



PROJOY RSD PEFS-EL Series Array Level Rapid Shutdown Installation Guide

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— Switch To Safety! —

**RSD PEFS-EL Series Array Level Rapid Shutdown
Installation Guide**



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Scope and General

The manual is only used for PEFS-EL Series Array-level Rapid Shutdown.

Version	Date	Remark	Chapter
V1.0	10/15/2021	First Edition	—
V2.0	4/20/2022	Content Modified	6 Installation
V2.1	5/18/2022	Content Modified	4 Shutdown Mode

1. Changes or modifications not explained/approved in this manual void your authority to operate this equipment.
2. PROJOY shall not be held responsible for any damage caused due to incorrect installation of the product and/or the misunderstanding of this manual.
3. PROJOY reserves the right to make any modification to this manual or the information contained herein at any time without notice.
4. No design data such as sample pictures provided in this manual may be modified or duplicated except for the purpose of personal use.
5. To ensure the recycling of all possible materials and proper disposal treatment of components, please return the product to PROJOY at end-of-life.
6. Check the system regularly (once per 3 months) for faults.

Important Safety Precautions

Components in the installations are exposed to high voltages and currents. Follow these instructions carefully in order to reduce the risk of fire or electric shock.

The following regulations and standards are considered applicable and mandatory to read prior to the installation of electrical equipment:

1. Connection with the main circuit, Wiring should be done by professional qualified personnel; Wiring should be done after confirmation of complete disconnection of input power supply; Wiring should be done after installation of breaker body.
2. International Standards: IEC 60364-7-712 Electrical installations of buildings-Requirements for special installations or locations-Solar Photovoltaic (PV) power supply systems.
3. Local building regulations.
4. Guidelines for lightning and overvoltage protection.

Note!

1. It is essential to uphold the limits for voltage and current in all possible operating conditions. Also keep in mind the literature on correct dimensioning and sizing of cabling and components.
2. The installation of these devices may only be performed by certified technical personnel.
3. The wiring schematics of the Firefighter Safety Switch can be found at the end of this manual.
4. All the installation works should be tested in accordance with relevant local legislation at the time of installation.

About Rapid Shutdown

3.1 Intended Use of the Rapid Shutdown

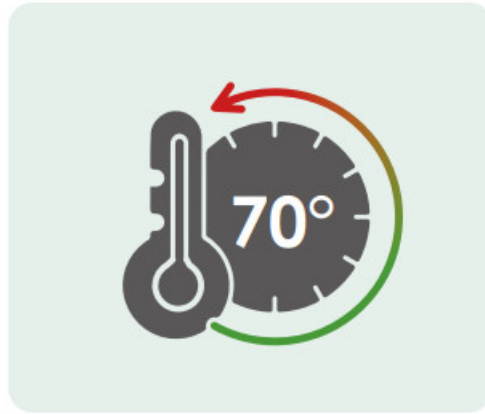
The Rapid Shutdown has been specially developed as a safety device for direct current (DC) photovoltaic installations. The DC disconnect switch is used to disconnect the connection strings of the installation in case of an emergency situation. Such an emergency situation could be in case of fire.

3.2 Location of the Rapid Shutdown

The Rapid Shutdown needs to be placed as close to the solar panels as possible. Due to its enclosure, the switch is protected against external influences like dust and moisture. The whole set-up conforms to IP66 which makes it suitable for outdoor usage when needed.

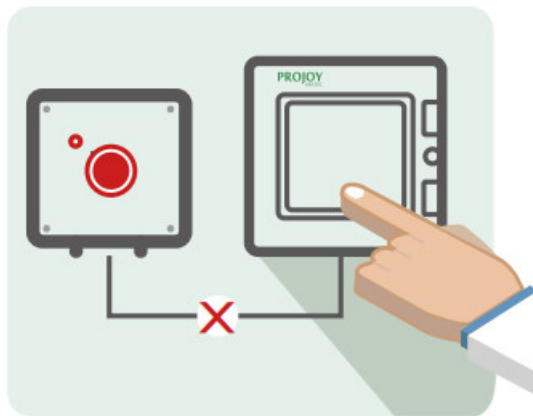
Shutdown Mode

Automatic Shutdown



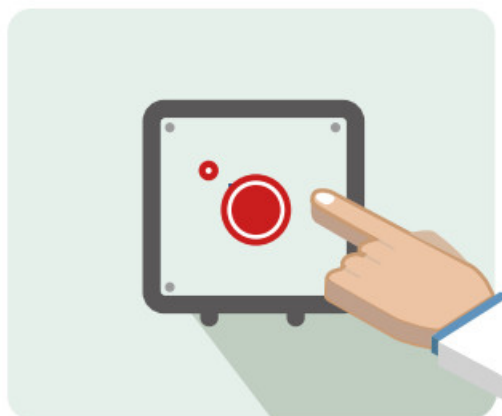
Automatically shut down the DC power of panels when detecting the temperature of the area is higher than 70°C.

AC Power Shutdown



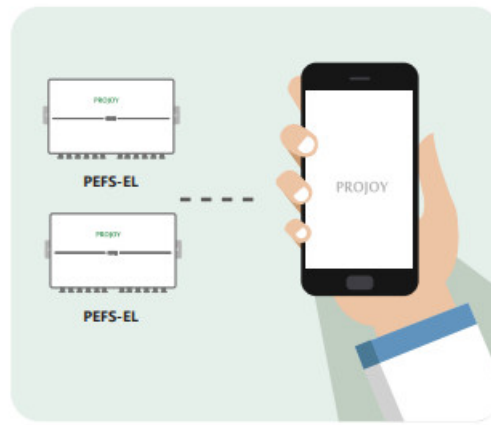
Firefighters or homeowners can manually turn off the AC power of the distribution box when in an emergency or it can automatically shut down when the AC power has lost.

Manual Shutdown



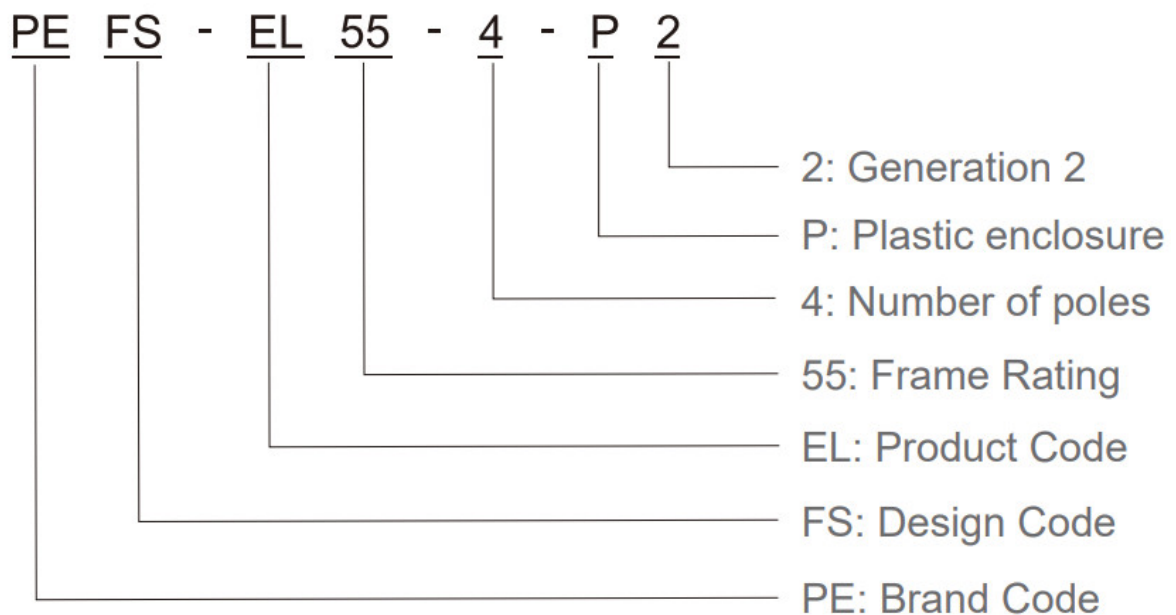
In an emergency, it can be shut down manually through the Panel Level Rapid Shutdown Controller Box.

RS485 shutdown






About PEFS Array-level Rapid Shutdown




5.1 Model Description



5.2 Technical parameters

Number of poles	2	4	6	8	10	12	14	16	18	20
Appearance										
Frame Rating In(A)	16, 25, 32, 40, 50, 55									
Working temperature	-40 — +70°C									
Fiducial temperature	+40°C									
Pollution degree	3									
Protection class	IP66									
Outline dimensions(m m)	210x200x100		375x225x96			375x225x162				
Installation dimension s(mm)	06×269		06×436							

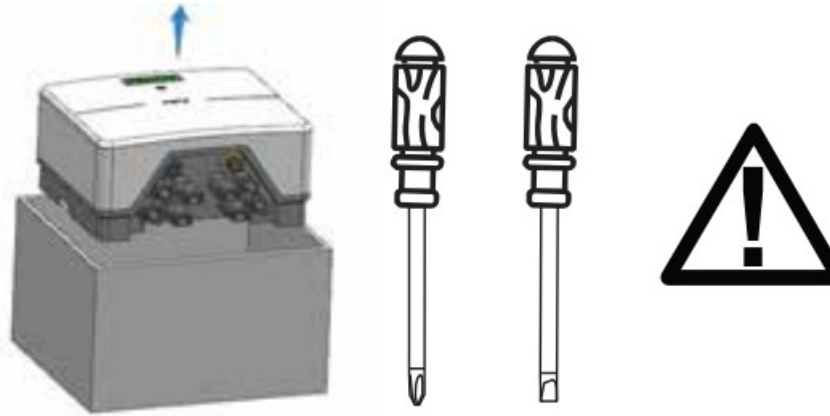
5.3 Wiring Options

Number of poles	2	4	6	8	10	12	14	16	18	20
Appearance										
3-core wire	1 '1.2m for AC power supply									
MC4 cable	4	8	12	16	20	24	28	32	36	40

Installation

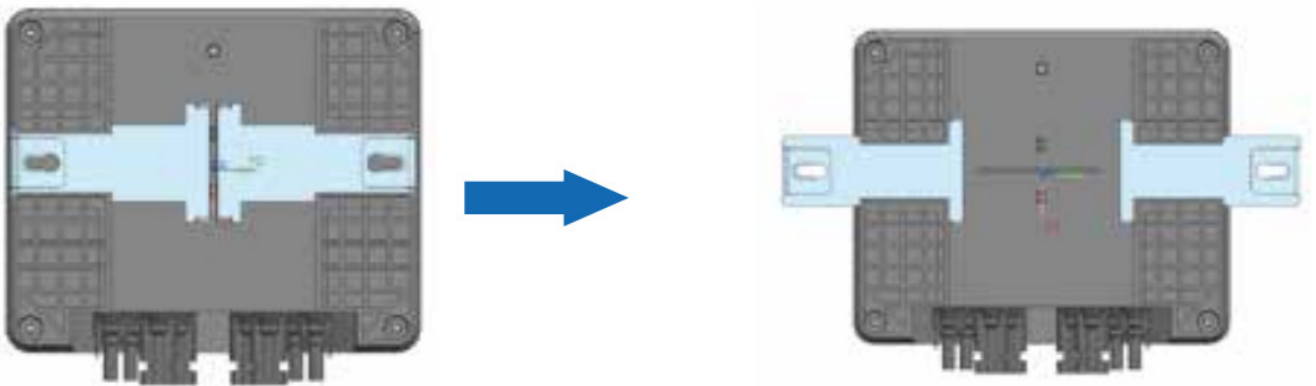
6.1 Installation Requirements

Open the box, take out PEFS, read this manual, and prepare a cross/straight screwdriver.



6.2 Installation Steps

1. Pull out the product bottom bracket to both sides.









2. Mount the switch enclosure on the wall.



3. Wire the power AC connection to the terminals.

Wire Color: According to American and Europe standard requirements -American standards:

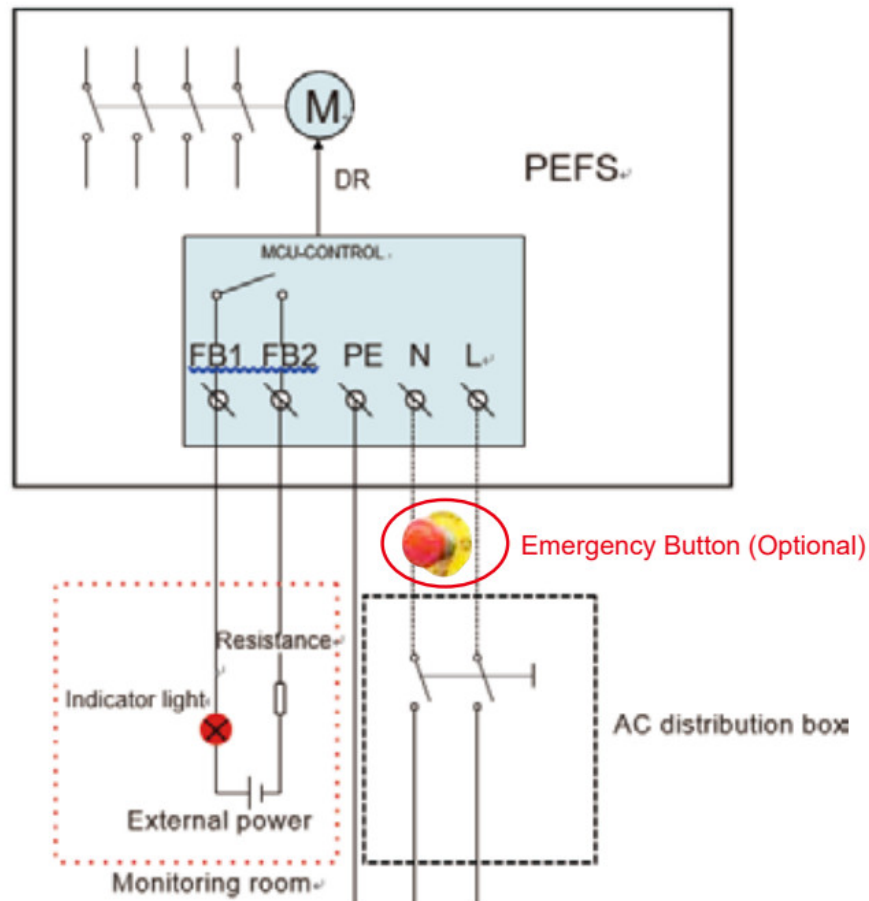
L: Black; N: White; G: Green Europe standard: L: Brown; N: Blue; G: Green&Yellow

	L	N	G
American			
Europe			

Note!

FB1 and FB2 are used to remotely display the on and off states of the switch. When the switch is closed, FB1

is connected to FB2; when the switch is open, FB1 is disconnected from FB2.



The resistor is selected according to the supply voltage, to ensure the circuit current is less than the rated current of the Indicator light and 320mA

4. Wire the string cables to the interface.



Note!

Please follow the marks (1+, 1-, 2+, 2-) for PV wiring.

5. Note the installation environment (See the schematic on the next page).

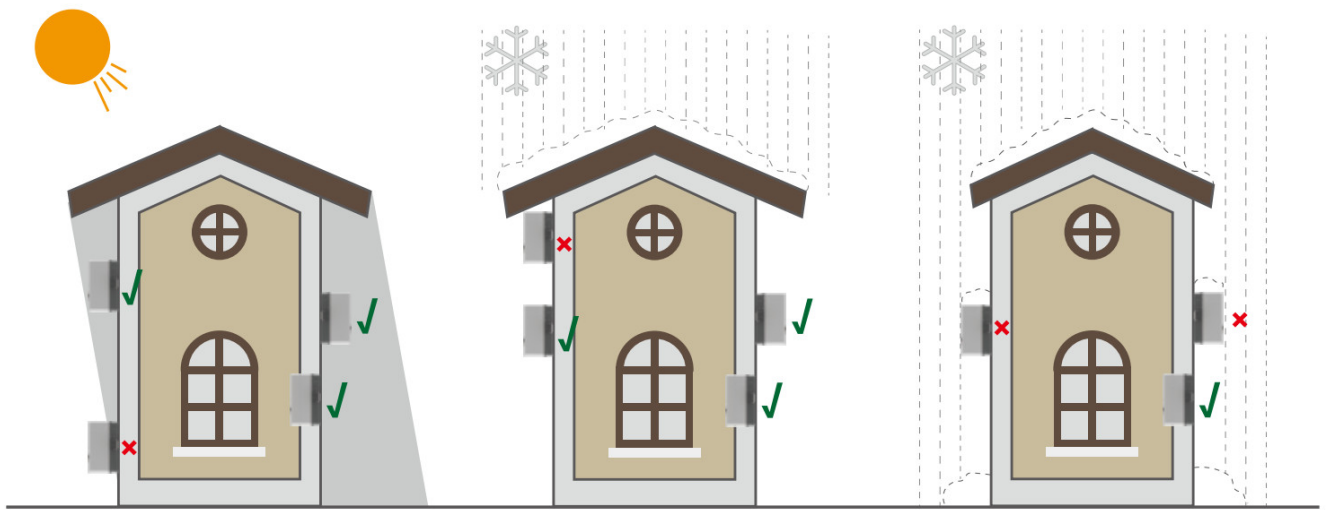
Note!

Do not expose to direct sunlight.

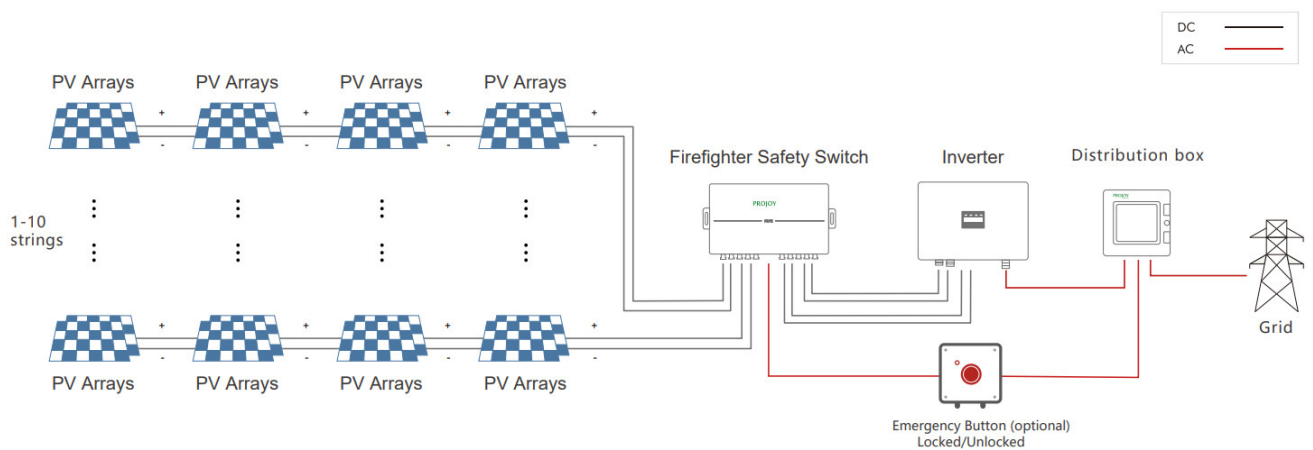
Do not expose to rain and snow cover.

The installation site must have good ventilation conditions.

Do not be in direct contact with (continuous) ingress water.



6. Diagram



6.3 Test

1. Step1. Activate the AC power circuit. PEFS switches on.



Approx. 35 sec.

2. Step 2. Wait one minute. UPS is charging.



Approx. 1 min

3. Step 3. Deactivate the AC power circuit. PEFS will switch off in about 7 seconds. Red LED lights off.

AC POWER OFF



Approx. 7 sec.

4. Step 4. Activate the AC power circuit. PEFS switches on in 8 seconds. Red LED light on.

AC POWER ON



Approx. 8 sec.

5. Step 5. The test is completed.

Aftersales service and warranty

This product is manufactured in a sophisticated quality management system. In case of fault, the following warranty and after-services clauses are applicable.

7.1 Warranty

On the premise of the user's compliance with the reservation and use specifications of the breaker, for breakers whose delivery date is within 60 months from now and whose seals are intact, PROJOY will repair or replace any of these breakers which are damaged or cannot work normally due to manufacture quality. However, as for faults caused by the following reasons, PROJOY would repair or replace the breaker with a charge even it is still under warranty.

1. Due to incorrect use, self-modification, and improper maintenance, etc.;
2. Use beyond the requirements of standard specifications;
3. After the purchase, due to falling and damage during installation, etc.;
4. Earthquakes, fires, lightning strikes, abnormal voltages, other natural disasters, and secondary disasters, etc.

7.2 Aftersales service

1. Please contact the supplier or our company's after-sales service department in case of failure;
2. During the warranty period: For failures caused by the company's manufacturing problems, free repairs and replacements;
3. After the warranty period expires: If the function can be maintained after the repair, make a paid repair, otherwise it can be replaced with a paid one.


Contact us

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	<p>PROJOY RSD PEFS-EL Series Array Level Rapid Shutdown [pdf] Installation Guide RSD PEFS-EL Series, Array Level Rapid Shutdown, Rapid Shutdown, Array Level Shutdown, S hutdown</p>
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References

- [↑ Telepathy - Powering Successful Brands](#)
- [PROJOY - \(\)](#)
- [PROJOY DC Isolator, AC Isolator, DC Isolator Switch, Solar PV Isolator Switch manufacturer-Projoy Electric](#)