

EKLA KIT

USER GUIDE





Please read this user manual carefully.

Thank you for choosing a PESS Energy product. We hope you will be completely satisfied with your device in everyday use.

If, despite this manual, you encounter any difficulties in using the device or situations not mentioned in this document, please contact us by email at contact@pessenergy.com or by phone at 04 91 58 86 74.

Please read all instructions in this manual carefully. Follow all warnings and information contained herein. PESS Energy cannot be held liable for any damage or injury caused by improper use. This user manual applies to the PESS Powerbanks, hereinafter referred to as “the device.”

In our ongoing commitment to continuous product improvement and customer satisfaction, we reserve the right to make technical modifications to the device without prior notice.

For more information about our company and our products, please visit our official website at www.pessenergy.com

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1. Overview

The **EKLA kit** is a portable, plug-and-play solar solution designed by **PESS Energy** to generate clean electricity and recharge **BOBINE, WATTMAN, FLYWATT*, ROCK-E*** and **IRON-E*** electric generators.

Compact, durable, and easy to use, it can **generate up to 8,800 Wh per day** and power equipment up to **1,500 W**.

*An additional adapter is required for those powerbanks

Technical Specifications

Characteristics	Specifications
Peak Power	1 760 Wp (4 x 440 Wp)
Daily Yield	Up to 8 800 Wh*
Output Voltage	400 V _{DC} – 12 A
Charging Time	6 h (BOBINE) / 12 h (WATTMAN, FLYWATT, ROCK-E, IRON-E) / 6 h with 2 EKLA kits
Solar Superficie	10 m ² (4 panels of 2,18 × 1 m)
Weight	56 kg (14 kg per panel)
Transport Dimensions	130 × 70 × 75 cm (flycase on wheels)
System Lifetime	> 10 ans
Connection	Anderson 50A (max) – cables included
Compatibility	PESS Products: Bobine, Wattman, Flywatt, Rock-E, Iron-E

*Yields depend on weather conditions, the season, and sunlight

The **EKLA kit** consists of **4 foldable panels**, each with a capacity of **440 Wp**, for a total output of **1,760 Wp**.

The following table shows the characteristics of the 4 panels.

CHARACTERISTICS	VALUE
Cell Type	Monocrystalline
Peak Power P _{max} [W _p]	440 W _p
Power Tolerance Range [%]	± 3%
Open Circuit Voltage V _{OC} [V]	48,9 V
Max. Power Voltage V _{MP} [V]	41,8 V
Short-Circuit Current I _{SC} [A]	11,05 A
Max Power Current I _{MP} [A]	10,53 A
Maximum System Voltage [V]	200 V _{DC}
Dimensions [mm]	1072 x 547 x 90

It covers an area of approximately **10 m²** and can be set up by a **single person in less than 5 minutes**.

One **EKLA** kit is connected **in a 2P2S configuration** to increase power (up to **1,760 Wp**).

Charging Time Formula:

$$\text{Charging Time [h]} = \frac{\text{Capacity [kWh]}}{\text{PV Power [kWp]} \times \eta [\%]}$$

POWERBANK	CHARGING TIME [1,7kWp – 75%]
BOBINE [5 kWh]	3,92 h
WATTMAN, FLYWATT, ROCK-E, IRON-E [10kWh]	7,85 h

2. Safety Instruction

1. Before the installation

- Carefully read the technical data sheet and user manual before handling the product.
- Verify that all components of the kit (4 panels, cables, connectors, folding frame, flight case) are present and in good condition.
- Never install the kit while it is powered on. Disconnect all power sources before assembly.
- Prepare a flat, stable, and clear surface, away from any risk of falling objects or passing vehicles.
- Do not install near sources of heat, sparks, or flammable materials.

2. During the installation

- The EKLA kit can be installed by a single person, but it is recommended that two people work together in strong winds.
- Unfold the panels gently to avoid pinching or twisting the hinges.
- Position the panels to maximize sunlight exposure (adjustable legs facing due south in the Northern Hemisphere).
- Never walk on or place heavy objects on the panels.
- Check that the “Anderson” connectors are clean, dry, and securely connected before turning on the power.

3. Terms of Use

- EKLA panels are rain- and dust-resistant, but:
- Do not submerge them or use them during thunderstorms or heavy hail.
- Dry the connectors before handling them while they are live.
- Recommended operating temperature: -20 °C to +50 °C.
- Avoid prolonged exposure to winds >60 km/h without securing the panels.

4. Electrical Connection

- Use only cables supplied by PESS Energy that are rated for the output current (330 VDC – 12 A).
- Always connect the kit to the generator (coil or Wattman) before exposing it to sunlight.
- Never reverse the polarity of the connectors.
- If multiple kits are used, verify voltage and wiring compatibility before making any connections.

5. Maintenance & Storage

- Clean the panels with a soft, dry cloth (or a slightly damp one if necessary).
- Do not use solvents, abrasive detergents, or high-pressure washers.
- Store the kit in its flight case, in a dry place, at room temperature.
- Regularly inspect the cables and connectors for any signs of wear.
- If you notice any abnormalities (overheating, strange odors, unusual noises), disconnect immediately and contact PESS Energy support.

6. General Safety

- Installation is restricted to users trained in the handling of electrical equipment.
- Keep children and pets away during installation and use.
- Do not modify or disassemble any electrical or mechanical components.
- Never attempt to repair a damaged cable or connector without the manufacturer's approval.
- Follow all local regulations regarding electrical safety and working outdoors.

3. EKLA Kit & Unboxing

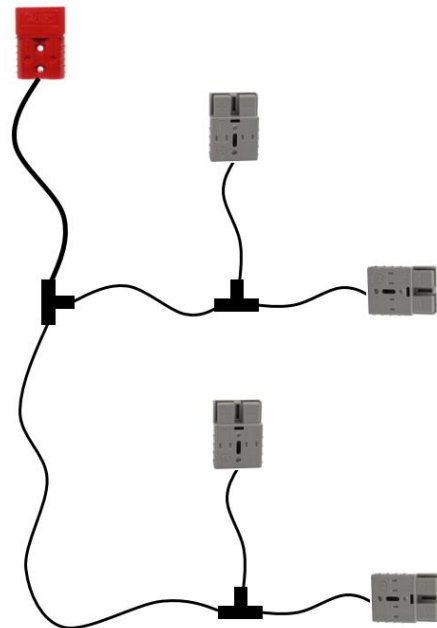
EKLA Kit

- 4x Foldable Solar Panels – 4*110W- [PESS-344-02_A]
- 2 x Equipped EKLA Kit Cable – 4* Grey Anderson 50A Connector + 1* Red Anderson 50A Connector - [PESS-394-42_A] – **For Series Connection**
- 1X Parallel Connection Cable – Y-Connector – [PESS-322-72_A] – **For Parallel Connection**

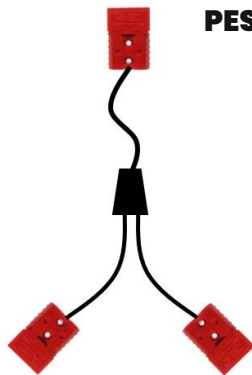
PESS-344-02_A [4X]



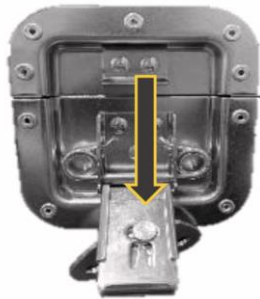
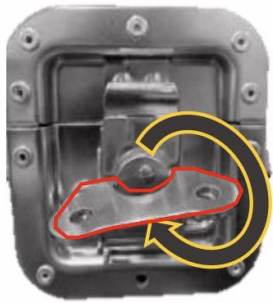
PESS-394-42_A [2X]



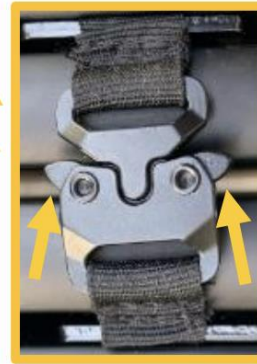
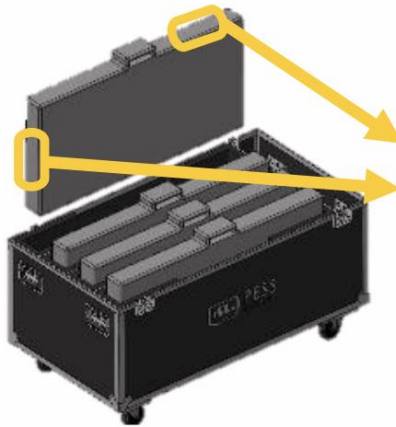
PESS-322-72_A [1X]



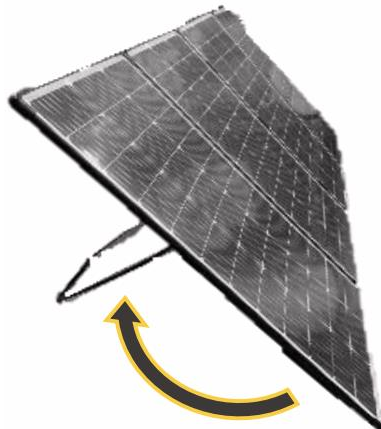
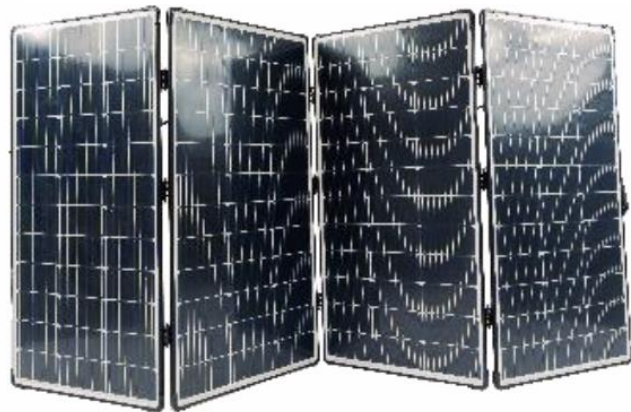
Unboxing



Unlock the latches, lift the lid, and unfasten the straps holding the panels in place



Setup / Orientation



Unfold the panels, position the unit facing **South** (in the Northern Hemisphere), and adjust the **tilt to 30–35°** using the built-in legs.

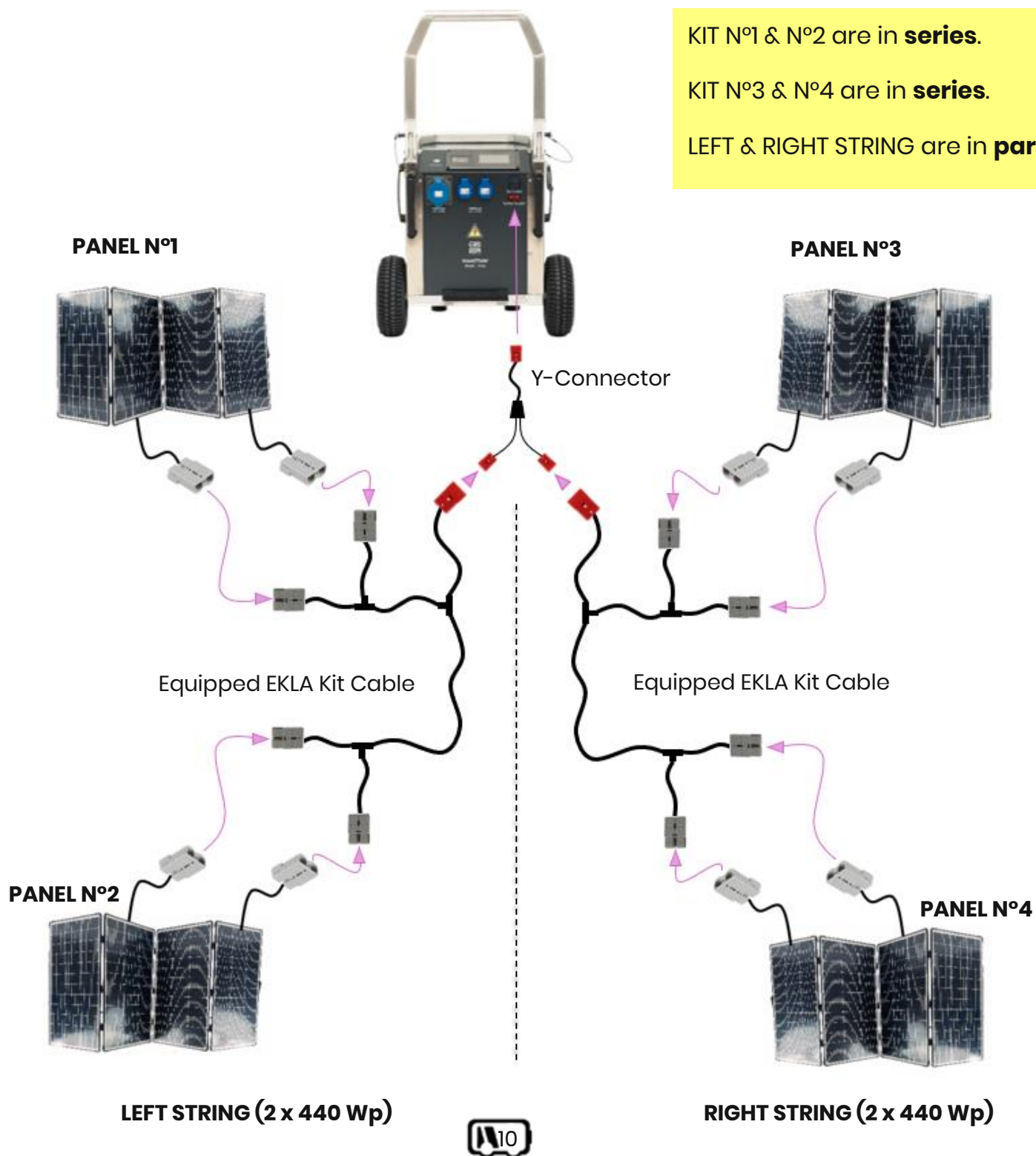
4. Plug-In Procedure

The following figure illustrates how to connect a EKLA kit (4x foldable panels) to the PESS Power bank WATTMAN.

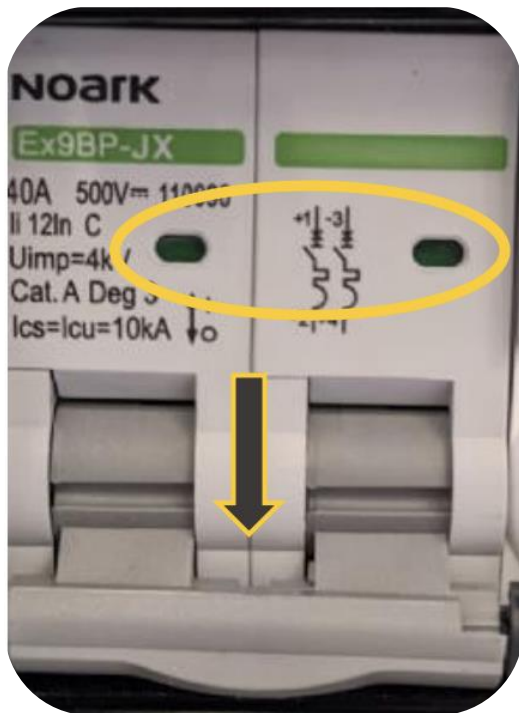
KIT N°1 & N°2 are in **series**.

KIT N°3 & N°4 are in **series**.

LEFT & RIGHT STRING are in **parallel**.



General Warning: A **module generates electricity as soon as it is exposed to light.**
Follow electrical safety guidelines and local standards. **Installation and maintenance must be performed by qualified personnel** wearing appropriate **PPE**.

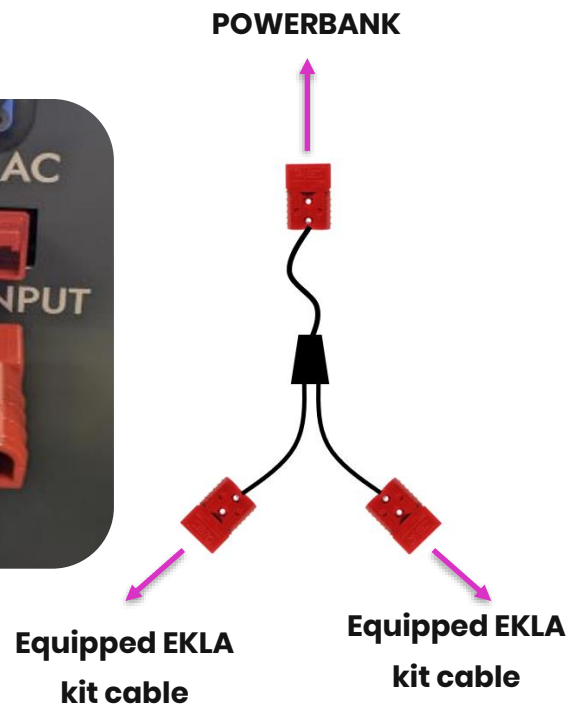


1
Switch off the **NOARK DC circuit breaker** on the powerbank to **isolate** the panel section from the generator.

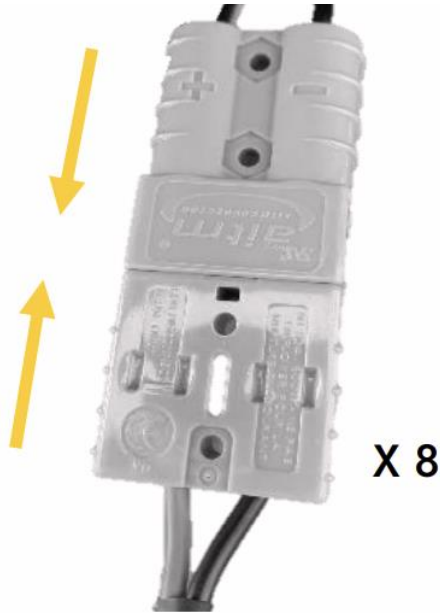
⚠ Never touch the red connector when the DC circuit breaker is SWITCHED ON (I).

2
Plug the **Y-Connector** to the **Powerbank**

Plug the **Y-Connector** to the **2 Equipped EKLA Kit Cables**



Reason: We prepare the input connection on the battery/MPPT side before connecting the panels' output, which prevents an active PV cable from being left "hanging."



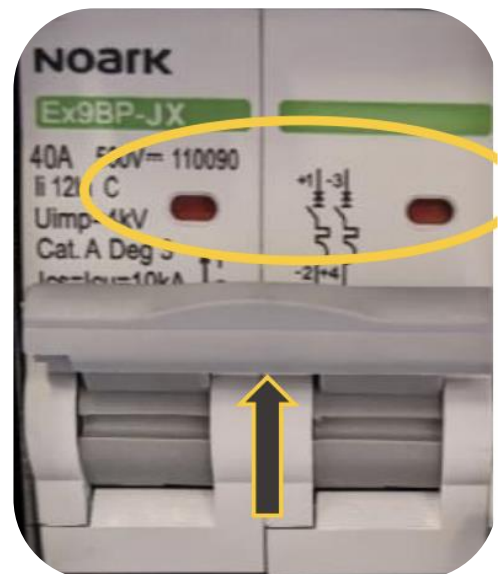
Next, connect the GRAY Anderson connectors to the **4 Kits**.

Connect each **KIT** (x4) using the GRAY Anderson connectors.

8 connections in total.

Switch ON the DC circuit breaker

Reset the circuit breaker to allow current to flow and activate the load via the MPPT.



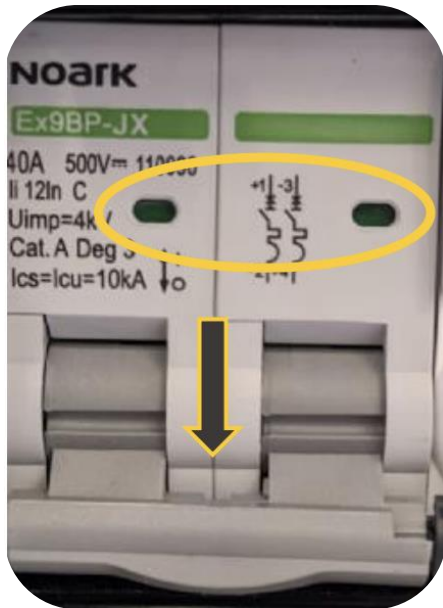
At this point, all **GRAY and RED connectors must be plugged-in**, and the circuit breaker must be closed for the load to start.

Mandatory order = OFF → RED → GRAY → ON.

There is a risk of an arc flash if this order is not followed, especially with the red connector.

5. Unplugging Procedure

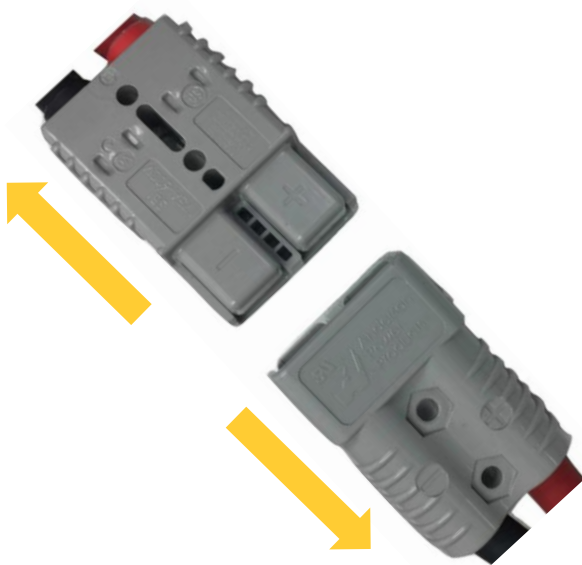
Goal: Open the PV circuit by first shutting down power generation at the panels, then completely isolating the power bank.



Switch OFF the DC circuit breaker 1

Disconnect the circuit to prevent any current flow before touching the connectors.

Reason: Even in low sunlight, the panels still generate power and current; insulation comes first.



First, disconnect all the GRAY connectors (panels). 2

Remove the **GRAY** connectors (8) to **open the PV array**.

Reason: We shut down the power source (panels) before disconnecting the power supply from the power bank.

After disconnecting all the GRAY connectors (panels) 3

Disconnect the RED connector on the input side

Reason: The line is no longer active (panels have already been disconnected)



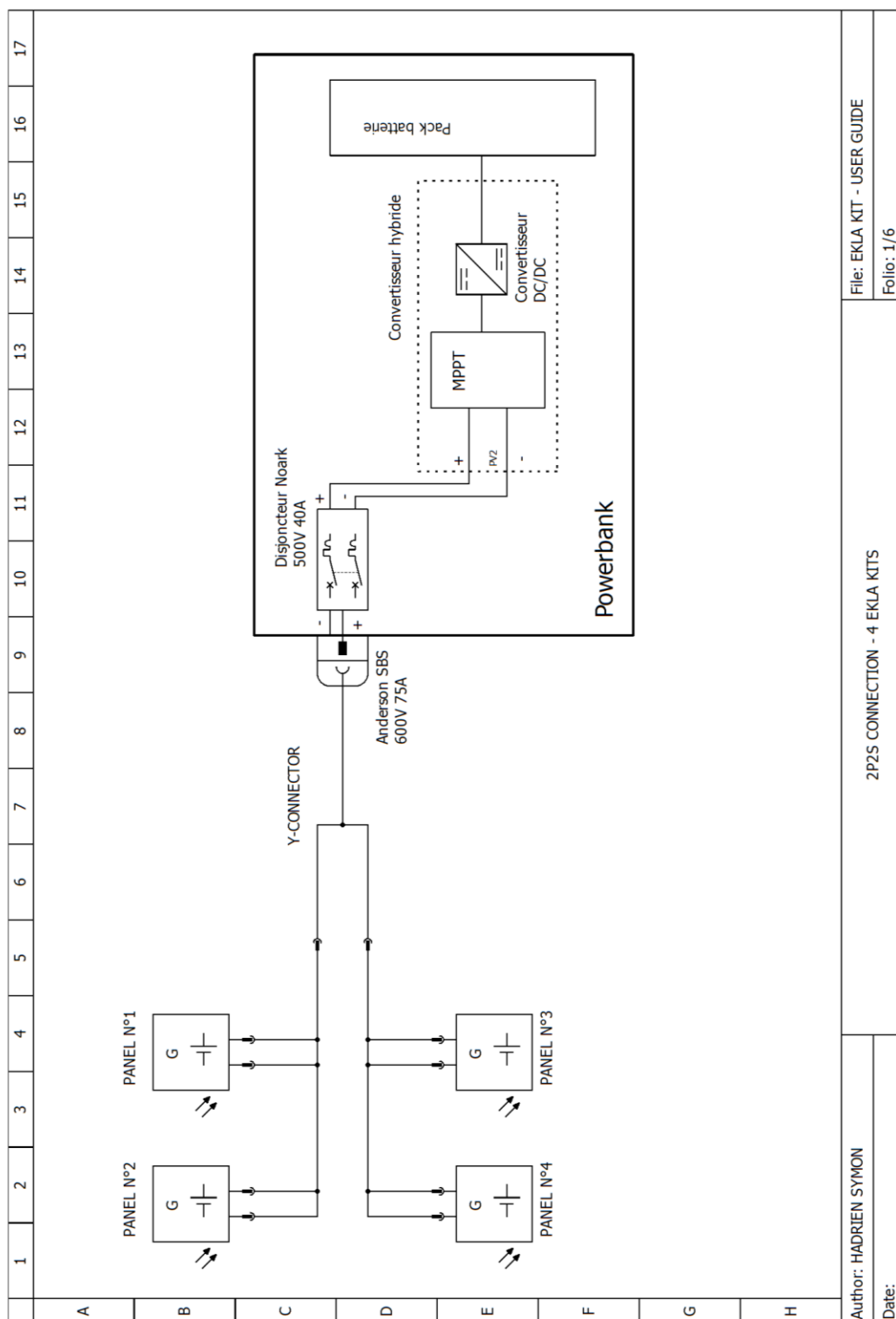
Mandatory order = OFF → GRAY → RED

Always turn the power **OFF** before handling an Anderson connector (gray or red).

Critical Safety Reminders (excerpts and details)

- **NEVER** touch the **RED** connector when the **DC circuit breaker is in the ON (I)** position. Always switch it to **OFF** before performing any action. **Risk of electric arc.**
- Follow the **correct sequence of operations** (connecting and disconnecting): this is essential for the **safety** and **longevity** of the connectors.

6. Schéma et nomenclature électrique



7. Repairs and Warranty Service

The EKLA Kits are covered by a 2-year warranty, covering parts and labor, effective from the date of shipment from the PESS Energy production facility, exclusively for countries within the European Union (Schengen Area), excluding French overseas departments and territories.

a. Repairs Under Warranty

Any malfunction that is not the result of misuse and occurs within 2 years of the device's shipping date may be repaired under the manufacturer's warranty. The location of the warranty repair will be determined based on the analysis of the malfunction provided by the customer. Repairs covered by the manufacturer's warranty (parts and labor) are covered by PESS Energy.

b. Repairs Not Covered by Warranty

Any malfunction occurring after the 2-year manufacturer's warranty has expired may be repaired by an authorized repair technician or, if applicable, by PESS Energy, at the customer's expense, based on a repair estimate that may be provided to the customer prior to service.

c. Disclaimer of Warranty

PESS Energy cannot be held liable for any defect (malfunction or wear and tear) if it results from misuse of the device. In such cases, repairs and the device's warranty may also be voided.

d. End of life of the Product

For information on disposing of your device at the end of its useful life, see Section I.2, "Important Environmental Guidelines."

8. Cases of Improper Use of Device

- Unauthorized opening of the device.
- Impacts, punctures, drops (significant damage to the chassis or casings).
- Water ingress, immersion, humidity exceeding 95%.
- Failure to maintain filters, excessive dust accumulation.
- Storage outside the temperature range.
- Use outside the temperature range.
- Short circuits in input and output connectors.
- Prolonged storage of a discharged device.
- Overloading of the device's inputs and/or outputs.
- Modification of factory software settings.
- Installation of components not approved by the manufacturer.
- Use in a prohibited application (see §VII "Prohibited Applications").
- It is prohibited to use the device:
 - In an ATEX environment
 - In a nuclear environment
 - In the mining industry



View all technical documents
here



PESS ENERGY *PILLOT ENERGY STORAGE SOLUTION*

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