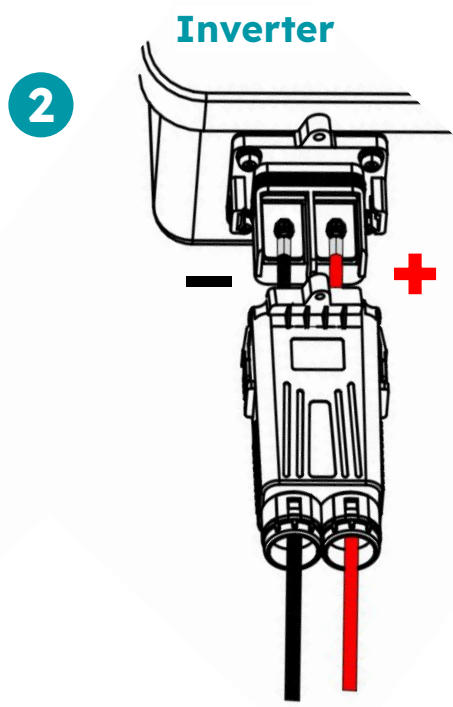
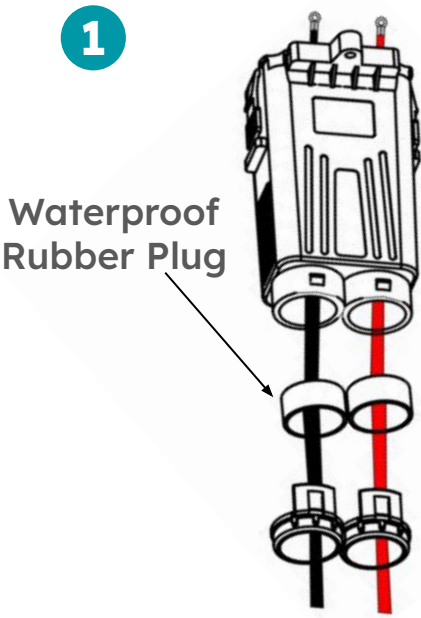
Before connecting the battery packs, ensure that **both the inverter and battery are powered off** (all indicator lights are off).

Do not connect or disconnect the battery cable while the inverter is operating, as this could result in electric shock and damage both the inverter and battery.

Battery power cable connectors have a locking mechanism. Ensure that the connectors are properly locked into the power terminals of the battery packs.

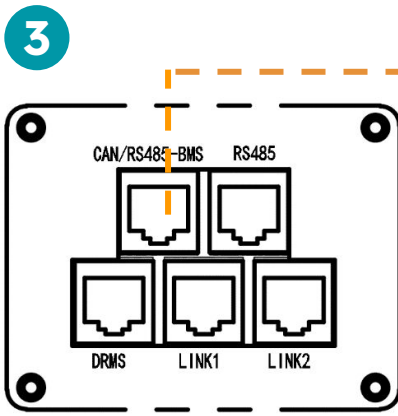


Battery Connection

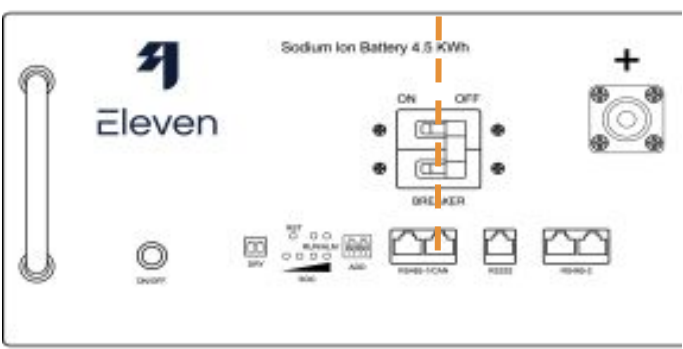


Secure the positive and negative power cables into their corresponding inverter terminals, ensuring a locking torque of **3.5 N·m**.

Do not reverse polarity!



Inverter Communication Module Interface
CAN/RS485-BMS Port

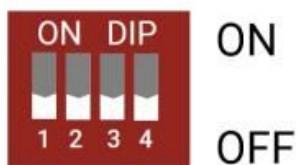


Sodium Battery Pack
CAN Port

Dip Switch Setting

When connecting multiple battery packs, each individual battery pack must be uniquely identified by its DIP switch setting. Please configure the DIP switches for each battery pack according to the table below.

When connecting two or more batteries, ensure that all batteries have the same State of Charge (SoC).



Battery Pack Number	1	2	3	4
1	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF
3	OFF	ON	OFF	OFF
4	ON	ON	OFF	OFF
5	OFF	OFF	ON	OFF
6	ON	OFF	ON	OFF
7	OFF	ON	ON	OFF
8	ON	ON	ON	OFF

Startup / Shutdown & Indicator Lights

Startup

Press the ON/OFF switch on the battery pack(s). After hearing a "beeping" sound, set the battery's integrated circuit breaker to the ON position.

Shutdown

Turn the battery's integrated circuit breaker to the OFF position, then press the battery ON/OFF switch.

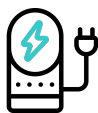
		Charge				Discharge			
Indicator Light		L1	L2	L3	L4	L1	L2	L3	L4
Battery Capacity	0~25%	Flash	Off	Off	Off	On	Off	Off	Off
	25~50%	On	Flash	Off	Off	On	On	Off	Off
	50~75%	On	On	Flash	Off	On	On	On	Off
	75~100%	On	On	On	Flash	On	On	On	On
Running Light (RUN)		On				Flash			

If the Alarm light (**ALM**) is constantly on, it indicates an abnormal condition in the battery pack. This could be due to over-temperature, over-current, a short circuit, or reversed polarity in the power connections. Please turn off the battery pack and contact us immediately.

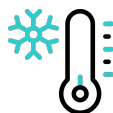
Volta ELB-4.5



Sodium-ion Technology
Green & Sustainable Battery



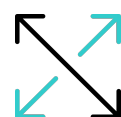
High Charge / Discharge Rate
Up to 100 A



Wide Operating Temperature Range
-20°C - 55°C



Flexible Installation Location
Indoor or Outdoor;
Wall-mount, rack-mount and
Outdoor Enclosure Options



Expandable Capacity
Up to eight battery packs can
be connected to provide 32.4
kWh of usable capacity.



Optional Dual
Battery Pack
Outdoor
Enclosure

Specifications

Battery Type	Sodium-ion
Capacity	4.5 kWh
Max. Charging / Discharging Current	100 A / 100 A
Rated Voltage	45 V
Operating Voltage Range	33V - 59.2V
Depth of Discharge	90%
Charging Temperature	-20°C - 55°C
Discharging Temperature	-30°C - 55°C
IP Grade	IP20
Humidity Range	5 ~ 95%
Dimensions (W x H x D)	594 x 525 x 155 mm
Weight	54.5 kg
Installation	Wall-mount / Rack-mount / Optional IP65 Outdoor Enclosure
Interface	RS485 / CAN
Standard	EN IEC 61000-6, EN IEC 62619
Product Warranty	10 Years

[Elevenenergy.co.uk](https://elevenenergy.co.uk)