

CLA User Manual



CONTENTS:

Overview	3
Specifications.....	3
Operation.....	4
1. General information	4
2. Initial start-up.....	4
3. Switching on / off.....	5
4. Display	5
1.1.1. HMI	5
1.1.2. Remote display.....	6
5. Charging	6
6. Outputs.....	7
1.1.1. DC Outputs	7
1.1.2. AC Outputs	8
1.1.3. USB Output.....	8
Help	9
Recommendations	10
Servicing and Maintenance.....	10

OVERVIEW

The CLA units (Autonomous Lithium Enclosure, with LiFePO₄ lithium battery pack) provide standalone electrical power for equipment installed on a mobile console. Built around a secure, modular design, they operate fully automatically. Quick and straightforward to install and use, they include the specific monitoring and control functions required for your applications. By following the instructions set out in this manual, you will get the very best from your CLA.

The CLA range includes a number of models, each with its own specific features.

- Technology: lithium
- Battery capacities : 500Wh or 750Wh
- Output voltages:
 - 24 VDC (unregulated).
 - Optional regulated 5, 12, 15, 19, 24 VDC (other voltages available on request).
 - Optional pure sine-wave 230 VAC, continuous power 350 or 500W (600W inverter).

This manual applies to CLA units with a capacity of 500 Wh or 750 Wh.

SPECIFICATIONS

		500Wh	750Wh
Enclosure reference		xxx	xxx
Mains input		230 VAC, 50 Hz	
Weight		12 kg	16 kg / 17 kg
LiFePO ₄ lithium batteries		2 x 24 V / 10 Ah	3 x 24 V / 10 Ah
Recharge time		6 h	7 h
Power	Total	500 W / 20 A	750 W / 30 A
	AC	350 W	350 W / 500 W
	24 VDC	10 A per output	10 A per output
	Regulated VDC	6A per output	6A per output
Converter		Sold separately: 5V/12V/19V/24V	
Temperature in use	Discharge	-10°C / +40°C	
	Charging	0°C / +40°C	
Storage temperature		-20°C / +50°C	
IP		IP20	
IK		IK02	
CE standard		EN60950-1 / EN61000-6-2 / EN61000-6-4	

OPERATION

1. GENERAL INFORMATION

- The unit must be securely fixed to the trolley/console so that it cannot move. 4/10
- The on/off switch and the 230 VAC input must remain accessible.
- The ventilation grilles must be kept clear to ensure effective airflow, and protected from impacts above IK02.
- Ensure the connectors are not put under strain.

Connecting the unit to the mains supply

The 230 V charging plug must remain accessible in order to:

- recharge the unit.
- disconnect the unit's power supply if required: isolating device.

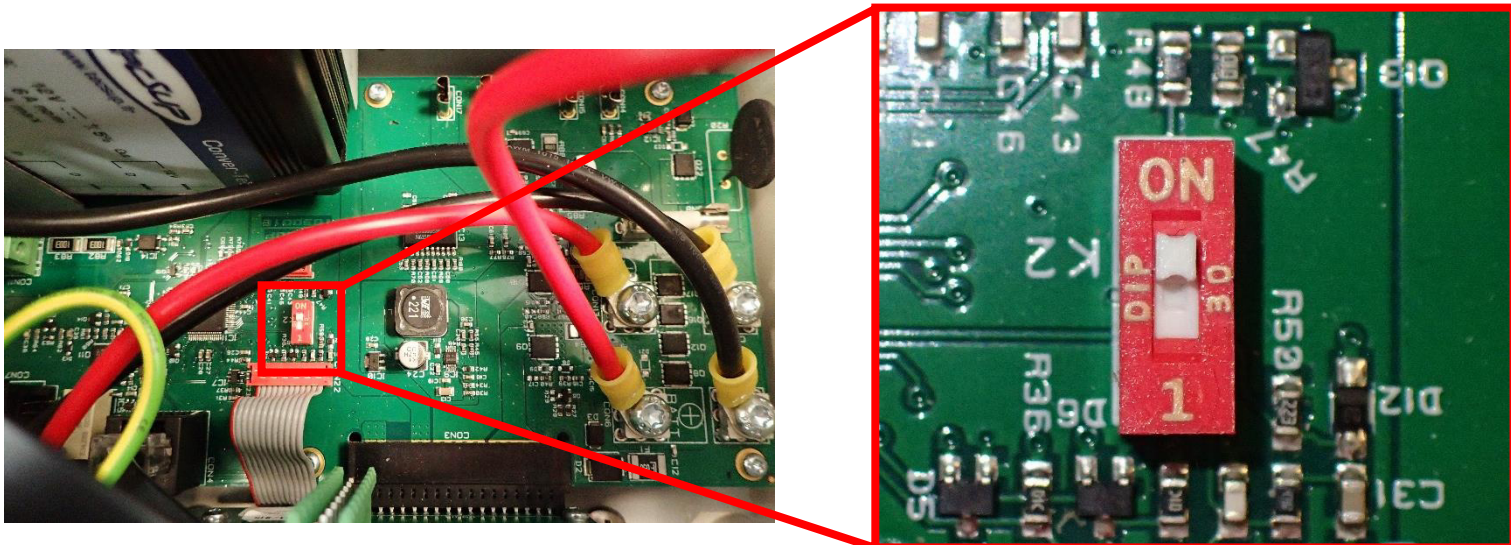
The wall socket used to charge the unit must be visible and easy to access. The unit must be connected to the mains using only the supplied lead. The 230 VAC supply line feeding the energy unit(s) must be protected upstream by a 30 mA RCD and by an MCB or HPC fuse rated at a minimum of 10 A and a maximum of 16 A (in accordance with NFC 15-100).

Connecting the AC outputs

Some units are fitted with two 230 Vac sockets. To comply with electrical protection requirements, only connect devices with double or reinforced insulation (Class II) and with no accessible metal parts to these outputs.

2. INITIAL COMMISSIONING

When the product is received, Transport Mode is enabled. This mode prevents the product from switching on unintentionally during transit. Transport Mode must be disabled to start the product. To do this, open the unit and carefully set the button to the position shown in the photo below. If the button is already in the correct position and the product still does not switch on, refer to the "HELP" section of the manual.



3. SWITCHING ON / OFF

A short press on the illuminated button starts the system. Once running, press and hold the button (>3 sec) to switch the system off.

Indicator status	
OFF	System switched off
Slow flashing blue	System operating
Flashing blue fast	System not ready or fault detected Please refer to the "Help" section

The unit switches off automatically if the batteries are flat.

Note: the fan runs for 5 seconds on start-up.

4. DISPLAY

1.1.1. HMI



The battery charge and charging status, as well as any unit error messages, are shown by a high-intensity tri-colour beacon.

The table below details the indications given by the beacon during discharge:

Beacon	Blue	Red
LED	Steady	Flashing
Battery charge status	6 LEDs out of 6 > 95% 5 LEDs out of 6 > 75% 4 LEDs out of 6 > 60% 3 LEDs out of 6 > 45% 2 LEDs out of 6 > 30% 1 LED out of 6 > 20%	1 LED out of 6 20% to 15% 0 LEDs out of 6 15% to 0%

The table below shows the indications given by the beacon during charging:

Beacon	Green	Blue	Red
LED	Steady	Circular motion	Circular motion
	6 LEDs out of 6 > 95%	5 LEDs out of 6 > 75% 4 LEDs out of 6 > 60% 3 LEDs out of 6 > 45%	1 LED out of 6: 20% to 15% 0 LEDs out of 6: 15% to 0%

Battery charge status		2 LEDs out of 6 > 30% 1 LED out of 6 > 20%	
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The table below details the indications given by the beacon in the event of an error :

Beacon	Pink	Orange
LED	Steady	Flashing
Meaning	Indicates a status of pre-charge on one or multiple batteries. The outputs are disabled Leave on charge for 24h	Indicates a fault Refer to the section "help" or connect the remote display

1.1.2. Remote display

An optional remote display is available. It relays information from the unit while providing clearer communication to the user about the unit's operating status (charge level, remaining run time, power consumption, etc.). The remote display also helps to diagnose any errors and issues the unit may encounter. For further information, please refer to the remote display user manual.

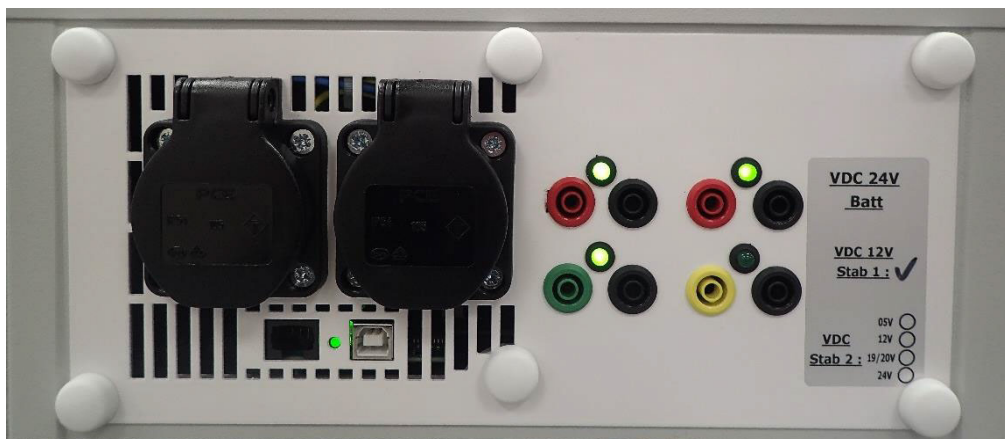
5. RECHARGING

The unit must be recharged using a mains power lead. A full recharge takes 8 hours. The CLA can be recharged while it is in use (within the limits of the power supply output).

Note: depending on conditions (initial state of charge, temperature), charging time may vary.

Warning: do not store the unit with the battery completely discharged, as this may damage it.

6. OUTPUTS



The LEDs linked to the output connectors show whether voltage is available (LED lit) or not (LED off) for each output.

1.1.1. DC outputs

Your unit is fitted with VDC output connectors, either Banana plug type or AMP type. Depending on the model, the configuration and the installed converters may differ. One or more voltages are available to power your electrical equipment at the corresponding rated voltages.



Banana connectors can be distinguished using a colour code. Please ensure you follow the colours in line with the voltages selected and the polarities :

Output	Qty	Terminal -	Terminal +
24 V direct battery output	2	Black	Red
Stabilised voltage output VDC Stab 1 (optional)	1*	Black	Green
Stabilised voltage output VDC Stab 2 (optional)	1*	Black	Yellow

* Requires an additional converter.



AMP connectors are electrically keyed. For each output, the + terminal is the one positioned at the very top of the connector.

Output	Qty	Diagram	Description
Direct output 24 V battery	2	24 V output	+24 V terminal: pin no. 1 – terminal: pin no. 3
Stabilised voltage output VDC Stab 1 (optional)*	1	12 V output	+12V terminal: pin no. 3 – terminal: pin no. 4
Stabilised voltage output VDC Stab 2 (optional)*	1	X V output	+x V terminal: pin no. 2 – terminal: pin no. 4

* Requires an additional converter. Cables for the various voltages are available from TECSUP on request.

1.1.2. AC outputs

Some models are fitted with 2 outputs to power your 230 VAC pure sine wave, intended for mains-operated devices.

Continuous output power: 350W (+/- 3%)

Peak output power: < 700W for 5 seconds.

1.1.3. USB output

Once connected to a PC, the CLA behaves like a battery (UPS). The computer then displays a gauge in the taskbar. The charge level shown depends on the remaining energy in the packs connected to the control module. Windows includes the drivers required for operation, so no software needs to be installed.

This feature is available only when the CLA is operating.

Note: works with Windows® XP/7/8.1/10.

HELP

Issue	Possible cause	Solutions
The battery pack won't charge	The pack is currently in use	To allow the battery pack to recharge, its power draw must be below 90 W (for a 500 Wh pack).
	The battery pack is in deep discharge	Leave the pack plugged into the mains for 48 hours.
	The temperature is too high. The battery is nearing full charge.	Let the pack cool down. In some cases, the final stage of charging takes longer. Leave the battery connected for a few more hours.
The control module indicator flashes rapidly	The temperature is too high	Let the unit cool down.
	The control unit is overloaded	Check that the power draw of your equipment does not exceed the CLA specifications.
The control module indicator light remains off	Battery flat	Check that the battery pack(s) are sufficiently charged.
	Short circuit on a DC output	Check your equipment.
	The control unit is overloaded	Check that the power draw of your equipment does not exceed the CLA specifications.

For a more in-depth diagnosis of your control unit, you can use the remote display and refer to its user manual.

RECOMMENDATIONS

Electrical hazards

Warning: the unit contains low voltage (230V AC). B1 or H1 authorisation is required for any work that involves opening the enclosure: commissioning, inverter installation, battery replacement, fuse change...

The 230V charging plug must be accessible in order to:

- recharge the unit.
- isolate the unit's power supply if required: isolating device.

The wall socket used to recharge the unit must be clearly visible and easy to access.

Chemical hazards (CLA – LiFePO4 lithium battery)

Please refer to Materials and Safety Information Sheet No. 126 803 (available on request from LMREA).

To reduce the risk of overheating—or, in the worst case, fire—when using Lithium LiFePO4 batteries, please follow these instructions:

- **do not crush.**
- **do not puncture.**
- **do not store near a strong heat source.**
- **do not expose to flames.**
- **do not use in areas where there is a risk of explosion.**
- **do not pour liquid inside.**
- **do not connect a cable other than the one supplied to the output.**
- **follow the installation and operating instructions.**

Procedure to follow in the event of an incident

- Evacuate people from the area and take the appropriate initial first-aid measures.
 - Skin contact : wash the skin with soapy water.
 - Inhalation : breathe fresh air and call a doctor to check the inhalation level.
- Eye contact: rinse thoroughly with water for at least 15 minutes and consult a doctor.

- Ventilate until the fumes have dispersed.
- Use Class D fire extinguishers, inert-gas extinguishers (for example, a mixture of argon and nitrogen), CO2, powder or foam extinguishers.
- Place the battery (or the complete product) in a suitable container: V0

CARE AND MAINTENANCE

General

No specific maintenance is required, except for the following points:

- Please ensure the ventilation grille and the inside of the enclosure are cleaned to help prevent faults caused by overheating.
- Whenever operating irregularities indicate it is necessary.

Battery replacement

To replace the lithium battery pack in your enclosure, please return the enclosure to LMREA's workshops.