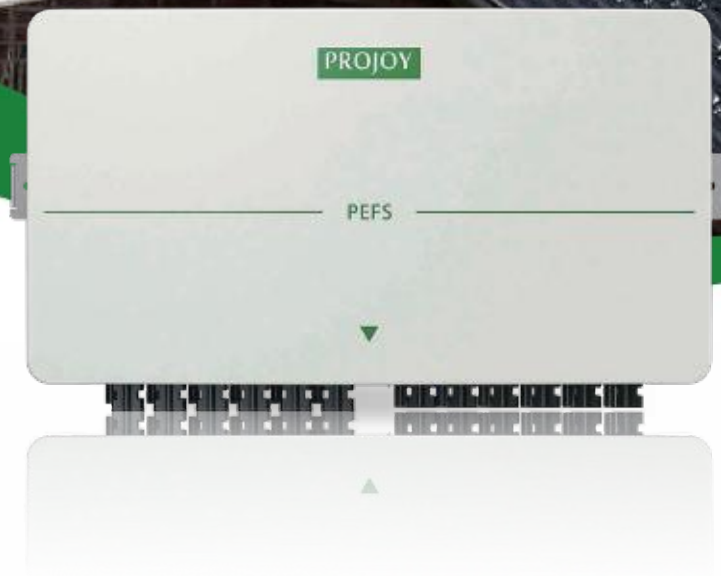


PROJOY
electric
Switch To Safety!



Installation Guide

PEFS-EL (ETL) Series

CONTENTS

User Manual of Projoy String Level Rapid Shutdown Device(SLRSD)

1. Scope and General	1
2 Important Safety Precautions	1
3 Using of SLRSD	1
4 Shutdown Ways	2
5 Specifications of SLRSD	2
6 Installation	3
7 Aftersales service and warranty	8
8 Contact us	8

1 Scope and General

This manual is used for PEFS-EL Series of String Level Rapid Shutdown Device (SLRSD), also known as Fire Fighter Safety Switch (FFSS) in some European countries.

Version	Date	Remark	Chapter
V1.0	2025-10-12	First Edition	-

1. Changes or modifications not explained/approved in this manual avoids your authority to operate this equipment.
2. PROJOY shall not be held responsible for any damage caused by incorrect installation and/or the misunderstanding of this manual.
3. PROJOY reserves the right to make 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 should be modified or duplicated except for personal use.
5. Check the system regularly every 3 months

2 Important Safety Precautions

Components in the installations are exposed to high voltages and currents.

Follow these instructions carefully to avoid the risk from fire or electric shock.

The following regulations and standards are applicable and must be read before installation:

1. Wiring should be done by professional and qualified people;
2. Wiring should be done after confirming of complete disconnection of power supply;
3. Local building regulations.
4. Guidelines for lightning and over voltage protection.

Note!

1. It is essential to maintain voltage and current limits under all possible operating conditions. Also keep in mind the literature on the correct dimensions and dimensions of cables and components.
2. The installation of such equipment should only be carried out by certified technicians.
3. The wiring schematics of the String Level Rapid Shutdown Device can be found at the end of this manual.
4. All installation works shall be tested in accordance with relevant local laws and regulations during installation.

3 Using of SLRSD

3.1 Using of the Rapid Shutdown

The Rapid Shutdown was developed as a safety device for disconnecting the DC strings, when emergency case occurs, like fire.

3.2 Installation of the Rapid Shutdown

The Rapid Shutdown should to be placed as close to the solar array as possible, which is IP65 for outdoor installation.

4 Shutdown Ways

Shutdown By Tem.



Automatically shutdown when detecting ambient temperature is over than 70 C.

By AC Power cut-off



Automatically shutdown by AC power cut-off

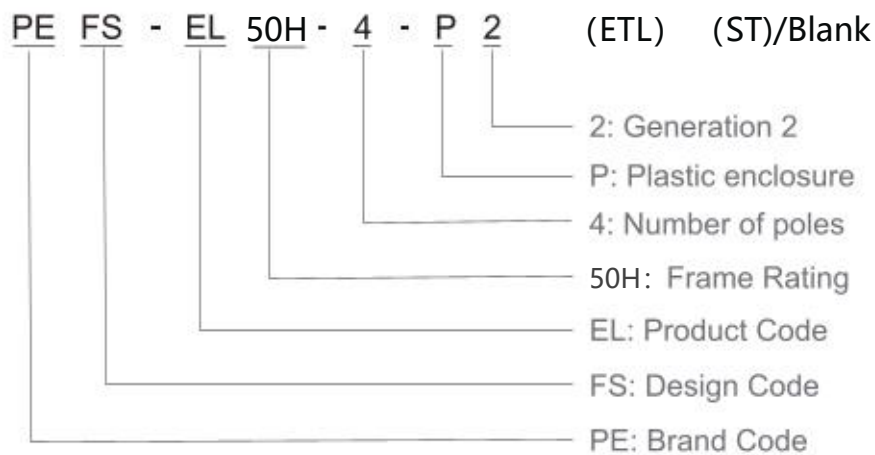
By Manual



Automatically shutdown by pressing emergency stop button

5 Specifications of SLRSD

5.1 Description



Note: ETL : UL and CSA certifications provided by ETL
 ST:Stäubli connector
 Blank: QC connector

5.2 Technical parameters

Data of PEFS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2) 2015. Utilization category DC-PV1.						Poles	No. of Strings	Part Number
300V	600V	800V	1000V	1200V	1500V			
16A	16A	16A	9A	6A	3A	2/4/6/8/10	1/2/3/4/5	PEFS-EL16-2/4/6/8/10-P2
30A	30A	30A	30A	30A	20A	2/4/6/8/10	1/2/3/4/5	PEFS-EL40H-2/4/6/8/10-P2
30A	30A	30A	30A	30A	30A	2/4/6/8/10	1/2/3/4/5	PEFS-EL50H-2/4/6/8/10-P2

Number of poles	2	4	6	8	10
Appearance					
Frame Rating In(A)	30 (MAX)				
Working temperature	-40 ~ +70°C				
Fiducial temperature	+40°C				
Pollution degree	3				
Ingress protection	Type 4X				
Outline dimensions(mm)	375×227×96				
Installation dimensions(mm)	Φ 6×436				

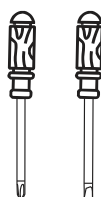
5.3 Wiring Options

Number of poles	2	4	6	8	10
Appearance					
3-core wire	1 *1.8m for AC power supply				
MC4 cable	4	8	12	16	20

6 Insatllation

6.1 Installation Requirements

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



6.2 Installation Steps

1) Pull out the bottom bracket



2) Mount the switch enclosure on the wall.



3) Wiring AC cable

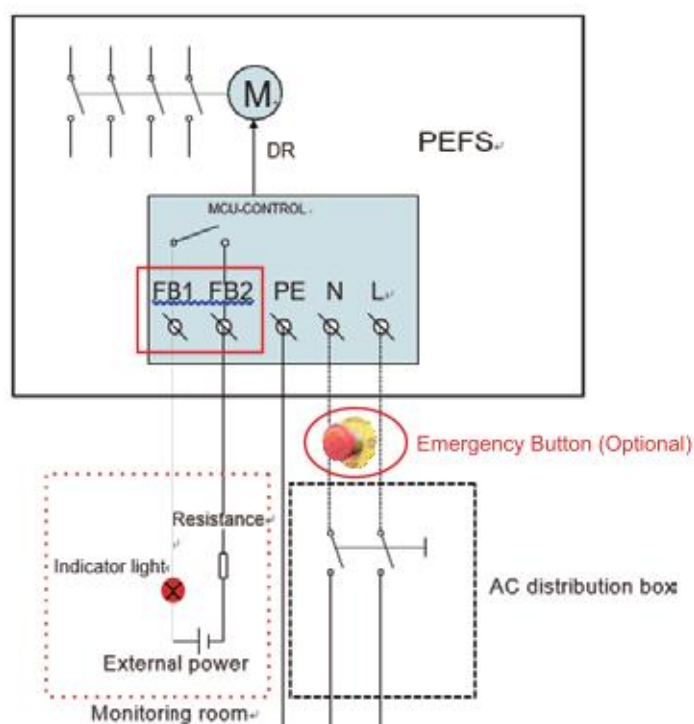
Wire Color: According to American and Europe standard requirements.
US: L: Black; N: White; G: Green

	L	N	G
US			

Note!

If there is FB1 FB2 at the end of the model , then it has this function, otherwise it doesn't.

FB1, FB2 are used to remotely display the on/off status of the switch. When the switch is closed, FB1 is connected to FB2; when the switch is open, FB1 is disconnected from FB2.



Contact capacity of FB1 FB2 : 250VAC,16A

4) Wiring and connectors



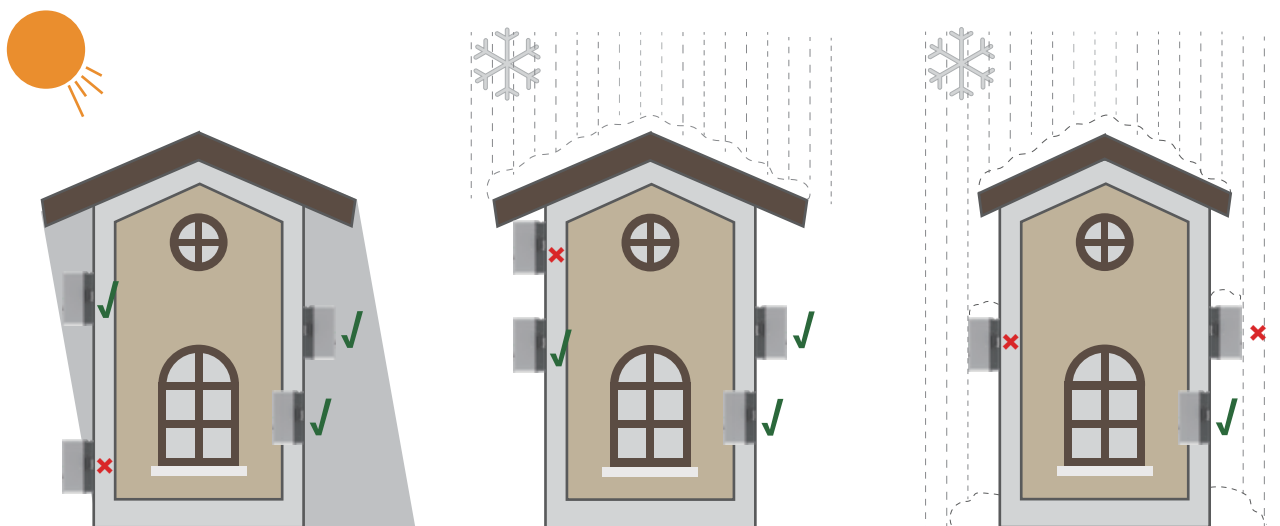
Please follow the marks (1+,1-,2+,2-,3+,3-,4+,4-,5+,5-) for PV wiring.

5) Installation

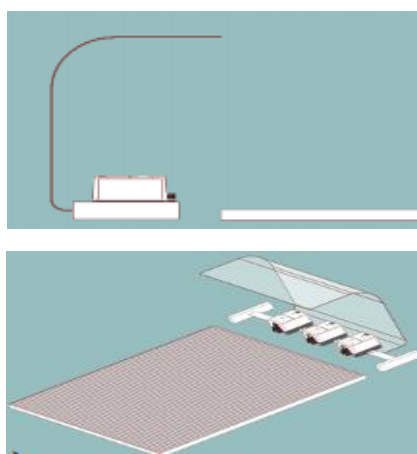
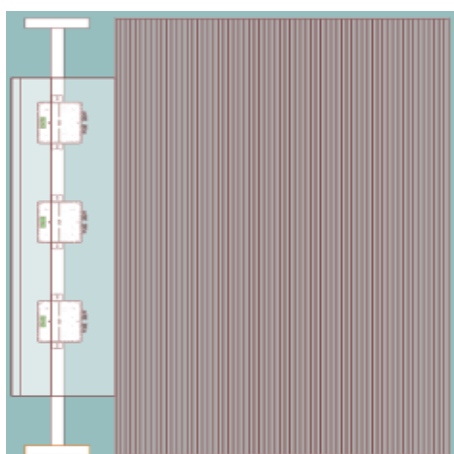
Note!

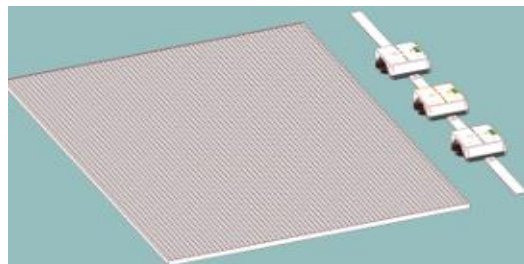
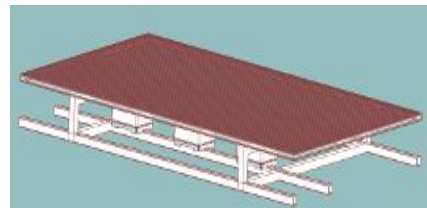
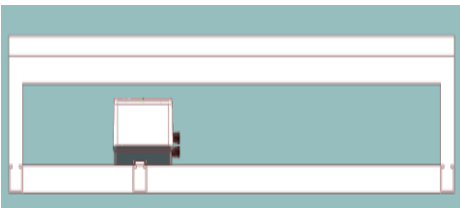
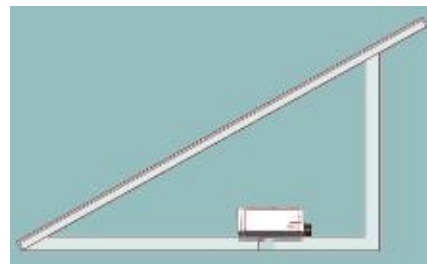
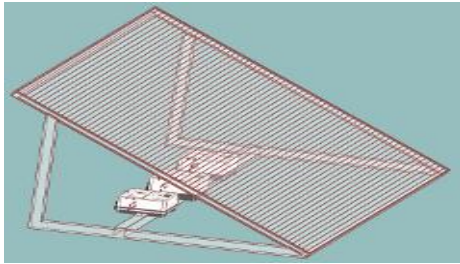
Do not expose it to direct sunlight and rain and should be with good ventilation condition.

a. Residential Installation Scenario

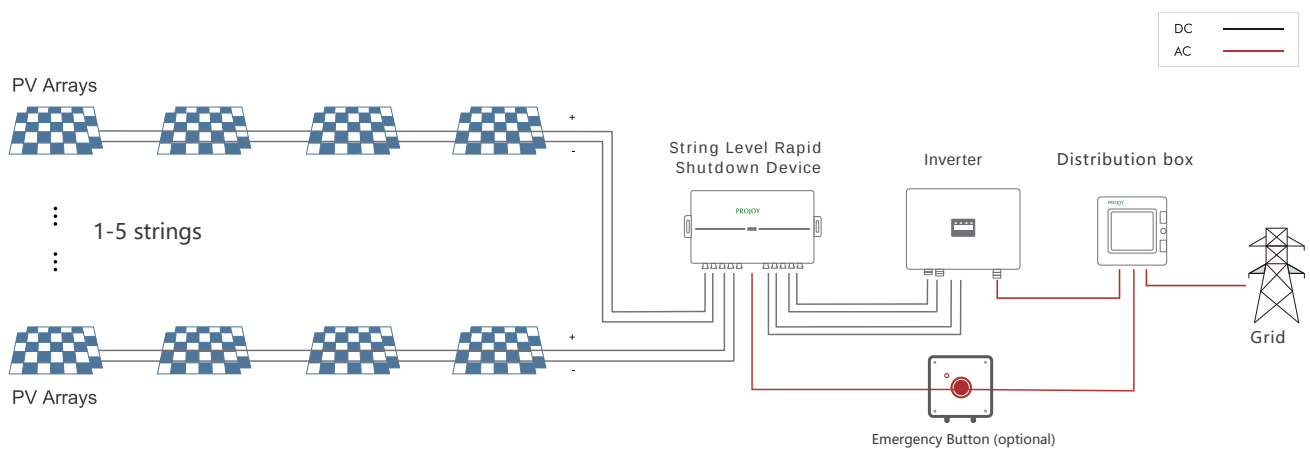


b. C&I Installation Scenario



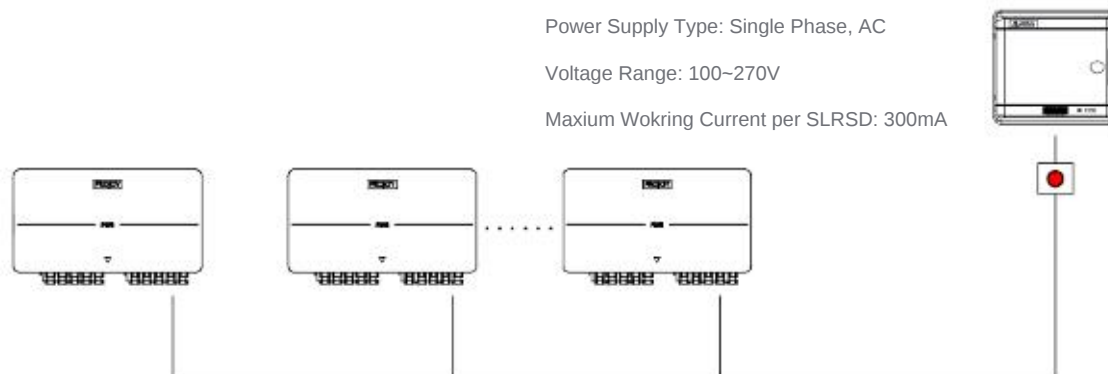


6) Diagram

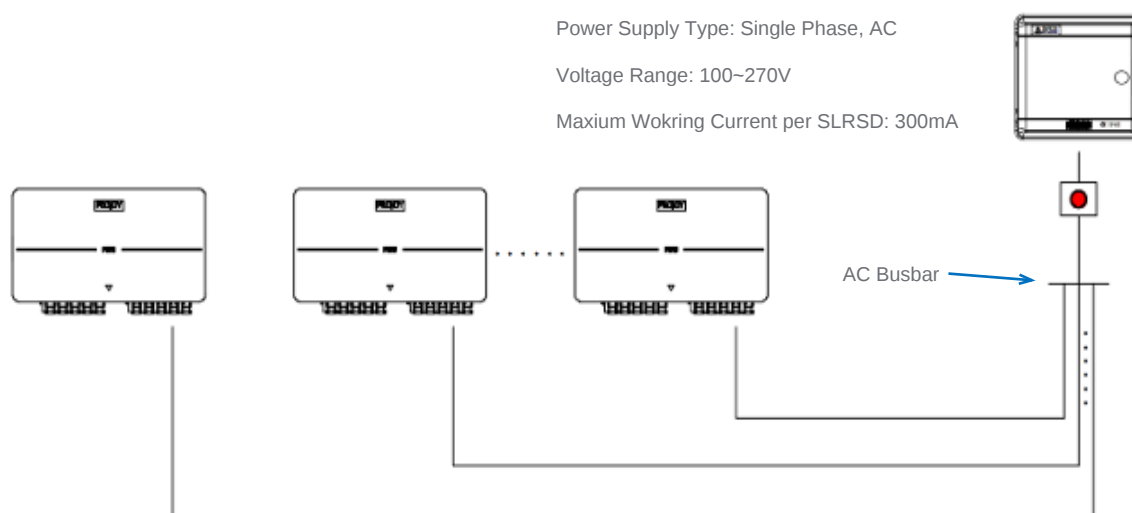


Emergency Button Installation

Option 1: AC Direct Connection



Option 2: AC Combining Connection (more recommended)



Note: the Max. Numbers of SLRSD connected to one circuit depends on the Max. Allowed Current of Emergency Button, e.g., the Max. Allowed Current of Emergency Button is 3A, then the number of SLRSD is calculated as following:

$$\text{No. of SLRSD} = 3\text{A}/300\text{mA} = 10 \text{ pcs}$$

7) Test

- 1) Step1. Activate AC power (Capacitors charging).

AC POWER ON



2) Step 2. Wait for one minute for the first time, motor drives switch to turn on and LED indicator light on



Approx. 1 min

3) Step 3. Deactivate AC power. Motor drives switch to turn off and LED indicator light off

AC POWER OFF



Approx. 7 sec.

4) Step 4. Again activate AC power circuit. motor drives switch to turn on and LED indicator light on

AC POWER ON



Approx. 8 sec.

5) Step 5. Test is completed.

7 Aftersales service and warranty

7.1 Warranty

Projoy PEFS Series String Level Rapid Shutdown Device : 5 years standard warranty and up to 10 years extension, which commencing from 3 months later of the manufacturing date. PROJOY will repair or replace any fault unit which is damaged or cannot work normally due to product quality issue. However, for the faults caused by following reasons, PROJOY would do service with charge even under warranty.

- 1) Inappropriate use or installation, self-modification or improper maintenance, etc.;
- 2) Beyond the prescribed scope of use;
- 3) Earthquakes, fires, lightning strikes, abnormal voltages, other natural disasters and secondary disasters, etc.

7.2 Aftersales service

- 1) Please contact Projoy local distributors for after-sales service

8 Contact us

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