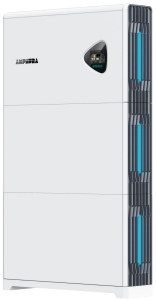
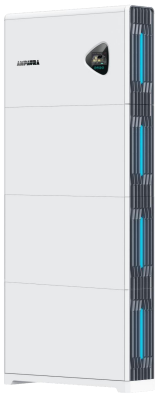
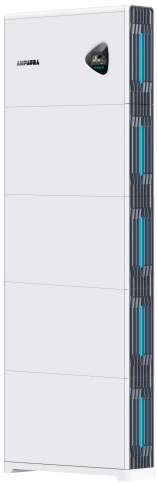
AmpAura Roca G2 Hybrid Energy Storage System Datasheet

- UPS function, 10ms transition.
- Support DC coupled, AC coupled applications.
- Support charging from a diesel generator.
- Support for AFCI function.

Specifications

System			
Product Model	Roca2-5KL-C-10 Roca2-5KL-E-10	Roca2-5KL-C-15 Roca2-5KL-E-15	Roca2-5KL-C-20 Roca2-5KL-E-20
Appearance			
Qty of inverters (Roca2-5KL-C/E)	1	1	1
Qty of batteries (XCD BAT 5.0)	2	3	4
Battery total energy	10.24 kWh	15.36 kWh	20.48 kWh
Usable energy capacity[1]	9.9 kWh	14.8 kWh	19.8 kWh
Rated output power	5 kW		
Weight	153 kg	210.1 kg	267.3 kg
Dimensions (mm)	740*1280*200	740*1680*200	740*2080*200
IP Rating	IP65		
Type of inverter	Non-isolated		
Protection class	Class I		
Pollution degree	PD3 for external, PD2 for internal		
Overvoltage categories	OVC II for DC, OVC III for AC		
Power factor	0.8 leading - 0.8 lagging		
Operating temperature	-20°C to +45°C		
Storage temperature	-20°C to +60°C		
Relative humidity	0% RH to 95% RH		
Operating altitude	≤2000 m		
Running noise	<70 dB		
Cooling	Forced air cooling		
Mounting	Wall bracket		
Display	LCD & App		
Communication	RS485/WiFi/Dry contact/BLE		
Country of origin	Made in China		
Certifications	EN 62109, EN 61000, IEC 62040, EN 50549, AS/NZS 4777.2, CEC,RoHS IEC 62619, IEC 63056, IEC 60730, UN38.3		
Warranty	10-year		

Inverter Module		
PV Input		
Max input power	6 kW	10 kW
Max input current	16 A * 2	
Max input DC voltage	500 V	
Min input DC operating voltage range	70 V to 450 V	
Input start-up voltage	200 V	
Nominal voltage	360 V ⎓	
MPPT voltage range	70 V ⎓ to 450 V ⎓	
Max MPPT input current	2 * 16 A	
Max MPPT short-circuit current	2 * 20 A	
Number of MPPT trackers	2	
Max voltage of open circuit	500 V ⎓	
Method of active anti-islanding	Frequency shift Power variation	
AC Grid		
Input voltage range	170 V~ to 265 V~ (L/N/PE)	
Rated input voltage	230 V~	
Rated input frequency	50 Hz	
Rated output power	5 kW	
Peak output power	6.5 kW	
Max grid continue input current	34 A	
Max grid continue output current	26 A	
Max grid output apparent power	5 kVA	
Rated output voltage	220 V~ / 230 V~ / 240 V~	
Rated output current	22A	
Rated AC frequency	50 Hz	
Short circuit current (Icc)	400 A (1ns)	
AC grid connection type	Single-phase	
Generator Input		
Input voltage range	170 V~ to 265 V~ (L/N/PE)	
Rated input voltage	230 V~	
Max continuous input current	26 A	
Rated input frequency	50 Hz	
short-circuit current	400 A (1ns)	
EPS Output (Backup)		
Rated output power	5 kW	
Rated AC output current	22 A	
Rated output voltage	230 V~ (L/N/PE)	
Rated output frequency	50 Hz	

Max output current	26 A
Rated output apparent power	5 kVA
Peak power	6.5 kW
short-circuit current	400 A (1ns)
Transfer time	< 10ms
THDU	<3%@100% R Load
Load start capability	60 A
Efficiency	
MPPT tracking efficiency	99.9%
Max inverter efficiency	98%
Battery Module	
Model	XCD BAT 5.0
Battery chemistry	LFP (LiFePO4)
Rated battery voltage	51.2 V⎓
Rated charge/discharge current	100A
Voltage range	43.2 V⎓ to 57.6 V⎓
Continuous charge current	100 A
Continuous discharge current	100 A
Max short-circuit current	160A
Charging temperature	0°C to +45°C
Discharging temperature	-20°C to +45°C
Rated energy	5.12 kWh
Rated capacity	100 Ah
Rated power	2500 W
Depth of discharge (DoD)	90% adjustable
Dimensions (mm)	740*400*200
Weight	57.1 kg

1.Test conditions: 100% depth of discharge, 0.2C rate charge & discharge averagely at 25°C, at the beginning of life.

1.Chemical Product and Company Identification

Sample name：AmpAura Roca G2 Hybrid Energy Storage System

Sample mode: Roca2-5KL-E-10,Roca2-5KL-E-15, Roca2-5KL-E-20,Roca2-5KL-C-10,Roca2-5KL-C-15, Roca2-5KL-C-20

Manufacturer: Energywave Technology Inc.

Address: 8th Floor, Building 1, NovaStar Tech Park, No.1699, Yunshui 3rd Road, Xi'an, Shaanxi, China

Country: Made in China

Email: support@ampaura.tech

Web:www.ampaura.tech

Tel: +86 (029) 68216000

Australia Importer Information

Company: Ampaura Australia Pty Ltd.

Address: 502-504 South Road, Kurralta Park, SA 5037.

Email: Tom@ampauraaustralia.com.au

www.ampauraaustralia.com.au

Tel: +61475070231

Version：V1.0

2.Battery Composition/Information on Ingredients

Chemical Composition	Chemical Formula	CAS No.	Weight(%)
Lithium Iron Phosphate	$LiFePO_4$	15365-14-7	24
Graphite	C	7782-42-5	10-30
Lithium hexafluorophosphate	$LiPF_6$	21324-40-3	23
Copper	Cu	7440-50-8	7-13
Aluminium	AI	7429-90-5	5-10
Nickel	Ni	7440-02-0	1-5

3.Hazards Summarizing

1.1 **Routes of entry**

1.1.1 Eyes and Skin-When leaking,the electrolyte solution contained in the battery irritates to ocular tissues and the skin.

1.1.2 Inhalation-Respiratory(and eye)irritation may occur if fumes are released due heat or an abundance of leaking batteries.

1.1.3 Ingestion-The ingestion of the Battery can be harmful. Content of open battery can cause serious chemical burns of mouth, esophagus and gastrointestinal tract.

1.2 **Health harm :**Exposure to leaking electrolyte from ruptured or leaking battery can cause

1.2.1 Inhalation-Burns and irritation of the respiratory system, coughing, wheezing, and shortness of breath.

1.2.2 Eyes-Redness, tearing, burns. The electrolyte is corrosive to all ocular tissues.

1.2.3 Skin-The electrolyte is corrosive and causes skin irritation and bumns.

1.2.4 Ingestion-The electrolyte solution causes tissue damage to throat and gastrointestinal track.

1.3 **Environment harm:** Notnecessary under conditions of normal use.

1.4 **Explosion danger:** The battery may be explosive at high temperature (above 60°C) or exposing to the fire.

4.First Aid Measures

1.1 **Skin contact:** Not anticipated. If the battery is leaking and the contained material contacts the skin, flush with copious amounts of clear water for at least 15 minutes.

1.2 **Eye contact:** Not anticipated. If the battery is leaking and the contained material contacts eyes, flush with copious amounts of clear water for at least 15 minutes. Get medical attention at once.

1.3 **Inhalation:** Not anticipated. If the battery is leaking, remove to fresh air. If irritation persists, consult a physician.

1.4 **Ingestion:** Not anticipated. If the battery is leaking and the contained material is ingested, rinse mouth and surrounding area with clear water at once. Consult a physician immediately for treatment.

5.Fire Fighting Measures

1.1 **Unusual Fire and Explosion Hazards:** Battery may explode or leak potentially hazardous vapors subject to:exposed to excessive heat (above the maximum rated temperature as specified by the manufacturer) or fire, over-charged, short circuit, punctured and crushed.

1.1 **Hazardous Combustion Products:** Fire, excessive heat, or over voltage conditionsmay produce hazardous decomposition products. Damaged batteries can result in rapid heating and the release of flammable vapors.

1.2 **Extinguishing Media:** Dry chemical type extinguishers are the most effective means to extinguish a battery fire. A CO2 extinguisher will also work effectively

1.3 **Fire Fighting Procedures:** Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire. Full protective clothing is necessary. During water application, caution is advised as burning pieces of flammable particles may be ejected from the fire.

6.Accidental Release Measures

The material contained within the battery would only be released under abusive conditions. in the event of battery rupture and leakage, collect all the released materials that are not hot or burning in an appropriate waste disposal container while wearing proper protective clothing and ventilate the area. Placed in approved container and disposed according to the local regulations.

7.Handling and Storage

1.1 Handling

1.1.1 Batteries are designed to be recharged. However, improperly charging a battery may cause the battery to flame, When charging the battery, use dedicated chargers and follow the specified conditions.

1.1.2 Never disassemble or modify a battery.

1.1.3 Do not immerse, throw, and wet a battery in water.

1.1.4 Should a battery unintentionally be crushed, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid the inhalation of any vapors that may be emitted.

1.1.5 Short circuit causes heating. in addition, short circuit reduces the life of the battery and can lead to ignition of surrounding materials. Physical contact with to short-circuited battery can cause skin burn.

1.1.6 Avoid reversing the battery polarity, which can cause the battery to be damaged or flame.

1.1.7 In the event of skin or eve exposure to the electrolyte, refer to Section 4, First Aid Measures.

1.2 Storage

1.2.1 Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks. Do not place batteries near heating equipment, nor expose to direct sunlight for long periods.

1.2.2 Do not store batteries above 35℃ or below-20℃. Store batteries in a cool (about 20+5'C) in a long time, dry and ventilated area that is subject to little temperature change. Elevated temperatures can result in reduced battery cycle life. Battery exposure to temperatures in excess of 60'℃ will result in the battery venting fammable liquid and gases.

1.2.3 Keep batteries in original package until use and do not jumble them.

8.Exposure Controls/Personal Protection

1.1 Engineering Controls: Keep away from heat and open flame.

1.2 Ventilation: Not necessary under conditions of normal use. in case of abuse, use adequate mechanical ventilation (local exhaust)for the battery that vent gas or fumes.

1.3 Respiratory Protection: Not necessary under conditions of normal use. If battery is burning, leave the area immediately. During fire fighting fireman should use self-contained breathing, full-face respiratory equipment. Fires may be fought but only from safe fire fighting distance, evacuate all persons from the area of fire immediately.

1.4 Eye Protection: Not necessary under conditions of normal use. Use safety glasses with side shields if handling a leaking or ruptured battery.

1.5 Body Protection: Not necessary under conditions of normal use. Use rubber apron and protective working in case of handling a leaking of ruptured battery.

1.6 Protective Gloves: Not necessary under conditions ofnormal use. Use chemical resistant rubber gloves if handling a leaking or ruptured battery.

1.7 Others: Use good chemical hygiene practice. Wash hands thoroughly after cleaning-up a battery spill caused by leaking battery. No eating, drinking, or smoking in battery storage area.

9.Physical and Chemical Properties

State: Solid

Odor: N/A

PH: N/A

Vapor pressure: N/A

Vapor density: N/A

Boiling point: N/A

Solubility in water: Insoluble

Specific gravity: N/A

Density: N/A

10.Stability and Reactivity

Stability: Stable
Conditions to Avoid: Do not heat, throw into fire, disassemble, short circuit,immerse in water or overcharge, etc.
Incompatibility: None during nomal operation. Avoid exposure heat, open fame and corrosives.
Hazardous Polymerization: Will not occur.
Hazardous Decomposition Products: The battery may release irritative gas once the electrolyte leakage.

11.Toxicological Information

The battery does not elicit toxicological properties during routine handling and use. If the battery is opened through misuse or damage, discard immediately Intemnal components of cell are irritant and sensitization.

Irritancy: The electrolytes contained in this battery can iritate eyes with any contact. Prolonged contact with the skin or mucous membranes may cause irritation.

Sensitization: No information is available.

Teratogenicity: No information is available.

Carcinogenicity: No information is available

Mutagenicity: No information is available.

Reproductive toxicity: No information is available.

12.Ecological Information

1. When properly used and disposed, the battery does not present environmental hazard.
2. The battery does not contain mercury, cadmium, or lead.
3. Do not let intemal components enter marine environment. Avoid releasing to water ways,wastewater or ground water.

13.Disposal Considerations

1. Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.

2. The battery should be completely discharged prior to disposal and/or the terminals taped or capped to prevent short circuit. When completely dischargec it is not considered hazardous.

3. The battery contains recyclable materials. Recycling options available in your local area should be considered when disposing of this product, through icensed waste Carier.

14.Transport Information

Label for conveyance: Lithium Battery Label

UN Number: UN 3480

Transport hazard class(es): 9

Packing group: The goods are packaged according·to·the packaging instructiat P903.

Marine pollutant: No

UN Proper shipping name: Lithium ion Batteries (including lithium ion polymer batteries)

ICAO/IATA : Can be shipped by air in accordance with intemational Civil Aviation Organization (lCAO), Tl or Intemational Air Transport Association (lATA) DGR 66th Packing Instructions Section lA of 965 or Section l of 966~967 appropriately.

IMDG CODE: Intemational Maritime Dangerous Goods Code lMDG CODE (Amdt42-24)

ADR: European Agreement concerning the Intemational Carriage of Dangerous Goods by Road

RID: Regulations conceming the International Carriage of Dangerous Goods by Rail

15.Regulatory Information

《Dangerous Goods Regulations》

《Recommendation on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Technical instructions for the Safe Transport of Dangerous Goods》

《Classification and code of dangerous Goods》

《Consumer Product Safety Act》(CPSA)

《Federal Environmental Pollution Control Act》(FEPCA)

《Resource Conservation and Recovery Act》(RCRA)

《European Agreement concerning the International Carriage of Dangerous》

《Regulations concerning the International Carriage of Dangerous》

In according with all Federal, State and local laws.

16.Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, this document makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to detemmine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your infommation, consideration and investigation. This material safety data sheet provides quidelines for the safe handling and use of this product, it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.