V8 - 10/07/2024

PESS ENERGY

Rock-E

User manual

Please read this user manual carefully.

We would like to thank you for choosing a PESS Energy product and we hope that you will enjoy using your device in your daily work.

If, in spite of this manual, you encounter any misunderstandings or situations that have not been mentioned in this document, please contact us by e-mail at contact@pessenergy.com or by telephone on +334 91 58 86 74. Please read all the instructions in this manual carefully.

Follow all warnings and information contained in this manual. PESS Energy cannot be held responsible for any damage or injury caused by incorrect use. This user manual applies to the Powerbank ROCK-E, hereinafter referred to as 'the device'.

In order to continuously improve our products and ensure customer satisfaction, we reserve the right to make technical changes to the device without prior notice.
For more information about our company and our products, you can find us on our official website www.pessenergy.com.

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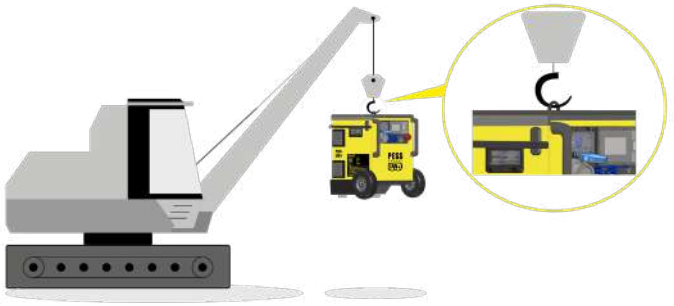
LIFTING WITH THE LIFTING RING

Weight 130 kg



LOADING INTO A VAN

Heavy load 130 kg

LASHING IN A VAN

Use the handles to secure the Rock-E

ROLLING

DRY CONTACT

Automatic generator set starting via dry contact

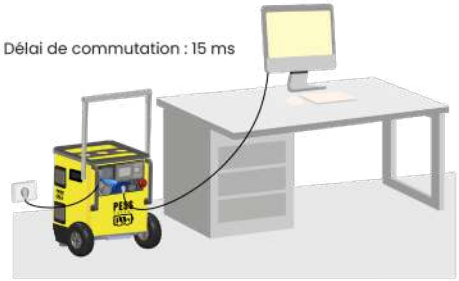
petrol-powered generator : 4 kW min

BACK UP 16A

Securing your sensitive equipment

Max output 500 W if battery not charged
Max output 3600 W when battery is charged

Délai de commutation : 15 ms



BACK UP 32A

Max output 2000 W if battery not charged
Max output 7400 W when battery is charged

16A POWER SUPPLY

Output: 3600 W max

32A POWER SUPPLY

Output: 7400 W max

Example: Recharging electric site machines via type 2 charging point

DAISY CHAIN 16A

Add up the capacity (duration) of your Rock-E devices (2 to 10 devices = 20 to 200 kWh)

Example: 640 W lighting mast over 3 Rock-E = 50 h

DAISY CHAIN 32A

Example: 4000 W water pump on 3 Rock-E = 8h

Different ways to recharge your Rock-E

RECHARGE ON 16A MAINS

Charging time: <4h=100
Charging power: 3000W

RECHARGE ON 32A MAINS

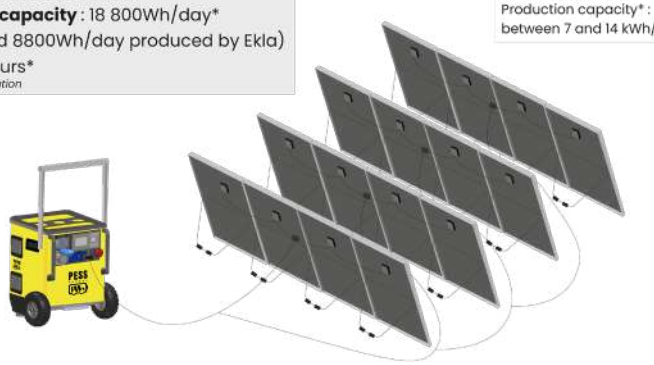
Charging time : 2h= 100%
Charging power : 5000W

SOLAR PANEL CHARGING

Produce your own energy anywhere

Maximum PV input power: up to 5500W
Theoretical cumulative capacity : 18 800Wh/day*
(10 000Wh for Rock-E and 8800Wh/day produced by Ekla)
Recharging time : <12 hours*
**depends on weather, season and location*

Ekla accessories
Max power : 1700 Wc
Real power : 1400 W
Production capacity* :
between 7 and 14 kWh/day



RECHARGE ON ELECTRIC VEHICLE CHARGING

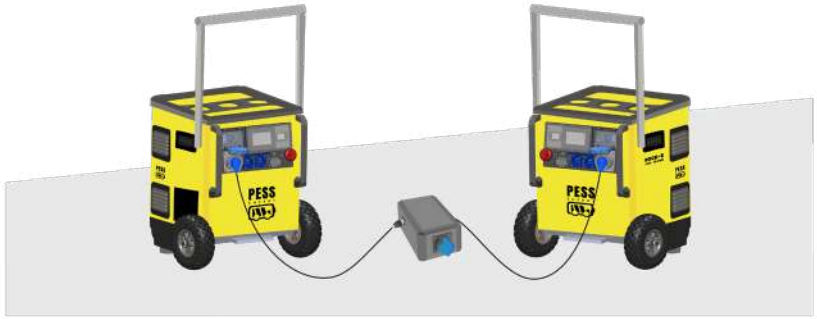
Recharging time : Up to 6 Rock-E <4 hours

EV adapter accessory
Input : type 2
Output : 32A three-phase
Distribution : 6 x 16A

Add up the power and capacity (duration) of your Rock-E

CONNECTION OF 2 ROCK-E SINGLE-PHASE

Max output : 16 kW single-phase
Total capacity : 20 kWh



CONNECTION OF 3 ROCK-E IN THREE-PHASE

Max output : 21 kW triphasé (32A)
Total capacity : 30 kWh

CONNECTION OF 6 ROCK-E IN THREE-PHASE

Connection of 2 to 6 Rock-E
Output : 48 kW single-phase
Capacity : from 20 to 60 kWh

II. Instructions

1. General safety instructions

- This device generates electricity on a private network, under the responsibility of the user. Only qualified personnel may use this device.
- For optimal and safe operation of the device, please follow the required specifications on the electrical power of your devices to be powered.
- Equipment with a combined continuous electrical power of more than 8000 W must not be connected to the device.
- If you wish to disconnect the AC or DC terminals, please follow the operating procedure carefully (see section III.2 'Starting up the device').
- Isolated neutral system (IT). Before use, the device must be earthed using an earth rod (not sold with the device). Make sure you comply with local requirements and applicable regulations when installing the device.
- The device must be stored charged at a temperature between -20°C and +45°C, in a dry, ventilated, clean area away from direct sunlight.
- Do not store the device on a puddle.
- The photovoltaic (PV) input is a maximum of 5500 W (MPPT from 90 to 450 VDC - 500 Voc) (see §II.2 'Technical characteristics of the device').
- When not in use, the device must be switched off by pressing the 'POWER' button. (see §III.3 'Switching off the appliance' & §II.3 Figure 1 and 2).
- Do not use the device when it is completely discharged.
- The battery isolating switch (also marked 'Emergency stop' on the device, see §II.3 Figure 1) must only be used in the following cases :
    - Smoke and/or fire emanating from the device (use only if possible).
    - Long-term storage of the device (more than 3 months).
    - Procedure for restarting the device (in the event of long-term storage or start-up at cold temperature).
    - Problem caused by equipment connected to the device.

- It is forbidden to connect electrical equipment to the output of the device during charging to a 16A mains socket (risk of INPUT and mains overload). **However, it is allowed to charge the device on a 32A socket while discharging at a maximum continuous power of 3000W.** Do not short-circuit any of the device's inputs or outputs.
- It is forbidden to connect 2 output sockets to each other.
- It is forbidden to connect an output plug to the device's recharging socket.
- It is forbidden to connect an output socket to a PV input socket on the device.
- Do not open the device (risk of electric shock, loss of manufacturer's warranty). Repairs may only be carried out by repairers authorised by PESS Energy. If any faults remain after repair, please return your device to the authorised PESS Energy repair centre or to the retailer who sold it to you.
- Do not cover the device when in use.
- When in use, the device should be kept in the shade.
- The device must be handled with care.
- It is forbidden to use the handlebars (see §II.3. Figure 2) of the device as a lifting point.
- The device must only be lifted using its lifting points (see §IV 'FAQ').

2. Important instructions for the environment

- PESS Energy is responsible for the end-of-life and recycling of the product.
- To prevent damage to the environment and human health, this device must not be discarded with other waste. Contact the retailer who sold it to you so that you can recycle it safely and responsibly.
- The cardboard packaging and wooden pallet support that protect the device during transport can be recycled. They should be discarded in the appropriate containers. Other plastic waste should be discarded in the rubbish bin.

III. Presentation of the device

This device is a mobile energy unit, combining inverter, solar charger and battery charger functions to provide uninterrupted power supply. Its LCD screen allows the user to control the device's functions and easily access information such as the battery's state of charge, temperature, error messages and the device's input and output power.

1. General characteristics of the device

- 8000W max continuous inverter.
- Integrated battery charger.
- MPPT: Integrated solar charge controller - 5500W max continuous.
- Mobile, noise-free power transmission.
- Compatible with 230VAC mains voltage or a 230VAC generator.
- Protection against overloading, overheating and short circuits.

2. Technical characteristics of the device

Technical data		ROCK-E
AC Production	AC output	8 000 W
	Peak power (0.5 sec)	15 000 W
	Nominal power (15 min)	10 000 W
	Battery capacity	10 000 Wh
	Yield	90 - 93 %
	AC output voltage	230 VAC ±5%
	Frequency	50 Hz
	Signal type	Pure sinus
	Switching times	10ms (for personnal computers) / 20ms (for domestic equipment)
Connections	AC output connections (OUTPUT)	2 single-phase sockets (16A) 1 single-phase socket (32A) 1 USB-C socket

	AC input connections (INPUT)	1 Power Twist 20A (NAC3 MPXXA) 1 Input Neutrik 32A (NAC3M-PHC)
	DC input connections (SOLAR)	Anderson SBSX-75A
	Parallel connection of Power-banks (up to a maximum of 6)	1 XLR female 3P socket 1 XLR male 3P socket 1 SUB-D9 female socket 1 SUB-D9 male socket
	Dry Contact	1 SpeakON 4P socket - Automatic generator start + battery charge maintenance
Recharge	AC power supply	230 VAC 50 Hz
	Max. charging power 16A AC socket	3000 W
	Charging time (when empty)	< 4h à 16A
	Max. charging capacity AC socket 32A	5000W
	Charging time (when empty)	2h à 32A
Protections	AC Protection	Interrupteur différentiel 30mA (40A)
	AC circuit breaker	1 x 16A circuit breaker 1 x 32A circuit breaker
	DC Emergency stop	Mushroom button battery disconnector
	Protection DC (batterie)	Fuse + BMS
	Protection DC (PV)	Fuse + 40A DC circuit breaker
	Mise à la terre	Earth stake
Battery	Battery chimie	Lithium Fer Phosphate (LFP)
Solar panels	Max PV power	5500 W
	MPPT voltage range	90 VDC - 450 VDC
	Max input voltage	500 VDC
	PV max current	40 A

Temperatures	Recharge température	0 ~ +55°C
	Use temperature [1] [2]	-20 ~ +55°C
	Storage température [3] [4]	-20 ~ +45°C
	Long-term storage temperature [5]	0 ~ +35°C
Physicals	Dimensions (H x L x l)	70 x 65 x 74 cm
	Net weight	130 kg

(1) Refer to section III.2 for information on how to start up the device according to the scenarios identified at ambient temperature (20°C).
(2) Maximum usable power may vary depending on the outside temperature
(3) At ambient temperature (20°C)
(4) For short-term storage (<1 month)
(5) For long-term storage (>3 months)

3. Basic system architecture

The following illustration shows the basic functions of the device, which can be used as an electrical power source and/or solar energy generator.

Contact PESS Energy for other possible system configurations to suit your needs. This device can be used to power all types of domestic or professional equipment, including motorised equipment such as grinders, hoovers, jigsaws, compressors, etc.

The man-machine interface is located mainly on the rear of the device (see Figure 1). Some functions, such as circuit breakers or paralleling sockets, are located on the side panels (see Figure 2).

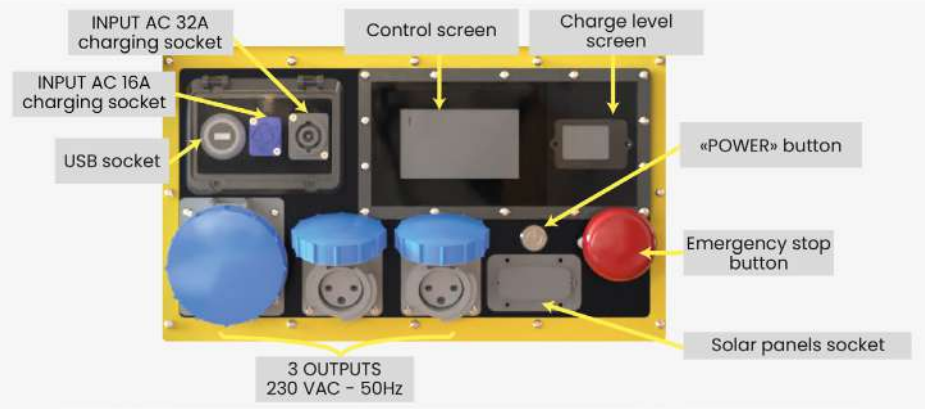


Figure 1 : Rear of the device

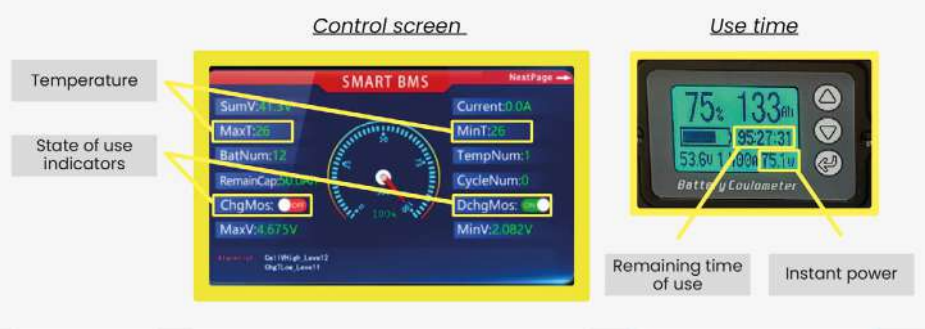


Figure 2 : Zoom on the screens at the rear of the device

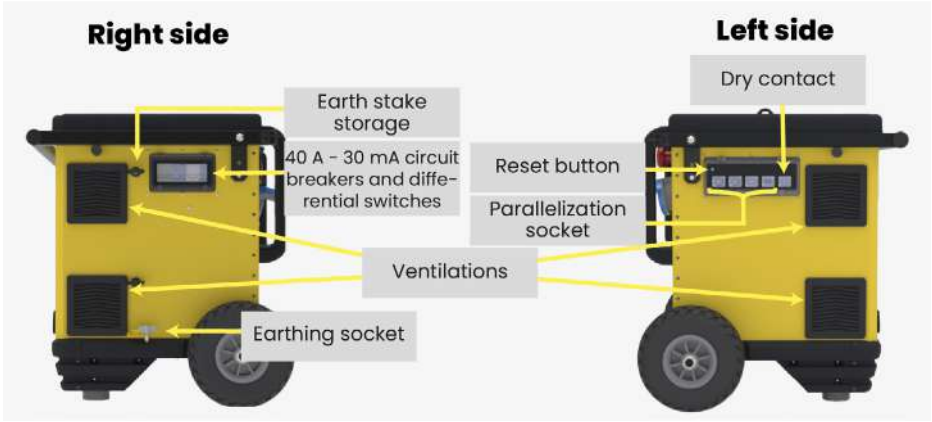


Figure 3 : Lateral surfaces of the device

IV. Setting up and using the device

1. Before switching on the power

- Make sure that the air/ventilation intakes (see §II.3. Figure 2) on the device are not obstructed.
- Connect the device to earth, using an earth rod (see §II.3. Figure 2).

2. Starting up the device in cold and hot weather

To find out where the buttons are located, refer to §II.3 Figure 1 & 2.

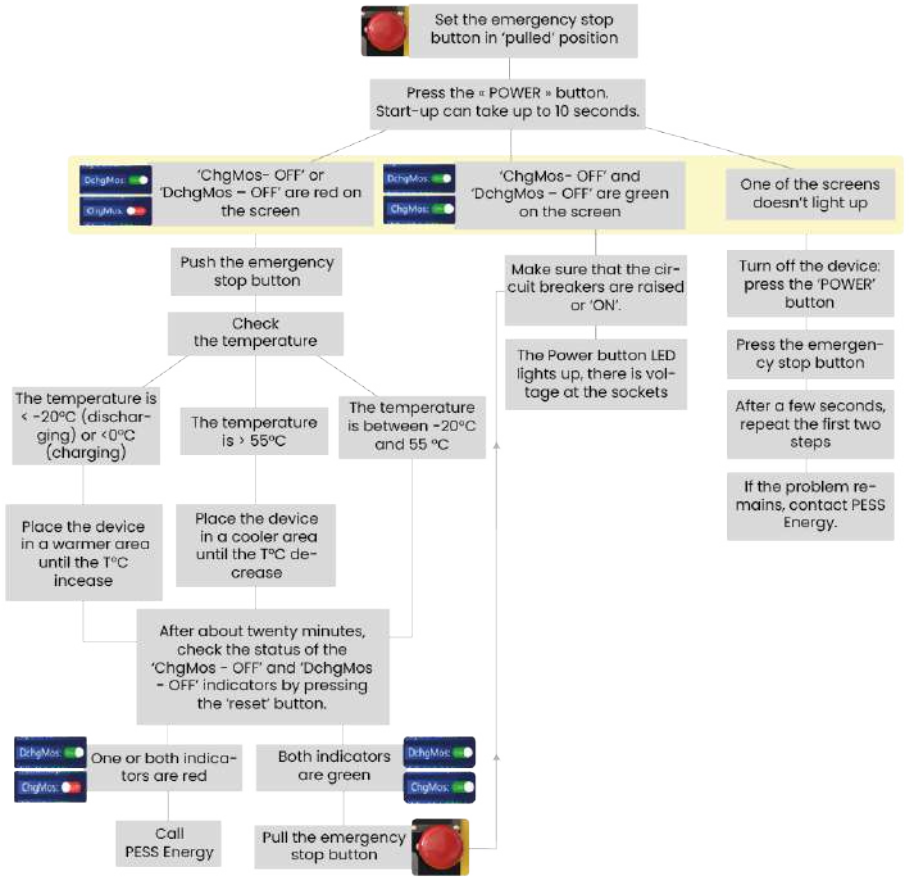


Figure 4: Diagram of how to start up the device

You can now use your device in the following configurations (case a, b or c).

a. Discharging the device

Connect your equipment to the Powerbank's AC sockets, making sure in advance that the maximum electrical power of your equipment does not exceed the maximum power of the Powerbank.

— Check that the device is working. The value displayed on the load level screen must not exceed 8kW (see §II.3. Figure 3) and check the remaining operating time.

Never unplug an equipment while it is in use. Make sure you switch off all power-consuming equipment before unplugging.

b. Charging the device from the mains

First connect the cable to the 'INPUT AC' charging port on the device, then connect the plug to the mains (e.g. 230VAC, 16A or 32A socket) using only the cable supplied with the device (see §II.3. Figure 1)**.**

— Check that the device starts recharging :
- The green colour of the charge level screen should appear and then disappear cyclically.
- The value displayed on this charge level screen must not exceed 3.0kW at 16A and 5.0kW at 32A (32A charging cable optional).

In the event of exposure to extreme temperatures, beyond the ranges specified in §II.2 'Technical characteristics of the device', the device will not be able to charge and will automatically shut down.

Do not connect the both INPUT sockets at the same time.

When charging is complete, first disconnect the mains plug and then the cable from the device's 'INPUT AC' charging port.

Do not leave the device charging unattended.

c. Charging the device on photovoltaic panels

The photovoltaic installation must be sized within the power limits allowed by the device, as specified in §II.2 'Technical characteristics of the device'. A total solar installation voltage of less than 90VDC will not activate recharging.

1) Turn the 'PV IN' circuit breaker to 'OFF' (see §II.3. Figure 2) before connecting the photovoltaic system.
2) Make sure the emergency stop button is in the 'pulled' position.
3) First connect the Anderson solar panel connector to the device (see §II.3. Figure 1), then connect your photovoltaic system.
4) You can only raise the 'PV IN' circuit breaker when your installation is connected (see previous steps). Charging starts automatically.
   - The value displayed on the load level screen must not exceed 5.5kW.

Do not handle the Anderson solar panel plug when the 'PV IN' circuit-breaker is in the 'ON' position.

Do not leave the device charging unattended.

When charging is complete, turn the circuit breaker to 'PV OFF' and disconnect your solar system before using the Anderson socket on the device. For further information, please refer to the user manual for the EKLA kit (PV solution from PESS Energy).

d.Recharge the device at an electric car recharging point

An EV adapter (type 2 plug) is required (available as an option). Carefully follow the instructions in the EV adapter user manual.

3. Switching off the device

1) Switch off the device by pressing the 'POWER' button. The white light will then go out.
2) Check that the screens go out (this can take up to 30s).
3) Unplug all your equipment.

The emergency stop button must be kept in the 'pulled' position. It should only be moved to the 'push' position in the specific cases mentioned in §I.1 'General safety instructions'; transporting and stopping the appliance are excluded. Improper and inappropriate use of the emergency stop button may cause the device to malfunction.

4. Using the device

Keep an eye on the device's charge levels and remaining operating time (on the charge level screen) throughout the period of use, to avoid being surprised when the device stops and to anticipate the need to recharge.

Do not connect too many equipment at the same time (max 8000W continuous), as this would overload the device and cause it to fault. In the event of exposure to extreme temperatures, beyond the ranges specified in §II.2 'Technical characteristics of the device', the device will shut down to protect itself.

b. Linking devices

Up to 6 Rock-Es can be connected in series or in parallel to increase autonomy and/or power.

i. Increased autonomy - Coupling in series
Connect as many Rock-E as you wish, using the charging cable to link them (see §III.4.a 'Use case illustrations'). The output power will always be 8kW and the capacity is cumulative. Therefore, using 2 Rock-E in series will provide up to 20,000Wh of electrical capacity.

ii. Increased autonomy and power - Parallel coupling
By using parallel sockets, you can increase the capacity (and therefore the autonomy) and power of your devices. Up to 6 Rock-e devices can be configured in parallel, giving an electrical installation of up to 48kW and 60kWh.

A parallelization box and parallelization cables are required. These are available as an option. Please refer to the box's user manual for the various possible connections.

Please contact PESS Energy for more information.

c. Electrical overload or leak

In the event of an overload, switch the device off and on again by pressing the the 'POWER' button. If necessary, contact PESS Energy. In both cases (overload or electrical leak), the device will shut down. As soon as possible, you should disconnect all cables (input and output) and check the earth connection of the device and your equipment if necessary. If the device is working correctly, check that the equipment connected to it has no electrical or insulation faults. Then reset the differential switch. If the differential switch cuts out again, contact PESS Energy.

d. If the device breaks down

If the device does not start or if it switches off suddenly, contact the retailer who sold it to you.

e. Long-term storage of the device (more than 3 months)

- Store the device charged.
- Press the emergency stop button to switch the device off.
- We recommend storing the device at a temperature between 0 and 35°C, in a dry, ventilated, clean area away from direct sunlight.

f. Maintenance

- Clean filters monthly, no water required.
- Cycle the battery at least once a month.
- Check sockets, charging cables and earth spike.

V. FAQ

1. How do I transport the device?

- The device can be transported upright or lying on its front (with the sockets facing upwards).
- The device must be lashed in the vehicle when transported. To do this, use a number of straps which must be positioned over the reinforcements on the device.
- Before being transported, the device must be switched off by pressing the 'POWER' button.
- The device's circuit breakers must be turned down/off during transport.
- The transport and/or shipment of the Product by the User may be subject to the mandatory provisions governing the transport of dangerous goods (lithium ion batteries contained in equipment - UN3481). For further information, please consult the Product's Safety Data Sheet and/or contact your freight forwarder.

The emergency stop button must be kept in the 'pulled' position. It should only be in the 'push' position in the specific cases mentioned in §I.1 'General safety instructions'; transporting and stopping the device are excluded. Improper and inappropriate use of the lever may cause the device to malfunction.

2. How do I lift the device?

- It can only be lifted using the lifting ring on the top of the unit.
- The rings on the side are for storing the ground spike only.
- Do not lift the device using these rings.
- The lashing rings are only for securing the Rock-E during transport, never for lifting.
- Do not leave the device suspended when lifting.
- Lift the device to move it quickly.
- Do not lift the device by the handles.

3. Why is there no power in the sockets?

— Check that the circuit breakers are in the 'ON' position.
— Check that the emergency stop button is pulled out.

4. Why don't the screens light up?

— Check that the emergency stop button is pulled out.
— The screens may take up to 10 seconds to light up.
— The device may have run out of battery. Plug it into a mains socket and check that it lights up.

5. The BMS has cut out. How do I switch the device back on?

An error message has appeared on the control screen and the device has switched off. Follow the restart procedure below :

— Pousser le bouton d'arrêt d'urgence. Puis se référer aux différents cas :
  - If the BMS has cut out because the battery temperature is too high, move the device to a cooler area, out of direct sunlight, until the device has cooled down. Check the status of the 'ChgMos' and 'DchMos' indicators again by pressing the 'reset' button for 3 seconds. If this works, pull the emergency stop button. Then refer to the steps indicated in §III.2 'Switching on the device'.
  - If the BMS has cut out because the battery temperature is too cold, move the device to a warmer area, out of direct sunlight, to allow it to warm up. After about twenty minutes, check the battery temperature by pressing the 'reset' button on the left-hand side of the device for about 3 seconds to reset the data. If this works, pull the emergency stop button. Then refer to the steps indicated in §III.2 'Switching on the device'.
  - If the BMS has cut out due to a current peak that is too high, unplug your equipment and check that the cumulative power of your equipment does not exceed 8kW. Pull the emergency stop button and switch the device back on as described in §III.2 'Switching on the device'. Then gradually connect your equipment.

If the problem persists, contact PESS Energy.

VI. Repairs and warranty work

1. PESS Energy guarantee

The devices are guaranteed for a period of 2 years, parts and labour, from the date of dispatch from the PESS Energy production site.

2. Repairs by authorised PESS Energy repairers

In the case of repairs by a repairer approved by PESS Energy :
– Any damage resulting from the use or wear and tear of the device, when it can be repaired.
- Any breakdown not covered by the manufacturer's warranty.
The repair is guaranteed (parts and labour) by the repairer for a period of 6 months (without increasing the manufacturer's warranty on the device).
If the damage to the device is too extensive and results from misuse (see §VI 'Misuse of the device'), PESS Energy may carry out repairs at the Customer's expense.

a. Warranty repairs

Any breakdown not resulting from misuse and occurring within 2 years of the date of dispatch of the device may be repaired under the manufacturer's warranty. The location of the warranty repair will be decided on the basis of the breakdown analysis provided by the customer. Repairs under the manufacturer's warranty (transport, spare parts and labour) are paid for by PESS Energy.

b. Out-of-warranty repairs

Any breakdown occurring after the 2-year manufacturer's warranty period may be repaired by an approved repairer, or, where applicable, by PESS Energy, at the Customer's expense, on the basis of estimates that may be provided prior to the repair.

c. Warranty exclusions

PESS Energy cannot be held responsible for a defect (breakdown or wear and tear) if this is the result of incorrect use of the device. In this case, the repairs and guarantee on the device may also be cancelled.

d. End of life of the device

For information on how to dispose of your device at the end of its useful life, please refer to §I.2 'Important environmental information'.

VII. Misuse of the device

— Unauthorised opening of the device.
— Shocks, perforations, falls (significant damage to the chassis or casings).
— Water ingress, immersion, humidity in excess of 95%.
— Non-maintenance of filters, excessive dust.
— Storage outside temperature range.
— Operation outside temperature range.
— Short-circuit of input and output sockets.
— Prolonged storage of discharged equipment.
— Overloading of the device's inputs and/or outputs.
— Modification of factory settings.
— Fitting components not approved by the manufacturer.
— Use in a case of exclusion of use (see §VII 'Exclusions of use')

Misuse of the device will result in total loss of the manufacturer's warranty.

VIII. Usage exclusions

In addition to the 'Safety instructions' given in §I, it is forbidden to :
— Climb onto the device.
— Lift the device more than one metre off the ground without using the dedicated attachment points.
— Dropping the device.
— Piercing the device.
— Inserting foreign objects into the device.
— Short-circuiting in and around the device.
— Set fire to the device.
— Run over a person or a fragile surface with the device.
— Spray the device with any liquid other than water, or immerse it.
— Store the device unloaded.
— Device stored outdoors for long periods (>3 months).
— Transporting the device in an unsuitable vehicle.
— Throw the device into the environment.
— The device is not properly strapped down when being transported.

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PESS
ENERGY

PESS ENERGY *PILLOT ENERGY STORAGE SOLUTION*

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