

**PROJOY**  
electric

— Switch To Safety! —



# Installation Guide

RSD PEFS-PL80S-11/21

[www.projoy-electric.com](http://www.projoy-electric.com)

# CONTENT

## Operation Manual of Panel Level Rapid Shutdown

|   |          |
|---|----------|
| <b>1. Scope and General</b>                                   | <b>1</b> |
| <b>2 Safety instructions and regulations</b>                  | <b>1</b> |
| 2.1 Symbols explanation                                       | 1        |
| 2.2 Safety instructions                                       | 2        |
| <b>3 Technical Data/Specification and product information</b> | <b>2</b> |
| 3.1 Parameters Table  | 2        |
| 3.2 Product Information                                       | 2        |
| <b>4 Installation</b>   | <b>2</b> |
| <b>5 Trouble shooting</b>                                     | <b>3</b> |
| <b>6 Maintenance and Repair</b>                               | <b>4</b> |
| <b>7 Warranty commitment</b>                                  | <b>4</b> |
| <b>8 Contact us</b>   | <b>5</b> |

## 1 Scope and General

The manual only used to PEFS-PL80S-11,PEFS-PL80S-21 model Panel-level Rapid Shutdown.

| Version | Date       | Remark        | Chapter |
|---------|------------|---------------|---------|
| V1.0    | 2021-10-15 | First Edition | -       |

## 2 Safety instructions and regulations

For your safety and effective operation, please read the safety instructions thoroughly before using the product.

Safety Instructions should always be observed in order to prevent accident or risk with the safe and proper use the product.

### 2.1 Symbols explanation

Instructions are separated into “DANGER”, “WARNING” and “CAUTION” etc., and the meaning of the terms is as follows:



| SYMBOLS     | DIRECTIONS   | NOTED                                      |
|-------------|--|--|
| <br>DANGER  | CAUTION – Hot surfaces – To reduce the risk of burns – Do not touch.   |  |
| <br>DANGER  | Risk of electric shock from energy stored in capacitor, Do not remove cover until ____ minutes after disconnecting all sources of supply.  | IF have the electronic C<br><br>45 minutes |
| <br>DANGER  | Risk of Electric Shock   |  |
| <br>WARNING | Risk of Electric Shock, Do Not Remove Cover. No User Serviceable Parts Inside. Refer Servicing To Qualified Service Personnel<br>The information should add to operation and troubleshooting and installation clause |  |
| <br>CAUTION | the installation and operation of inverter can only be performed by qualified personnel  |  |
|             | The inverter must not be disposed of together with household waste   |  |
|             | Not touch  |  |
|             | Observe all documentation that accompanies the inverter  |  |

## 2.2 Safety instructions Caution!

- 1) Need permission from the local utility prior to connecting the product to the utility grid and hire qualified personnel.
- 2) Observe all documentation that accompanies the product.
- 3) Installations maintenance and installed should be carried out by competent persons, who have sufficient skills and training to apply safe methods of work to install.
- 4) All electrical installations must be done in accordance with the National Wiring Rules of Standard and local code.

## 3 Technical Data/Specification and product information

### 3.1 Parameters Table

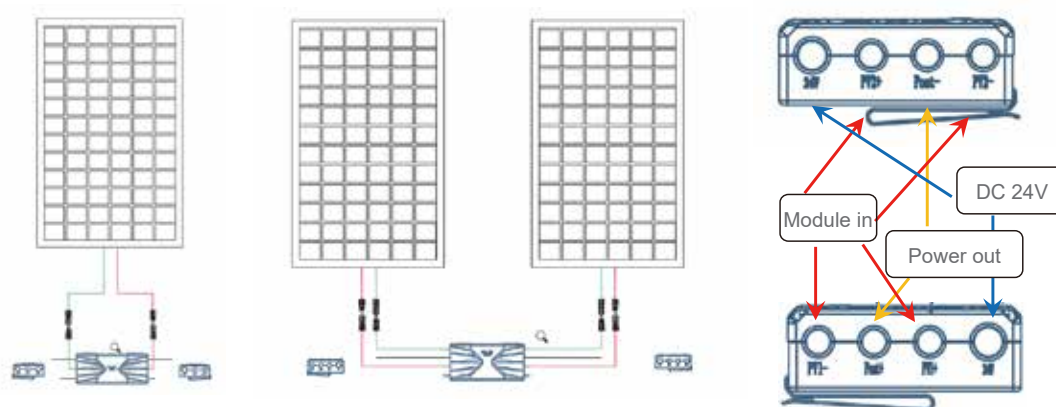
| Model                      | PEFS -PL80S -11            | PEFS -PL80S -21 |
|----------------------------|----------------------------|-----------------|
| <b>Input:</b>              |                            |                 |
| Max. System Voltage        | 1500V                      | 1500V           |
| InputVmax PV (Vdc)         | 80Vdc                      | 80Vdc           |
| OutputVmax PV (Vdc)        | 80V                        | 160V            |
| Isc PV (absolute Max.) (A) | 20A                        | 20A             |
| Mppt Voltage range (Vdc)   | 0-80V                      | 0-80V           |
| Max. input current(A)      | 20A                        | 20A             |
| Rapid Shutdown time limit  | 1S                         |                 |
| Tripping                   | Lost of 24Vdc Power Supply |                 |
| DC input power             | 24VDC, 0.1A                |                 |
| <b>others</b>              |                            |                 |
| Ingress protection         | Type 6P                    |                 |
| Temperature (°C)           | -30 to +80°C               |                 |
| <b>Others</b>              |                            |                 |
| Size (mm)                  | 120*52*22                  | 120*59*22       |
| Environment humidity       | 0-90%                      |                 |

### 3.2 Product Information

- 1) Adopt Fire-retardant V-0/UV resistant materials, high temperature resistance, corrosion resistance and security impact resistance.
- 2) Snap Joints design, simple and convenient for installation, reduce installation costs.
- 3) Long lifespan design suitable for 25 years solar system requirement, normally working environment at -30°C~+80°C, cut off the solar panels automatically once the temperature in excess of 85°C.
- 4) The connection cable with UL and TUV qualification, Maximum Output Voltage up to 120Vdc.
- 5) Optional color: White/orange/black; PLC control method or DC 24V manual control are all available.
- 6) One rapid shutdown can control 1,2, or 4 solar modules, Suitable for residential and commercial solar systems.

## 4 Installation

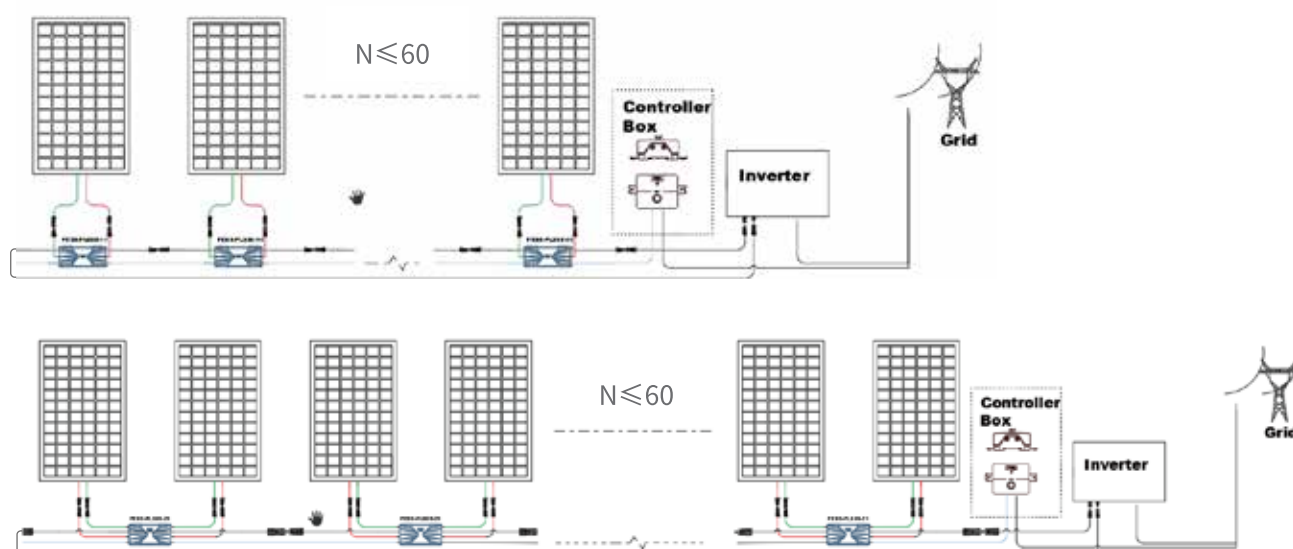
Normal installation of PEFS-PL80S-11/PEFS-PL80S-21 will be the connection of one/two PV panels in series to one RSD unit (typical wiring example below). Where the combined rating of two panels exceeds the rating of the PEFS-PL80S-11/PEFS-PL80S-21, or to meet regulatory compliance, 1-to-1 connection of the PV module to the Rapid Shutdown can be used. See diagram on page 3. Connect the array Positive (+) output connector to the RSD Positive (+) input connector. Connect the array Negative (-) output connector to the RSD Negative (-) input connector.



Where reference has been made above to the use of the PEFS-PL80S-11/PEFS-PL80S-21 as the source of supply of the 24VDC, it can also be considered that power can be supplied to the RSD units by an alternative suitably rated UL Approved 24VDC Class II power supply (AC/DC or DC/DC types). This power supply unit should be used in conjunction with a shutdown initiator that ensures disconnection of the 24VDC supply upon operation, and for the PEFS-PL80S-11/PEFS-PL80S-21 the appropriate in-line fuse must also be installed in the 24VDC line. As the supply of these parts are outside the scope of Projoy we recommend that the device's instructions of use are fully understood and the necessary appropriate precautions made when using such parts; and that the correct 24V/0V polarity connections are made as indicated in this installation guide.

## MULTIPLE INSTALLATIONS

One RSD PEFS-PL80S-11/PEFS-PL80S-21 will control two solar panels and by series connection of the Rapid Shutdown, multiple solar panel pairs can be connected to form a greater capacity system. The diagram below illustrates a typical example of a Rapid Shutdown protected installation using eight solar panels and four PEFS-PL80S-11/PEFS-PL80S-21 RSDs.



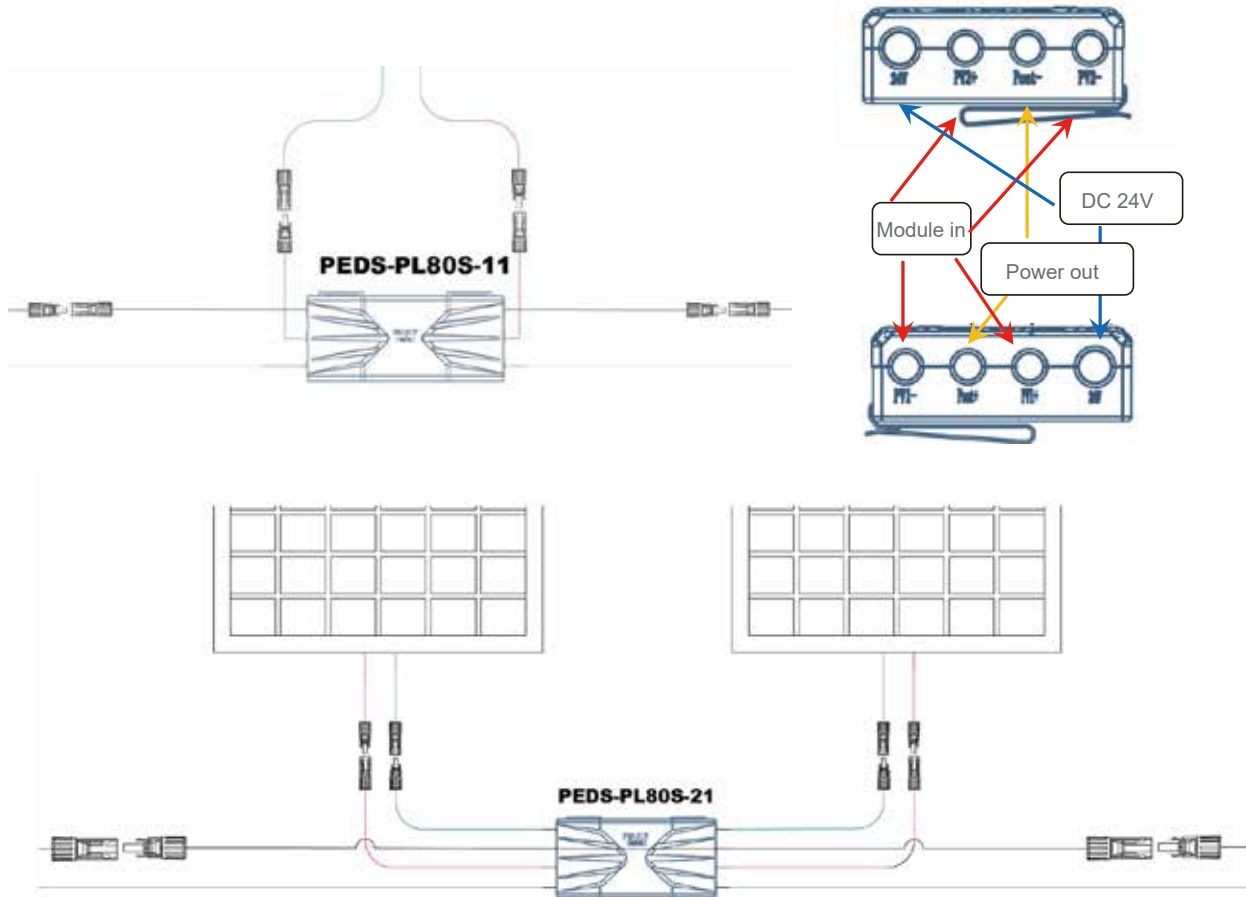
## 5 Trouble shooting

If it is found that the product cannot be output...

- 1) Please check whether the 24V power supply is normal. After the 24V power supply is restored, the product can output normally.



- 2) Please remove the product first and check the temperature of the product. If it is very hot (over 120°C), do not deal with it at this time. After the temperature of the product is lowered, it will resume normal operation.
- 3) Check the input and output connectors, whether they are correctly connected and inserted, as shown in the figure below:



## 6 Maintenance and Repair

Please check regularly. Specifically, you can press the control box to check whether the output of the whole string is stopped or the output voltage is less than 10V. If the output voltage is greater than 10V, it indicates that there is a fault in the system. Please contact Projoy after-service for handling.

## 7 Warranty commitment

In order to provide you with high-quality service and better protect your rights and interests, please read this regulation carefully and keep your quality assurance card and purchase invoice.

We will provide you with standard warranty service for 300 months. From the date of purchase, during the warranty period, we will provide you with free warranty and maintenance services. The faulty product needs to be returned to the factory for repair, so please keep the original package properly. If the customer uses the new packing box, the packing cost and transportation cost will be borne by the customer. During the warranty period, the customer needs to provide the original invoice and quality card, and the label of the product body is clearly visible. If these requirements cannot be met, we will not be able to provide you with perfect service.

This regulation is applicable to PEFS-PL80S-11, PEFS-PL80S-21 model Panel-level Rapid Shutdown produced by PROJOY. All products purchased through regular channels shall enjoy the full range of quality assurance services provided by the company, except for the following situations:

1. Beyond the warranty period;
2. No valid quality assurance card and product serial number;
3. Transportation damage;
4. Improper use, operation and modification;
5. Operating in an environment beyond the specified in this manual;
6. Any installation and use beyond the scope specified in relevant international standards;
7. Damage caused by abnormal natural disasters (earthquake, fire, flood, etc.).

## 8 Contact us

### Projoy Electric Co., Ltd.

Tell: +86-512-6878 6489

Web: <https://en.projoy-electric.com/>

Add: 2nd Floor, Building 3, No. 2266, Taiyang Road, Xiangcheng District, Suzhou