

Blaze Kit

User Manual





Please read this user manual carefully.

Thank you for choosing a PESS Energy product. We hope you will be fully satisfied with the daily use of your kit.

If, despite this manual, you encounter any difficulties in understanding how to use the kit or situations not covered in this document, please contact us by email at contact@pessenergy.com or by phone at +33 4 91 58 86 74.

Please read all instructions in this manual carefully. Follow all warnings and information provided. PESS Energy cannot be held responsible for any damage or harm caused by improper use. This user manual applies to PESS solar pannels, hereinafter referred to as "the kit."

As part of our ongoing commitment to continuous improvement and customer satisfaction, we reserve the right to make technical modifications to the kit without prior notice.

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

Summary

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1. General Presentation

The **BLAZE** is a complete, fast-to-install solar solution designed to provide reliable and sustainable energy for all types of **off-grid** projects: construction sites, events, isolated sites, temporary bases, or emergency power.

This kit integrates **450Wp panels**, IEC & ISO certified, for a total power ranging from **1,800 to 4,050 Wp**.

Thanks to its modular design and ballast bins, the BLAZE can be installed in **less than 20 minutes** without ground fixing.

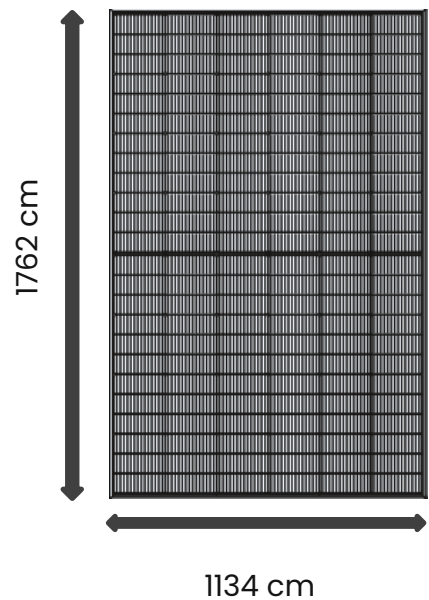
Kit Variations :

- **Blaze 1800**: 4 panels (1.8 kWp) + 5 ballast bins.
- **Blaze 2700**: 6 panels (2.7 kWp) + 8 ballast bins.
- **Blaze 4000**: 9 panels (4 kWp) + 11 ballast bins.

Every kit includes high-performance 450 Wp panels (22.5% efficiency), ballast bins for quick installation, and compatibility with our powerbanks.

IEC- and ISO-certified, Blaze kits combine power, safety, reliability, and environmental responsibility, providing immediate energy independence for your construction sites, events, and remote locations.

Technical Specifications (450Wp Module)



Element	Specifications
Peak Power	450 Wp
Max Power Voltage (Vmpp)	1134 cm (approx. 43V)
Max Power Intensity (Impp)	10.1 A
Open Circuit Voltage (Voc)	52.9 V
Short-circuit Intensity (Isc)	10.7 A
Panel Lifespan	> 10 years
Solar Surface	1762 × 1134 mm
Weight per Panel	21 kg
Weight per Bin	4.5 kg
Protection	Class IP68, high wind/snow resistance
Element	Specifications
Certifications	IEC 61215 / IEC 61730 / ISO 9001 / ISO 14001 / ISO 45001

Caractéristiques techniques par kit BLAZE et Powerbank PESS

	Kit 1800 4s	Kit 2700 6s	Kit 4000 s
Maximum power output voltage Vmpp (V)	178,4	267,6	401,4
Intensity at maximum output power Impp (A)	10,1		
Open circuit voltage Voc (V)	211,6	317,4	476,1
Short-circuit current Isc (A)	10,7		
Maximum peak power (Wp)	1800	2700	4050
Total weight (panels + trays + cables)	111,5	167	243,5
Solar surface area (m²)	8	12	18
Required surface area on the ground (m²)	16	24	36

	Bobine	Wattman	Flywatt	Rock-E	Iron-E
RATED POWER	4000 W	6000 W	11 000 W	8000 W	10 000 W
CONNECTORS					
	Anderson 50 A rouge		Anderson 75 A noir		
SOLAR INPUT					
Solar Charger type	MPPT				
Maximum PV Array Power	5000 W	6000 W	5500 W		
MPP Range Operating Voltage	120~450 VDC		90~450 VDC		
Max PV Open Circuit Voltage	500 VDC				
Max Solar Charge Current	20 A	40 A		20 A	

2. Safety Instructions

1. Before Installation

- Read the technical data sheet and user manual carefully before handling the product.
- Check that all components of the kit (panels, cables, trays) are included 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, free from shadows, and away from any risk of falling objects or passing vehicles.
- Do not install near sources of heat, sparks, or flammable materials.

2. During Installation

- The BLAZE kit can be installed by a single person, but it is recommended that two people work together in windy conditions.
- Position the panels to maximize sunlight exposure.
- Never walk on the panels or place heavy objects on them.
- Ensure that the MC4 connectors are clean, dry, and securely connected before turning on the power.

3. Terms of Use

- The 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 energized.
- Recommended operating temperature: -20 °C to +50 °C.
- Avoid prolonged exposure to winds >60 km/h without securing the panels.
- The ballast in the mounting boxes must be sufficient to withstand strong winds.
(Minimum 60 kg per box)

4. Electrical Connection

- Use only the cables supplied by PESS Energy (MC4 to Anderson 75A or 50A adapter, 20-meter MC4 solar extension cable, 10-meter MC4 solar panel extension cable)
- Always connect the kit to the PESS Powerbank before exposing it to sunlight.
- Never reverse the polarity of the connectors.
- If multiple kits are used, verify voltage and wiring compatibility before connecting.

5. Maintenance and Storage

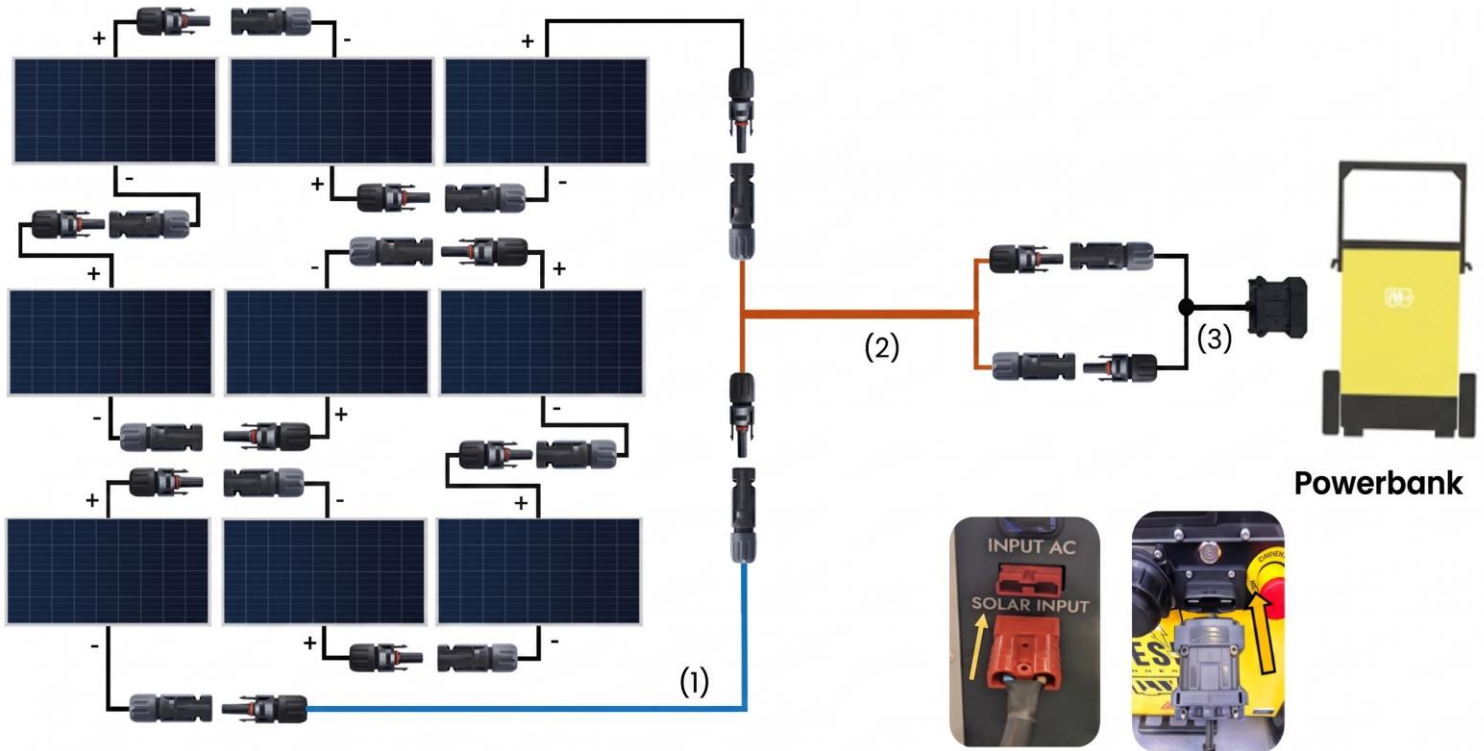
- Clean the panels using a soft, dry cloth (or a slightly damp one if necessary).
- Do not use solvents, abrasive detergents, or high-pressure washers.
- Store the kit on a suitable pallet in a dry place at room temperature.
- Regularly inspect the cables and connectors for any signs of wear.
- If any abnormalities are detected (overheating, odor, noise), disconnect immediately and contact PESS Energy support by following the procedure on page 17.

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.
- Comply with all local regulations regarding electrical safety and outdoor work.

3. Schematic diagram

Schematic diagram : Example of a series connection of 9 BLAZE panels to a PESS power bank via a 75A Anderson connector.



- (1) 10-meter MC4 Solar Panel Connector Extension Cable
- (2) 20-meter MC4 Solar Extension Cable
- (3) MC4 to 75A Anderson Adapter

-  Black 75A or Red 50A Anderson Connectors
-  MC4 Connectors

The schematic diagram shows the configuration of the BLAZE 4000 with 9 panels connected in series. The 2700 and 1800 models follow the same principle for 6 and 4 panels connected in series, respectively.

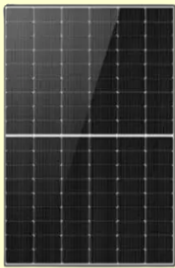
General warning : A module generates electricity as soon as it is exposed to light. Follow electrical guidelines and local standards. Installation and maintenance must be performed by qualified personnel wearing appropriate PPE.

4. Installation timeline and connection procedure (PLUG IN)

1

Unpack the kit, it should contains :

BI-GLASS MODULES N
type i-TOPCon



+

2*20M MC4
Extension Solar
Panel Connector
Cable



+

MC4 to Anderson 75A
black or 50A red
adapter

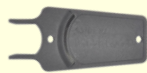


+

Plastic solar panel
support trays



+ clamp MC4



2

Position the containers facing due **south**
(Northern Hemisphere) and weigh them
down according to local weather conditions



At least 60 kg of
ballast per tank

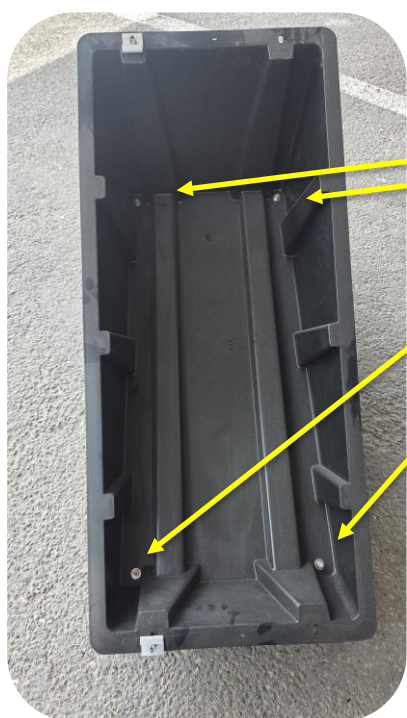


3

Winter Position (optional)

30° angle with 2 trays

Secure the two trays back-to-back using the four M8 screws, washers, and nuts provided



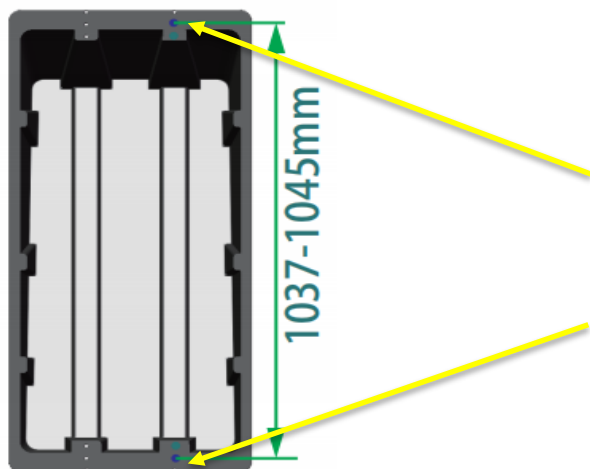
Fill the planters with soil, sand, or bags...



At least 60 kg
of ballast per
tank

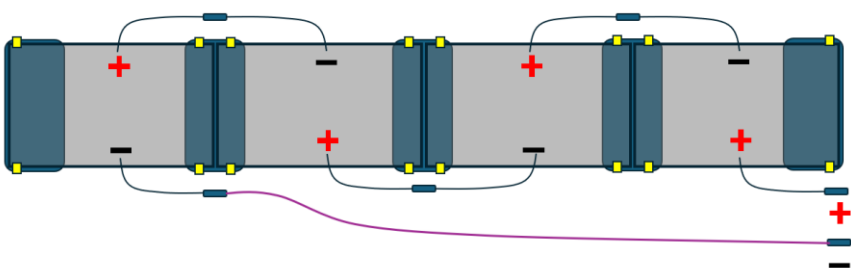
4

Install the panel mounting systems on the trays using the **screws** provided

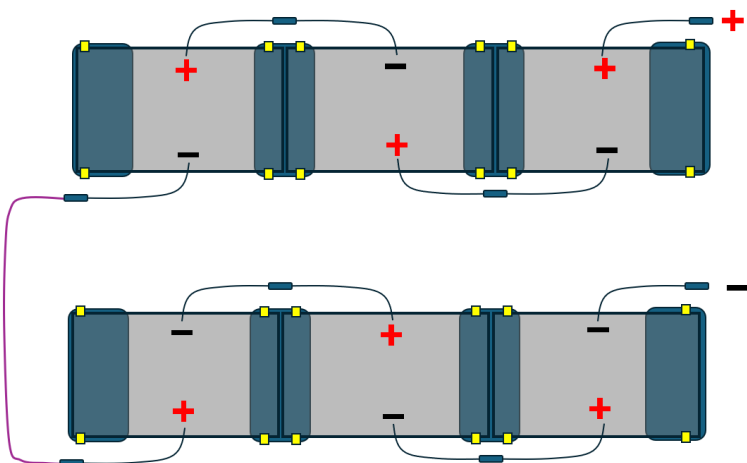


Installation suggestions :

- 4 panel kit (1800 Wc)

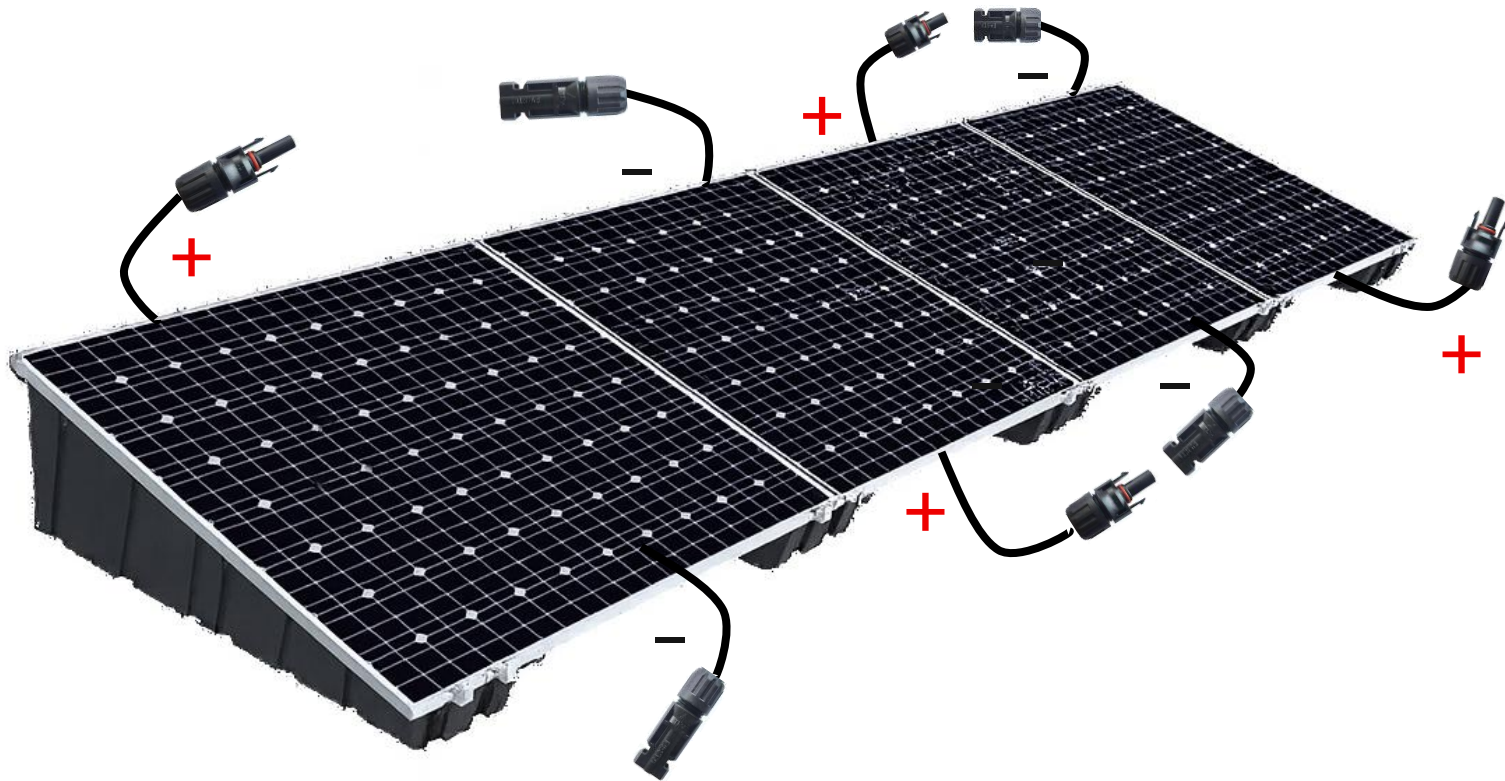


- 6-panel kit (2700 Wp) or 9-panel kit (4000 Wp)



5

Place the panels on the trays, **making sure the + and – terminals are arranged alternately.**



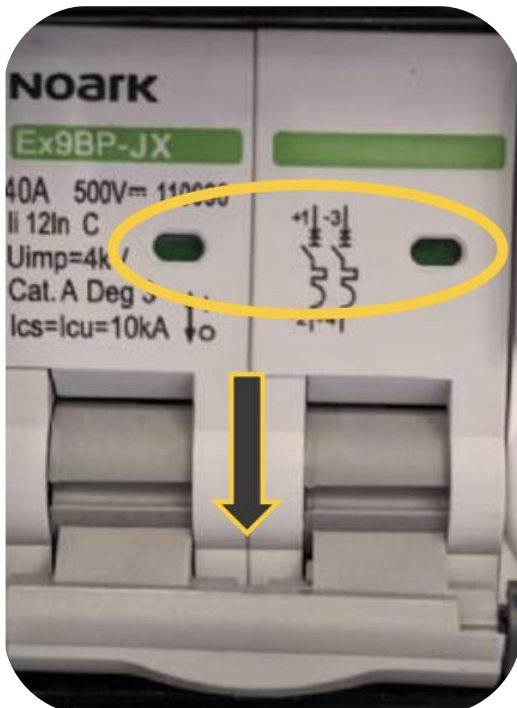
Secure the panels to the bins by **screwing in the fasteners**

6



CONNECTION

1

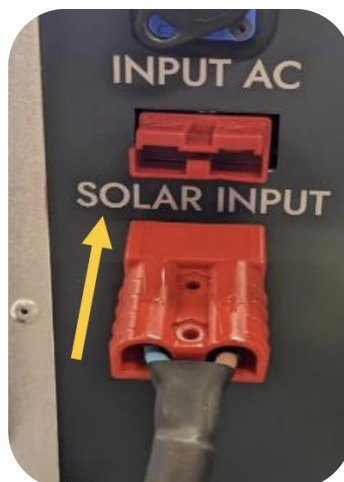


Turn off the **NOARK DC disconnect switch/circuit** breaker in the kit to isolate the **generator's** panel section.

⚠ **Never** touch the **black 75A Anderson** connector or the **red 50A Anderson** connector

2

Connect the **black 75A Anderson** connector on the Y-cable to the power bank

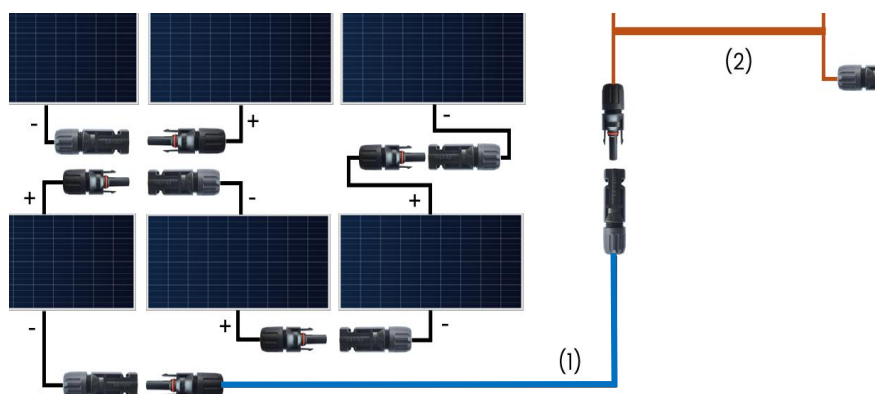


Reason : We prepare the input connection on the battery/MPPT side before connecting the panels, which prevents an active PV cable from being left disconnected.

3

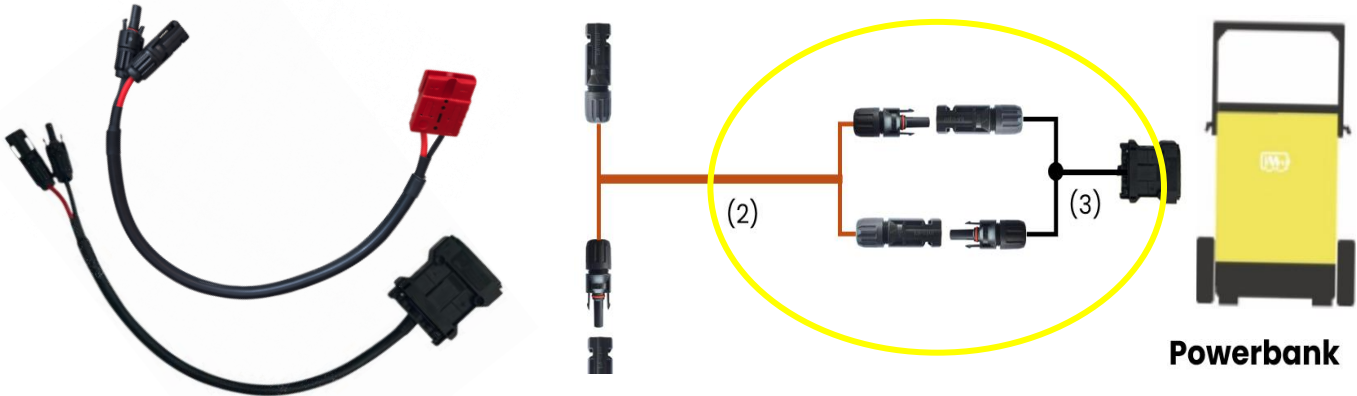
Next, connect the **black MC4** connectors on the panels.

Connect the output that is **farthest** from the power bank using the **20-meter MC4 extension cable (1)**.



4

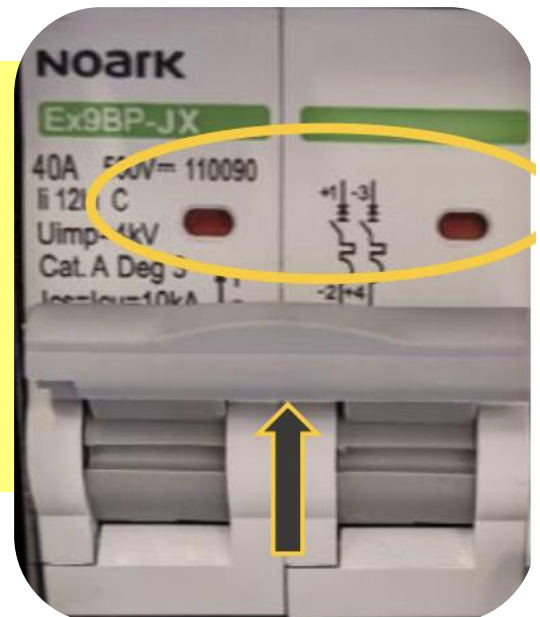
Connect the output end of the **20-meter MC4 extension cable (2)** to the black 75A or red 50A **MC4-to-Anderson adapter (3)**.



5

Set the DC circuit breaker to ON

Reset the DC disconnect switch/circuit breaker to **allow current** to flow and activate the load via the MPPT.



At this point, all connectors **must be plugged** in and the circuit breaker turned on for the load to start.

Safety summary (connection) :

Mandatory order = OFF → Anderson → MC4 → (2) → (3) → ON

Risk of arcing if this order is not followed, especially with the **Anderson connector**.



Verification steps



Ensure that no panel is partially shaded, as this would impair the installation's output.



Ensure that you work on and install the solar system with the power bank circuit breakers switched off.



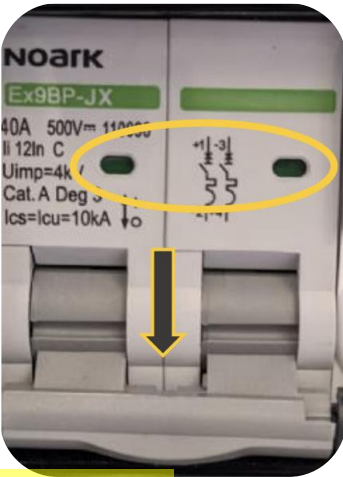
When solar panels are deployed, they immediately emit electricity; be careful when connecting them.



Pess Energy is not responsible for the installation of the kit and its compliance once installed; please ensure you are aware of the regulations in force at your installation location.

5. UNPLUGGING Procedure

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



Set the DC circuit breaker to OFF

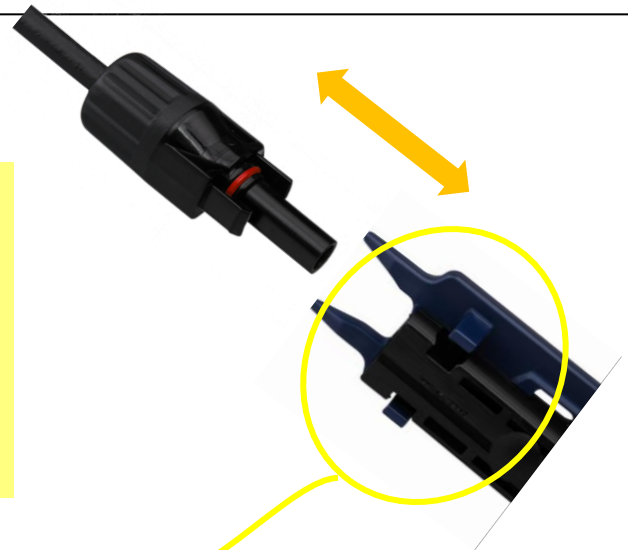
Disconnect the connection to **prevent any current flow** before touching the connectors.

1

2

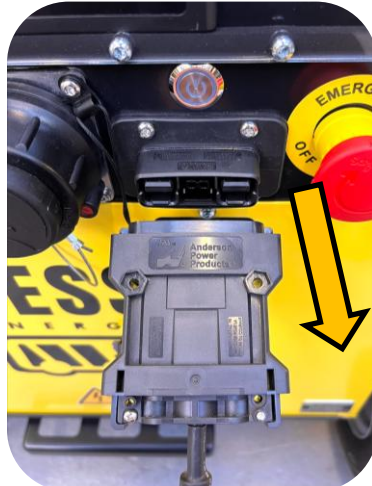
Disconnect all **MC4 connectors** (panels) using the blue pliers. Insert the two prongs of the pliers into the female MC4 connector.

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



Reason : Disconnect the power source (panels) before disconnecting the power supply from the power bank.

3



After disconnecting all MC4 connectors (panels)

Disconnect **the Anderson connector** from the power bank, on the input side

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

Safety Summary (Disconnection):

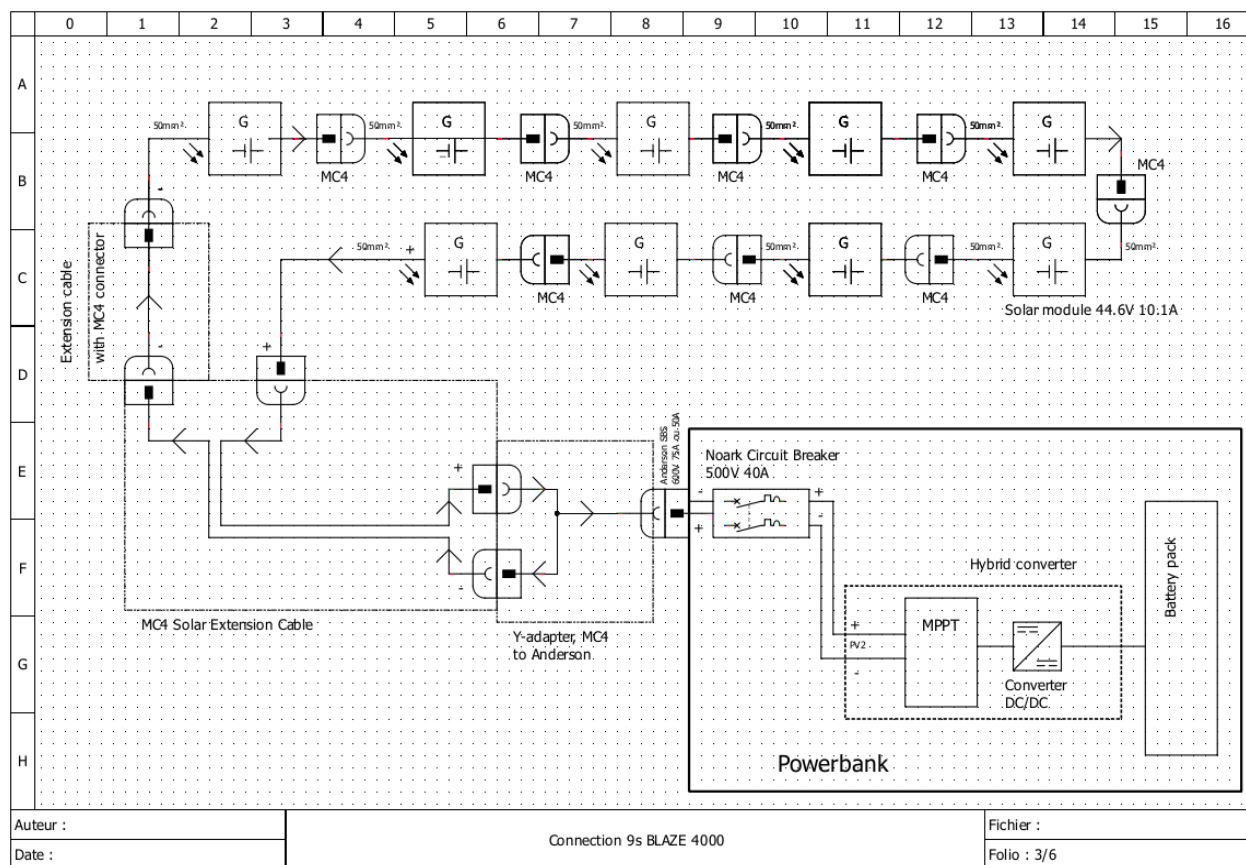
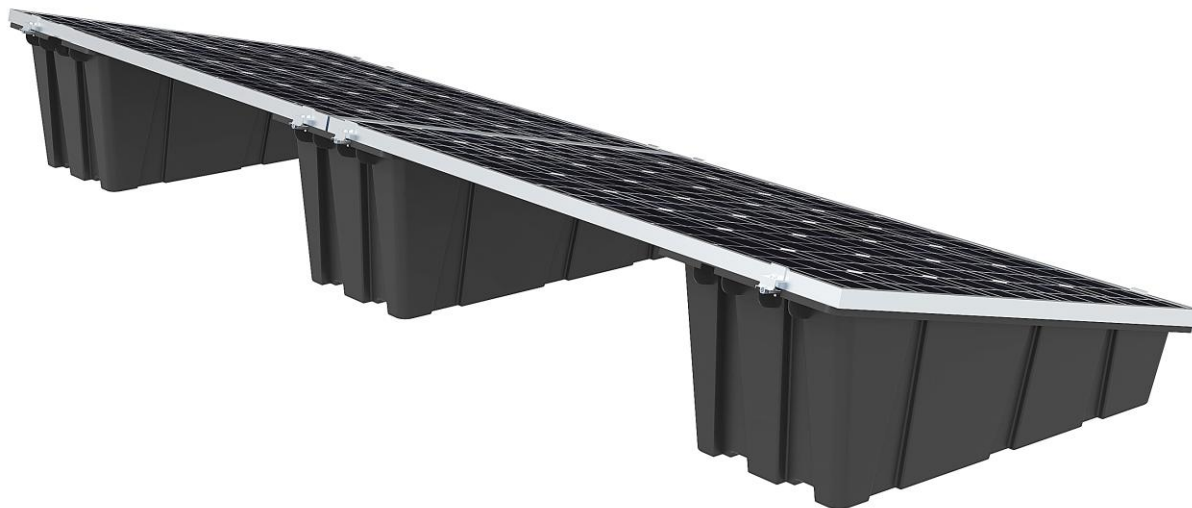
Mandatory procedure = **OFF** → **MC4** → **Anderson**



Always **turn OFF before** handling an Anderson connector (black 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.



7. Repairs and warranty service

The kits are covered by a 2-year warranty, covering both 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. Repair under warranty

Any malfunction that is not the result of misuse and occurs within two years of the kit's shipment 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 will 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 improper use of the kit. In such cases, repairs and the kit's warranty may also be voided.

d. Kit End-of-Life

For information on disposing of your kit at the end of its useful life, please refer to Section I.2, "Important Environmental Guidelines."

8. Examples of improper use of the BLAZE kit

- Improper installation or unauthorized personnel.
- Impacts, punctures, drops, or stepping on the panels.
- Water ingress, submersion, or humidity exceeding 95%.
- Short circuits in input and output terminals.
- Insufficient securing or ballasting in high winds.
- Connectors submerged or in contact with liquid.
- Overloading of the kit's inputs and/or outputs.
- Modification of factory default settings.
- Installation of components not approved by the manufacturer.
- Use in a prohibited application (see §VII "Prohibited Applications").
- It is prohibited to use the kit:
 - In ATEX environments
 - In nuclear environments
 - In the mining industry
- Improper packaging during transport or storage
- Prohibition on charging the kit with a cable not supplied by PESS Energy

Misuse of a kit results in a complete suspension of the manufacturer's warranty.



View all technical documents
here



PESS ENERGY *PILLOT ENERGY STORAGE SOLUTION*

 pessenergy.com

 [pessenergy](https://www.instagram.com/pessenergy)

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