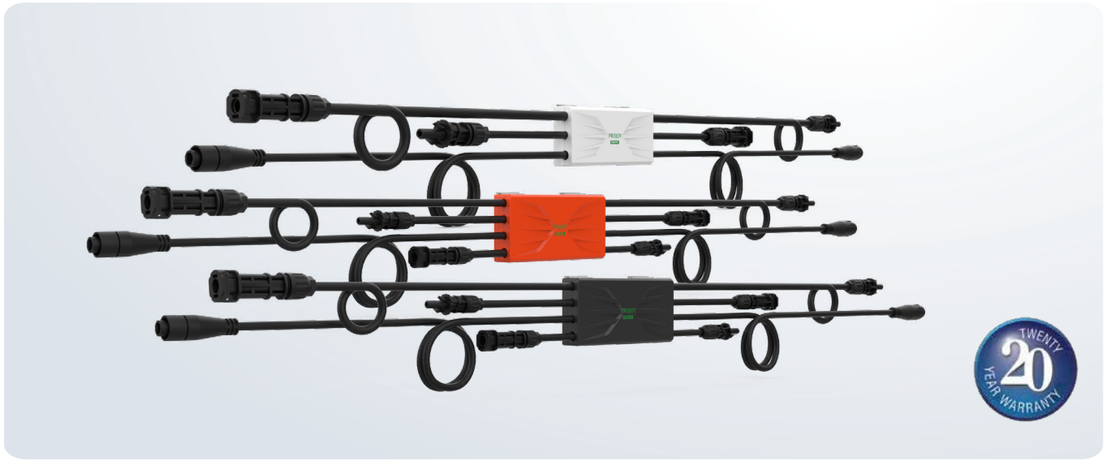
PROJOY electric
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PEFS Series

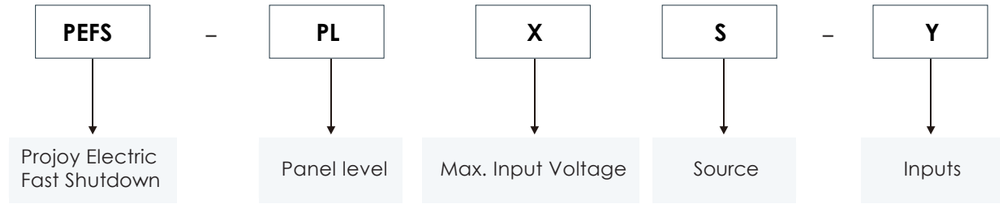


High Craftsmanship and Standards

- Over temperature protection ≥ 85°C
- Max 20A support
- Flame retardant: UL94-V0
- Ingress protection: > IP68 / NEMA 4X
- Anti-interference with high reliability and stability
- long lifespan for 25 years
- Compatible with all inverter brands and friendly for EMC Slim Design, Extremely Easy Installation

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Naming



Technical Data

Type	PEFS-PL80S-11	PEFS-PL80S-21	PEFS-PL120S-11	PEFS-PL120S-21
Number of PV Inputs	1	2	Optional	
Number of Modules Recommend	1	2	Optional	
Maximum Allowed Input Voltage	80V	80V		
Maximum Allowed Input Current	20A			
Maximum Output Voltage	80V	160V		
System Voltage	1000V			
Control Compliance	24VDC + 2 x 0.8mm^2 Cable			
Control Requirements	21.6V~26.4V at nomi. 27~36mA/unit			
Ambient Operating Temperature	-30° C to +60° C			
Protection Temperature	85° C			
IP Level	>IP68, NEMA 4X			
Fire-proof Level	Flame retardant, UL94-V0			
Humidity	0%~90%			
PV Connectors	MC4 (Customized)			
Design Life Span	25 years			
Size	120*51.9*22.4mm	120*59*22.4mm		
Weight	< 200g (Excluding Cables)			
Cable Length, PV1+ Input	95mm	600mm		
Cable Length, PV1- Input	95mm	600mm		
Cable Length, PV2+ Input	/	600mm		
Cable Length, PV2- Input	/	600mm		
Cable Length, Power Output	1200mm+1200mm	1200mm+1200mm		
Cable Length, 24Vdc Control Cable	1200mm+1200mm	1200mm+1200mm		
Standard Comliance	NEC2017/2020 (690.12); UL1741; UL3741; IEC/EN62109; IEC/EN61000			

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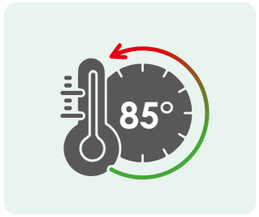
WS ENERGY Co.,Ltd.
51/17 Moo 3 T.Bangpla Amphoe Bangplee Samutprakarn 10540
Tel: 02-349-4426-7 | Fax: 02-349-4428 | Mobile: 087-053-8668
Email: worldspray.energy@gmail.com | www.projoy-thai.com

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Porjoy RSD Overview

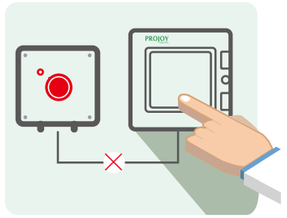
The Projoy RSD is designed to be installed at solar panel level and provides safety shutdown of the DC supply to ZERO VOLTS in case of emergency. Shutdown is initiated in 3 ways - Manual Operation, AC Supply Cut-Off or Temperature Rise Trigger as follows:

Temperature Rise Trigger



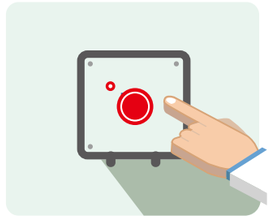
Automatic shutdown occurs if the temperature sensor on board of the RSD detects an ambient temperature rise above 85° C

AC Supply Cut-Off



Disconnection of the external AC supply, by whatever means, causes automatic remote operation of the Emergency Rapid Shutdown Switch and solar panel shutdown.

Manual Operation



Manual shutdown is initiated within less than 0.1 second of operation by pressing the emergency pushbutton on the Emergency Rapid Shutdown Switch. The Emergency Switch can be conveniently located at ground level for easy access or multiple switches can be installed in different multi-level building zones.

Inverter Compatibility

The RSD is compatible with all string inverters and does not affect their operation or performance in any way.

Fail-Safe Operation

The RSD is designed for fail-safe operation ensuring that, will not compromise the solar panel isolation and shutdown status, maintaining full zero volt isolation.

Emergency Shutdown Switches

The Emergency Shutdown Switches offer a 24VDC power supply suitable for up to 480 panels operation, with LED indicator to signal.

North American Solar Market Approvals

The RSD has been extensively tested by ETL to meet the various PV standards required within the North American market.

UL1741 PVRSE Certification

The RSD is fully certified to UL1741 PVRSE (PV Rapid Shutdown Equipment) for applications.
As a dedicated RSD operating as a safety switching without communications protocols, which is compatible with any PV inverter unit.

UL1741 Forthcoming AFCI Compatibility Requirements

The RSD is qualified to use with a number of solar inverters in accordance with the new UL AFCI specifications intended to ensure that the RSD operation does not interfere with the inverter's on board arc fault detection function.
The RSD as a benign unit without PLC helps ensures that arc fault detection is in no way compromised as a result of its installation.

UL3741 PVRSS Certification

The RSD is fully certified to UL3741 PVRSS (PV Rapid Shutdown System) for applications.
As a dedicated RSD operating as a safety switching without communications protocols, which is compatible with any PV inverter unit.

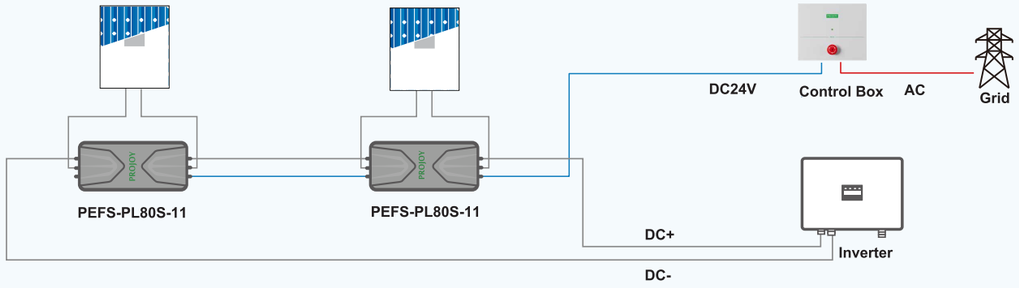
SunSpec Compliance

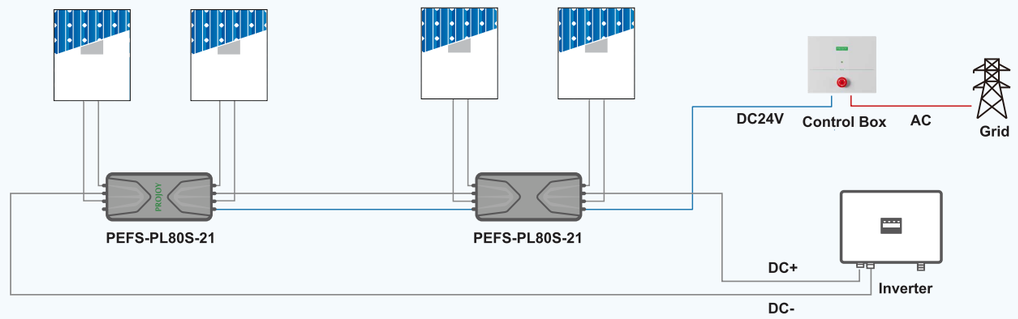
The SunSpec Interoperability Specification specifically provides for the exemption of products such as the RSD, stating at Section 1:
"It is possible to achieve NEC compliance without a Rapid Shutdown System communication protocol. This specification does not apply in that case.".

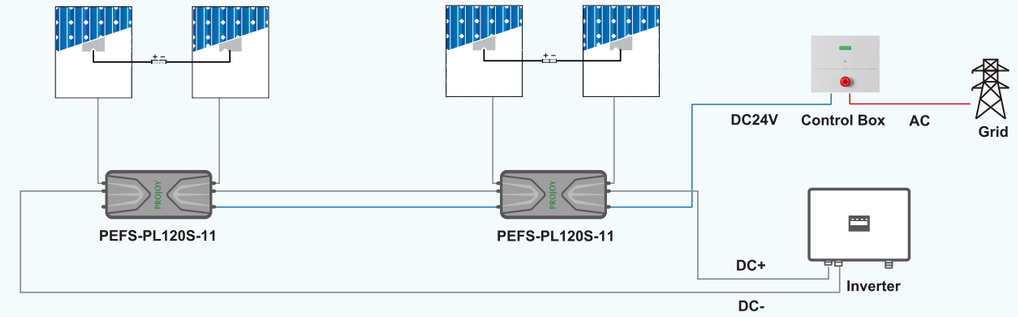
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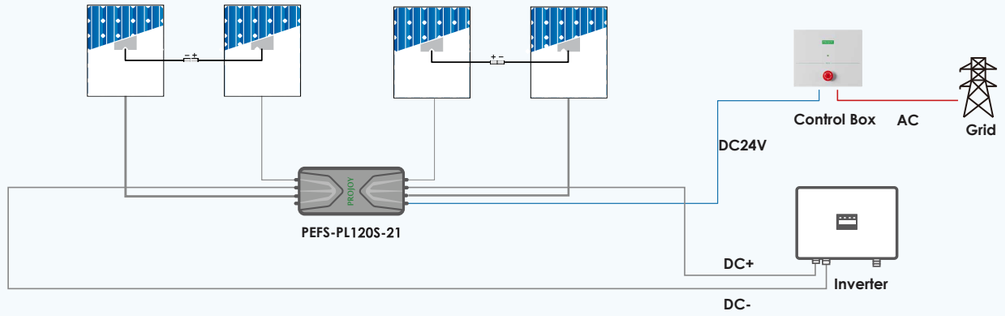
PEFS-PL Series







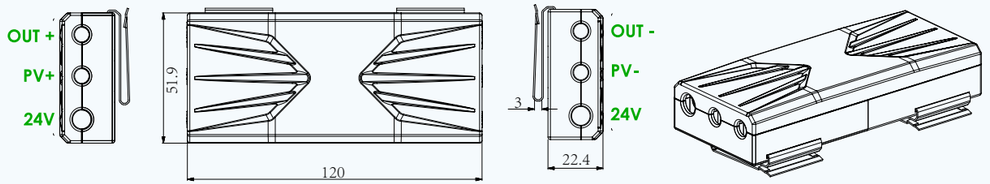
PEFS-PL Series



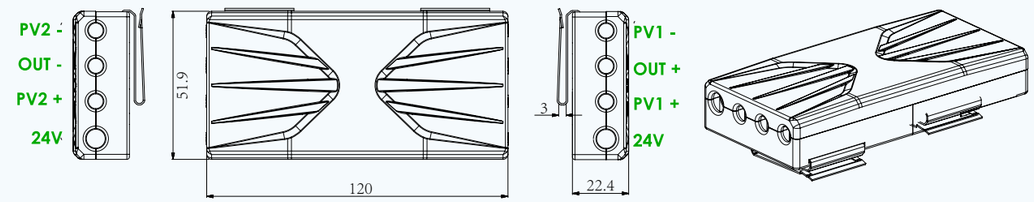
Dimension

PEFS-PL80S-11
PEFS-PL120S-11

(Unit: ±0.5 mm)



PEFS-PL80S-21
PEFS-PL120S-21



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PEFS Series

Rapid Shutdown Control Box (DC24V)



High Craftsmanship and Standards

- Comply with NEC2017 / NEC2020(690.12) and Sunspec RSD requirements
- Flame retardant: UL94-V0
- lockable, avoiding mis-action
- UL 1741 PVRSE compliance UL 3741 PVRSS compliance
- Up to 480 pcs of modules under controller
- Ingress protection IP65
- Max 50°C, No power degradation
- Anti-interfer-ence, stable & reliable

Intertek CE

Select Code

PEFS	–	PC	X	–	S	–	Y	–	Z	–	P2
Projoy Electric Rapid Shutdown		Panel-Level Controller	Y: With Key ZS: W/O Key		S: Source		Maximum RSD Number		Channel		Second Generation

Technical data

Control Box Include Power Supply

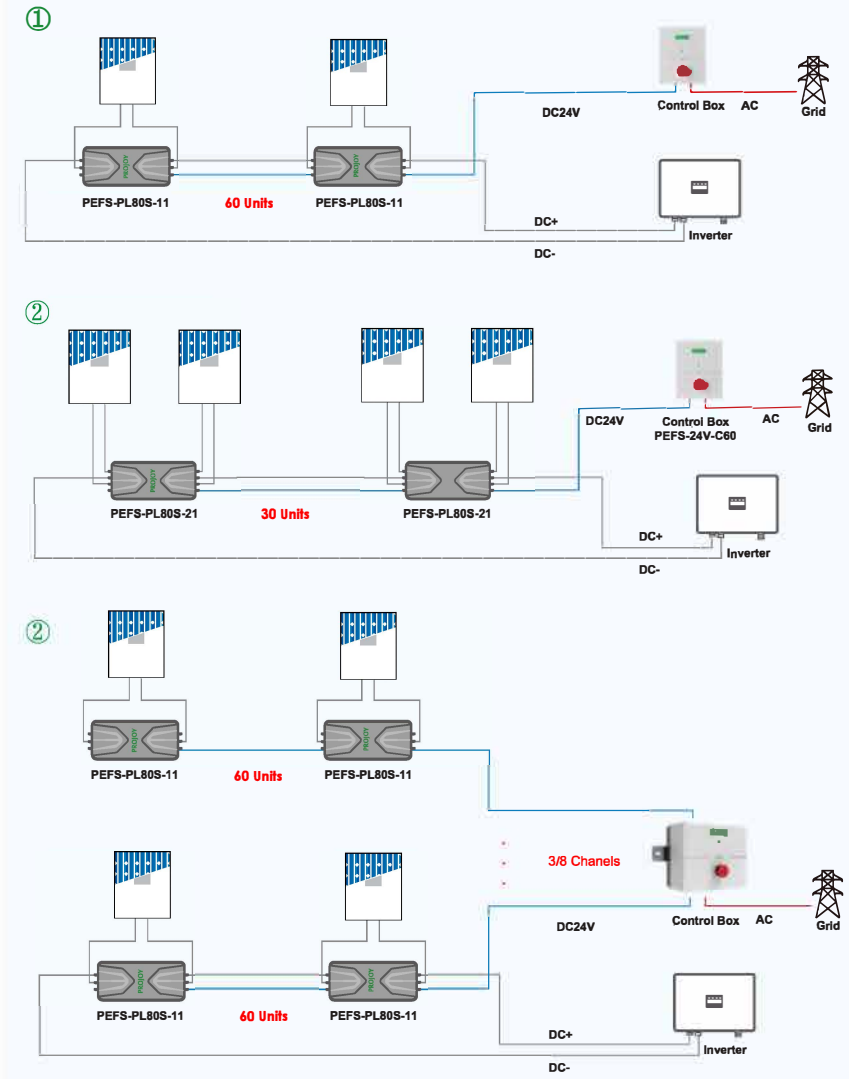
Model	PEFS-PCY-S-60-11-P2	PEFS-PCY-S-180-31-P2
Operating AC Voltage Range	100 V-240 V	
Norminal Frequency	50/60 Hz	
Output Voltage	24V DC	
Output Current	2.2A/50W	3*2.2A (3 Channels)/160W
24Vdc Control Cable Size	0.823 mm² / 18 AWG	
24Vdc Control Cable Length With Standard Connectors	20 m / 30 m / 100 m	
Spare Terminal Connectors	Yes	
Maximum PEFS-PL80S-11	60 Units	3*60 Units
Maximum PEFS-PL80S-21	30 Units	3*30 Units
Dimensions (mm)	155*188*63	248*280*70
With Lock	Optional (IP54)	
Operating Temperature Range	-30℃ ~ +70℃ (50℃ No degradation)	
Protection Class	IP65	
Mounting	Wall Mounted	
Maximum Distance (Last RSD to Controller Box)	200m	

Control Box Without Power Supply

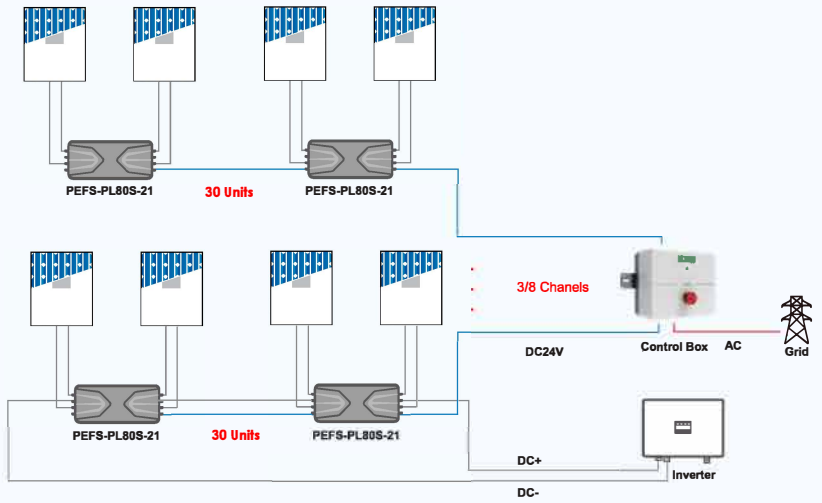
Model		PEFS-PCY-S-240-41-P2	PEFS-PCY-S-480-81-P2
Operating AC Voltage Range		100 V-240 V	100 V-240 V
Norminal Frequency		50/60 Hz	50/60 Hz
Output Voltage		24V DC	24V DC
Output Current / Per String		**4*2.2A (4 Channels)**	8*2.2A (8 Channels)
24Vdc Control Cable Size		0.823 mm² / 18 AWG	0.823 mm² / 18 AWG
24Vdc Control Cable Length With Standard Connectors		20 m / 30 m / 100 m	20 m / 30 m / 100 m
Spare Terminal Connectors		Yes	Yes
Maximum PEFS-PL80S-11 / Per String		**4*60 Units**	8*60 Units
Maximum PEFS-PL80S-21 / Per String		**4*30 Units**	8*30 Units
Dimensions (mm)		248*280*70	248*280*70
With Lock		Optional	Optional
Operating Temperature Range		-30℃ ~ +70℃ (50℃ No degradation)	-30℃ ~ +70℃ (50℃ No degradation)
Protection Class		IP65	IP65
Mounting		Wall Mounted	Wall Mounted
Maximum Distance (Last RSD to Controller Box)		200m	200m
Recommend Power Supply	Output Current	≥20A / 500W	≥20A / 500W
	Maximum PEFS-PL80S-11	**240 Units**	480 Units
	Maximum PEFS-PL80S-21	**120 Units**	240 Units

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Diagram



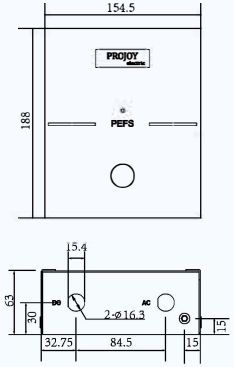
Diagram



Dimension

Unit: mm

PEFS-PCY/PCZS-S-60-11



PEFS-PCY/PCZS-S-180/480-31-P2

