



Volta Sodium Battery Pack

EBL-4.5

Installation Manual

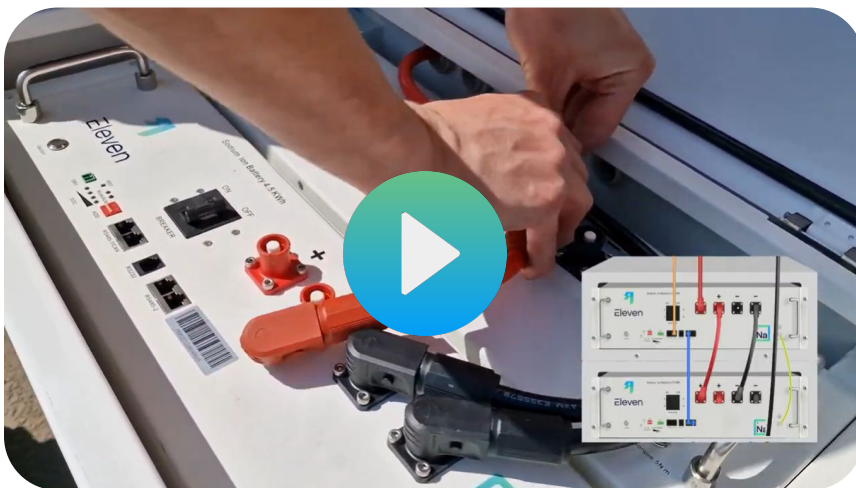
A Sustainable, Reliable, and Scalable Energy Storage Solution

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.

Check Out Our Installation Guide Video



elevenenergy.co.uk/product-documents

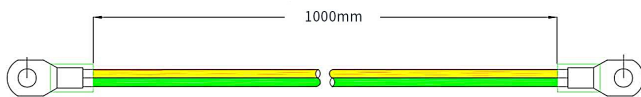
Box Content



Battery Pack
Qty: 1



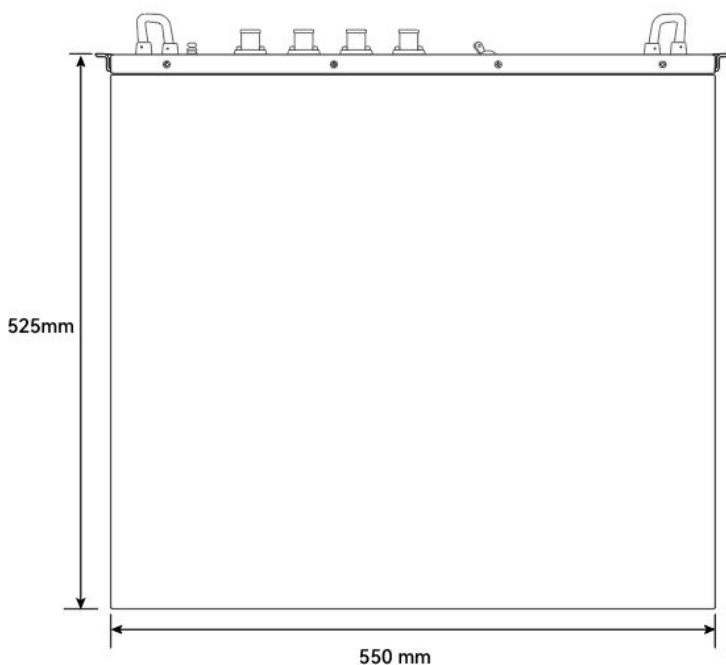
**Battery Pack
Stacking Kit**
Qty: 4 pieces



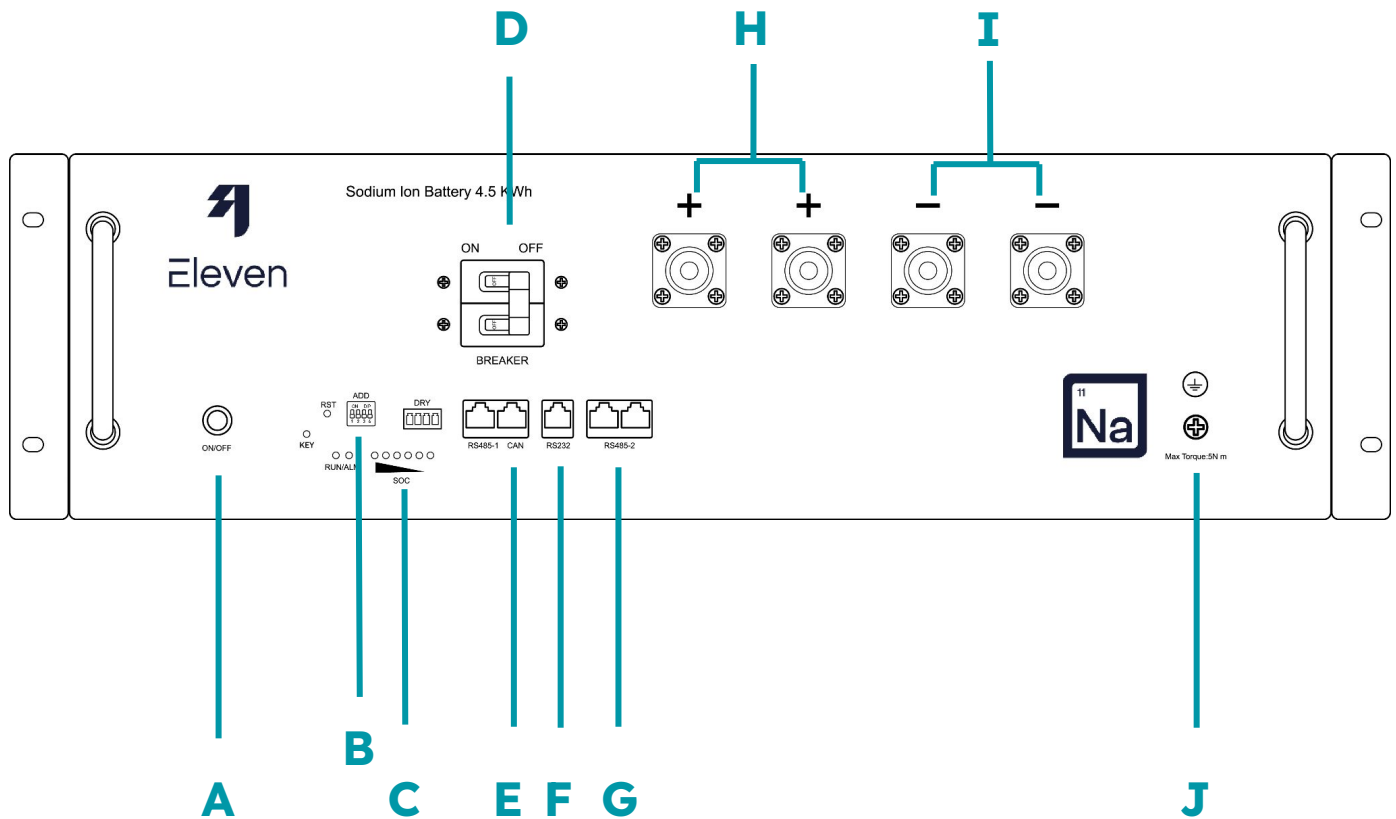
Grounding Cable
Qty: 1

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

Battery Pack Dimensions



Connections



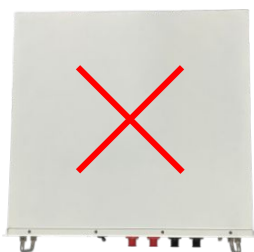
A	Battery ON/OFF Switch
B	ADD: Parallel Battery Setting Dip Switch
C	Battery Status Indicator Lights
D	Battery Circuit Breaker
E	CAN: Inverter-Battery Communication Port
F	RS232: Battery Diagnosis Port
G	RS485-2: Battery Parallel Connection Ports
H	+ Battery Positive Terminal
I	- Battery Negative Terminal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



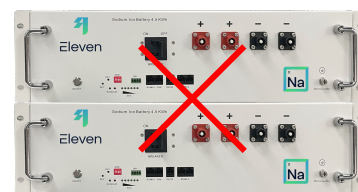
- The battery pack is designed to work with an Eleven Energy Hybrid Inverter. Please do not connect this battery pack to any other brands of inverters or battery packs.
- An earth bond must be installed between all batteries and inverters.
- Do not connect the battery packs in series.
- Avoid installing 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



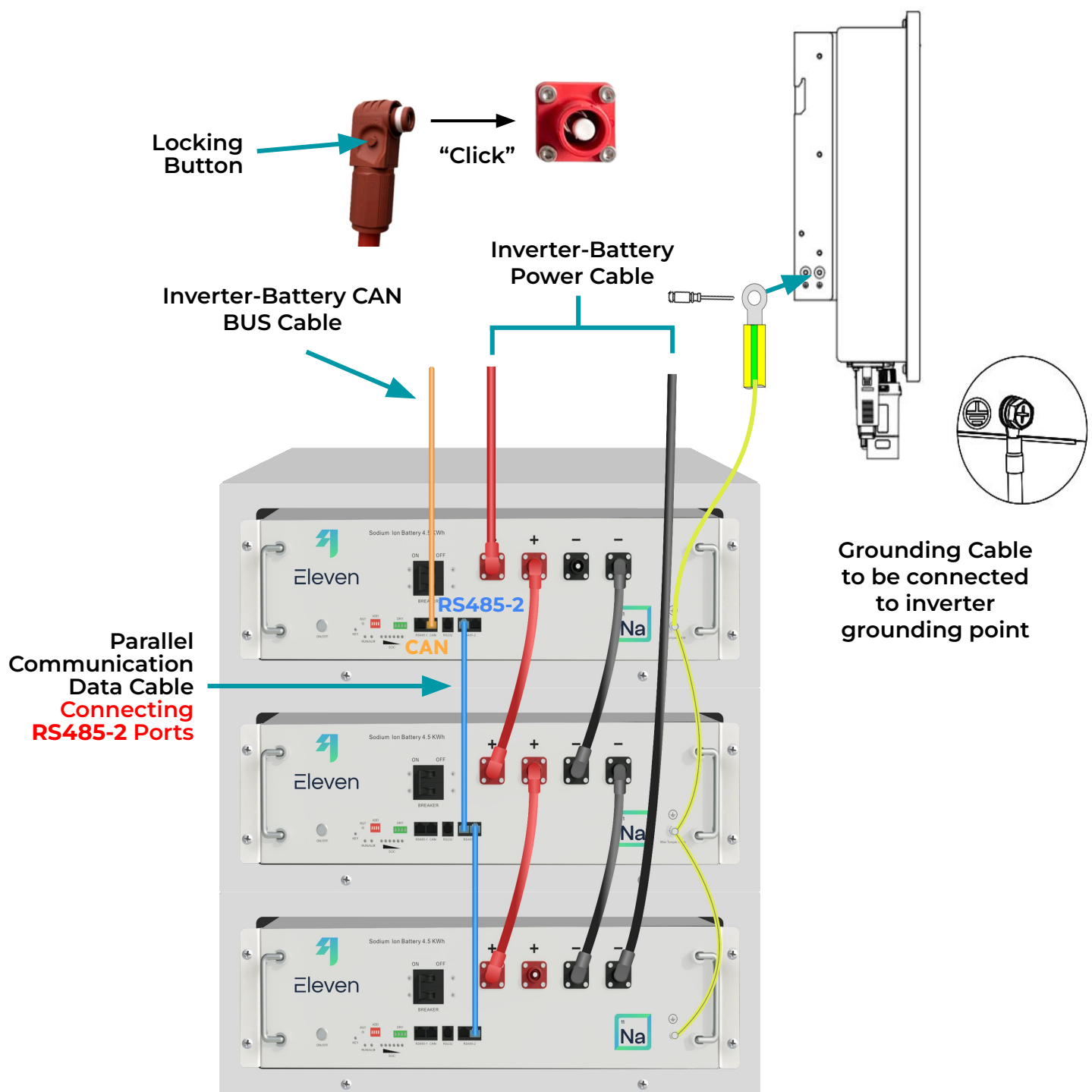
Directly stacked On top of each other

Battery Connection

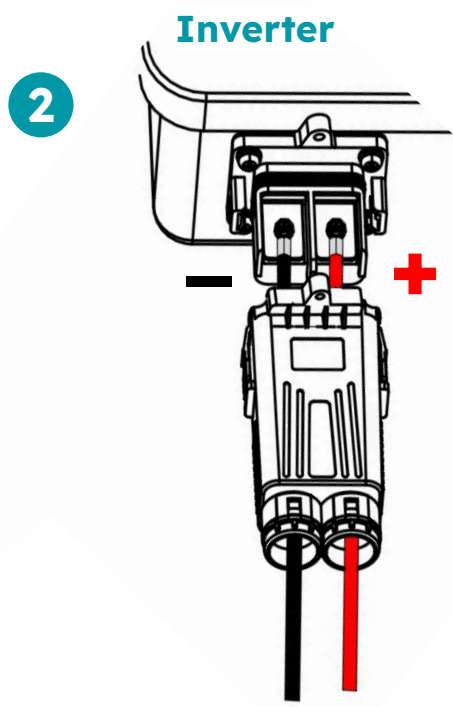
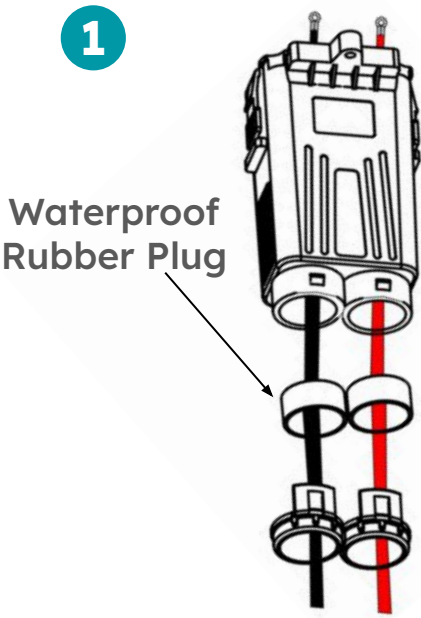
Before connecting the battery packs, ensure that **both the inverter and battery are powered off** (all indicator lights are off).

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.

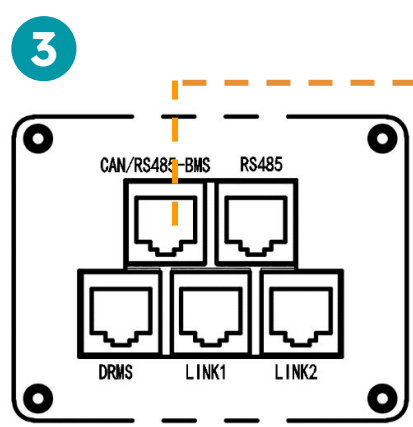


Battery Connection

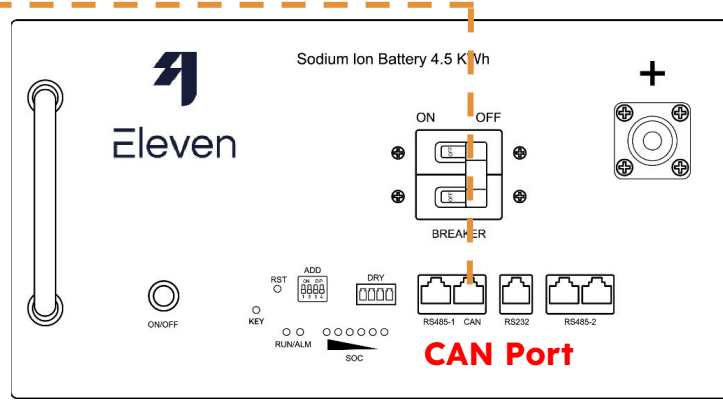


Secure the positive and negative power cables into their corresponding inverter terminals, ensuring a locking torque of **3.5 N·m**.

Do not reverse polarity!



Inverter Communication Module Interface
CAN/RS485-BMS Port

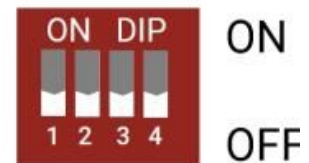


Sodium Battery Pack

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).



Dip Switch	1	2	3	4
Single Pack	OFF	OFF	OFF	OFF

Paralleled Battery Packs

Dip Switch	1	2	3	4
Pack 1	ON	OFF	OFF	OFF
Pack 2	OFF	ON	OFF	OFF
Pack 3	ON	ON	OFF	OFF
Pack 4	OFF	OFF	ON	OFF
Pack 5	ON	OFF	ON	OFF
Pack 6	OFF	ON	ON	OFF
Pack 7	ON	ON	ON	OFF
Pack 8	OFF	OFF	OFF	ON

Startup / Shutdown & Indicator Lights

Startup

Press the ON/OFF switch on the battery pack(s).
Once the battery status indicator light turns on, set the battery's integrated circuit breaker to the ON position.

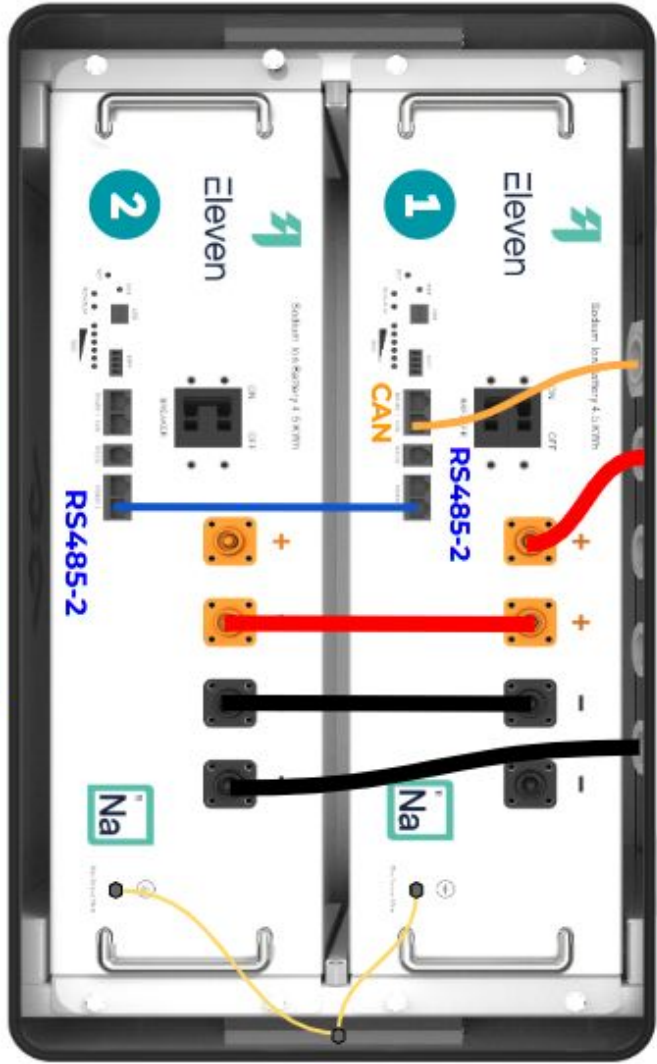
Shutdown

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

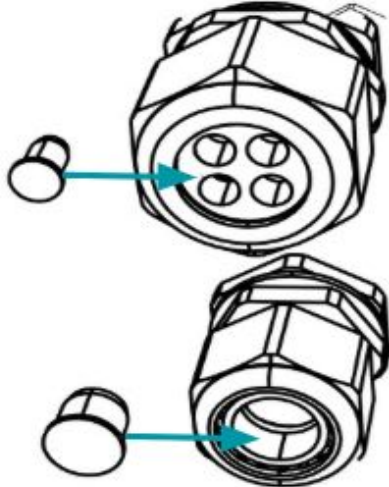
		Charge						Discharge					
Indicator Light		L1	L2	L3	L4	L5	L6	L1	L2	L3	L4	L5	L6
Battery Capacity	0~17%	Off	Off	Off	Off	Off	Flash	Off	Off	Off	Off	Off	On
	18~33%	Off	Off	Off	Off	Flash	On	Off	Off	Off	Off	On	On
	34~50%	Off	Off	Off	Flash	On	On	Off	Off	Off	On	On	On
	51~66%	Off	Off	Flash	On	On	On	Off	Off	On	On	On	On
	67~83%	Off	Flash	On	On	On	On	Off	On	On	On	On	On
	84~100%	Flash	On	On	On	On	On	On	On	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.

Inverter-Battery
CAN BUS Cable



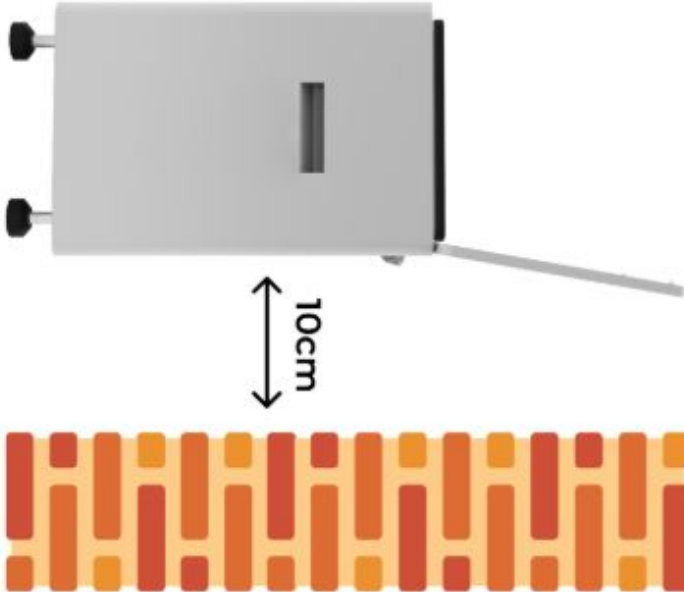
Battery Parallel
Communication
Data Cable

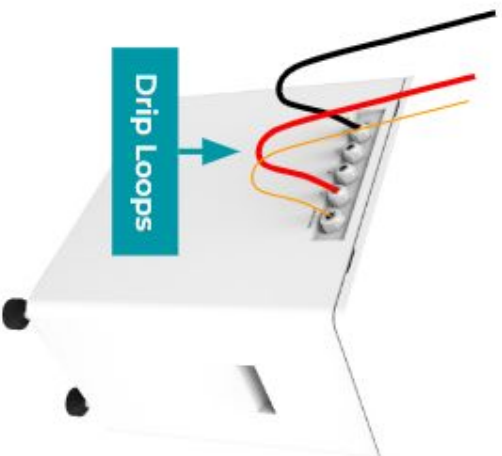


Make sure unused
ports are sealed and all
glands are tightened!



Dip Switch	1	2	3	4
Battery 1	ON	OFF	OFF	OFF
Battery 2	OFF	ON	OFF	OFF
Battery 3	ON	ON	OFF	OFF
Battery 4	OFF	OFF	ON	OFF



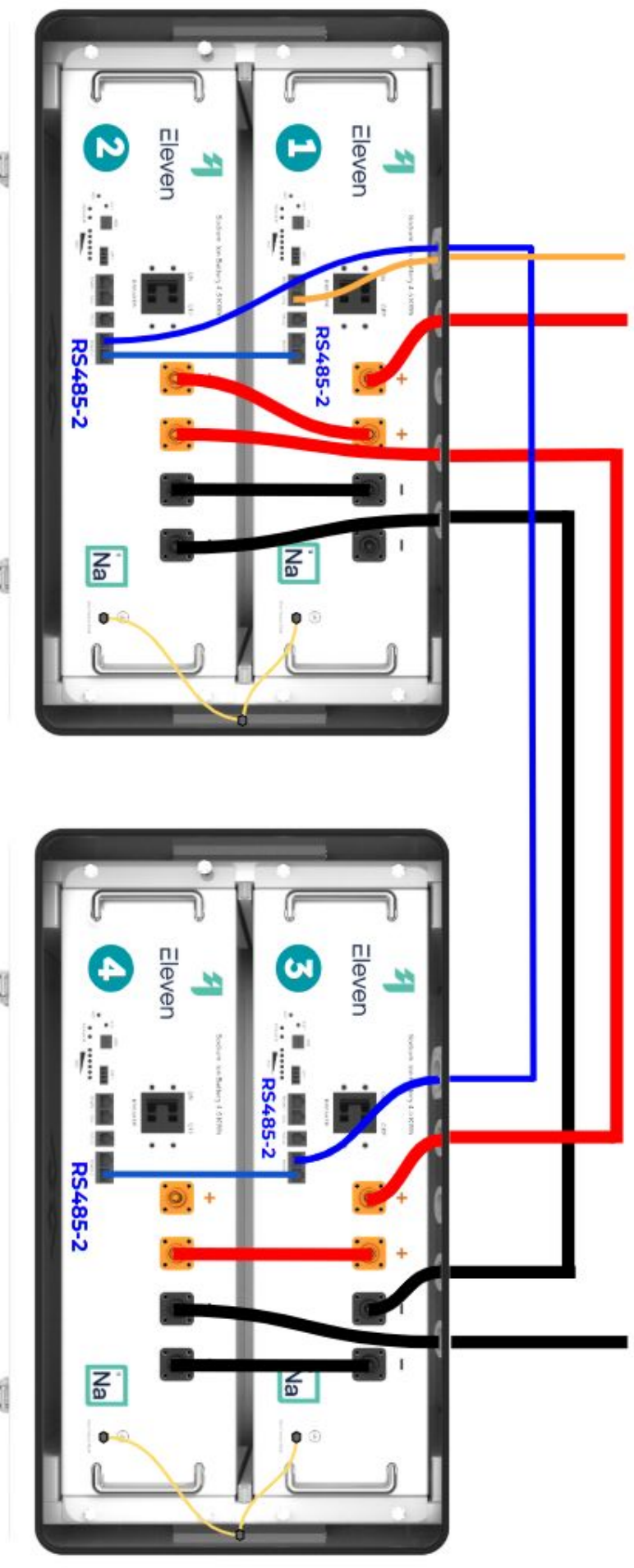


To maintain IP rating, cables exiting the enclosure must drop downwards to form a drip loop.

To Inverter
Heat Sink
Grounding Point



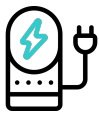
Battery parallel cables between enclosures need to be fitted through the cable glands before connectors are crimped.



Volta ELB-4.5



Sodium-ion Technology
Green & Sustainable Battery



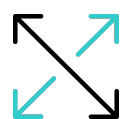
High Charge / Discharge Rate
Up to 100 A



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 33.12
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	92%
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)	550 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