



# Solar Panel Rapid Shutdown Safety Solution

**BFS Series**



[WWW.BENY.COM](http://WWW.BENY.COM)

**ZBENY**



- Module Level Rapid Shutdown
- Manual Shutdown by button switch
- Automatic Shutdown on AC Power Loss
- Over temperature Automatic Shutdown
- Compatible with most string inverters and panels
- No cross-talk with inverter or WIFI

## Application

BFS-11/BFS-12 is a module level rapid shutdown device offers fire safety for solar rooftop and building, remains the rapid shutdown function period the solar PV system whole working life.

Emergency button switch is required to initiate the rapid shutdown operating, as a trigger place on the ground and easier to reach.

The communication cable on the rapid shutdown device should be connected in series and wire to the button switch.

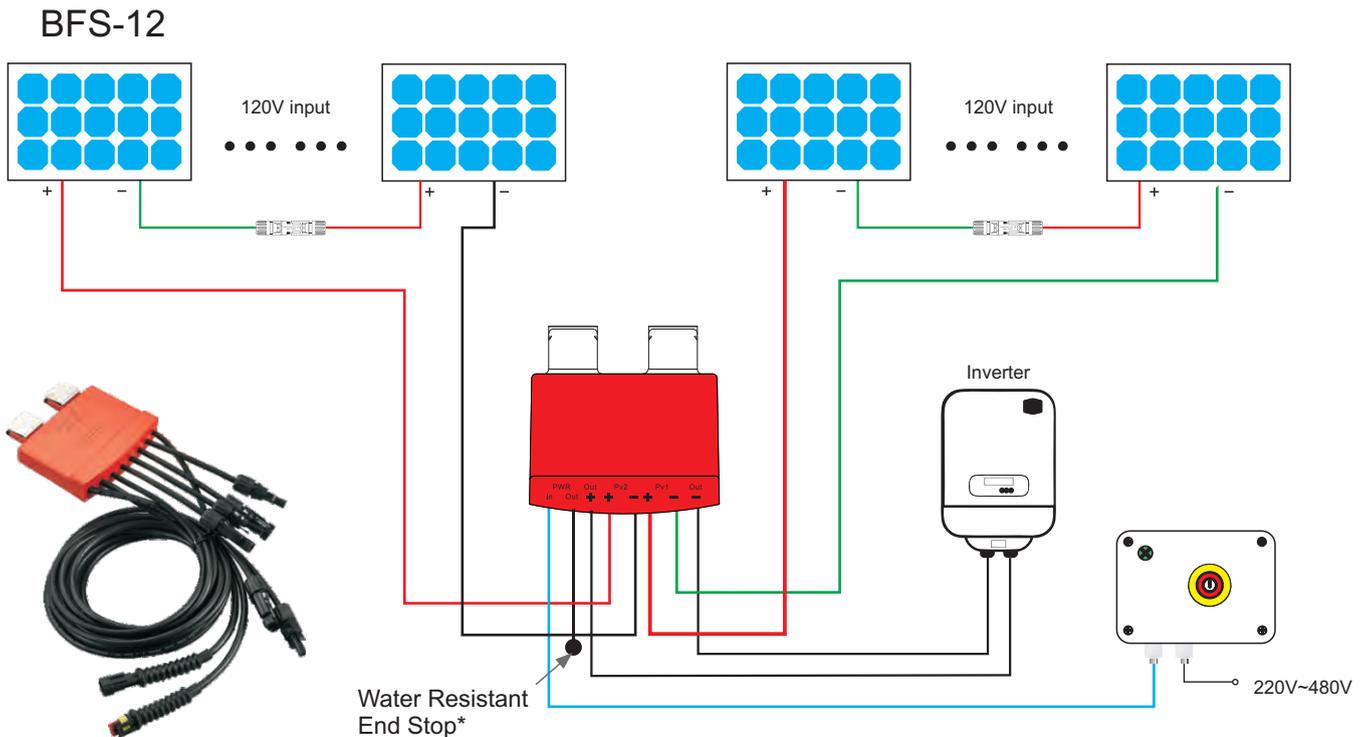
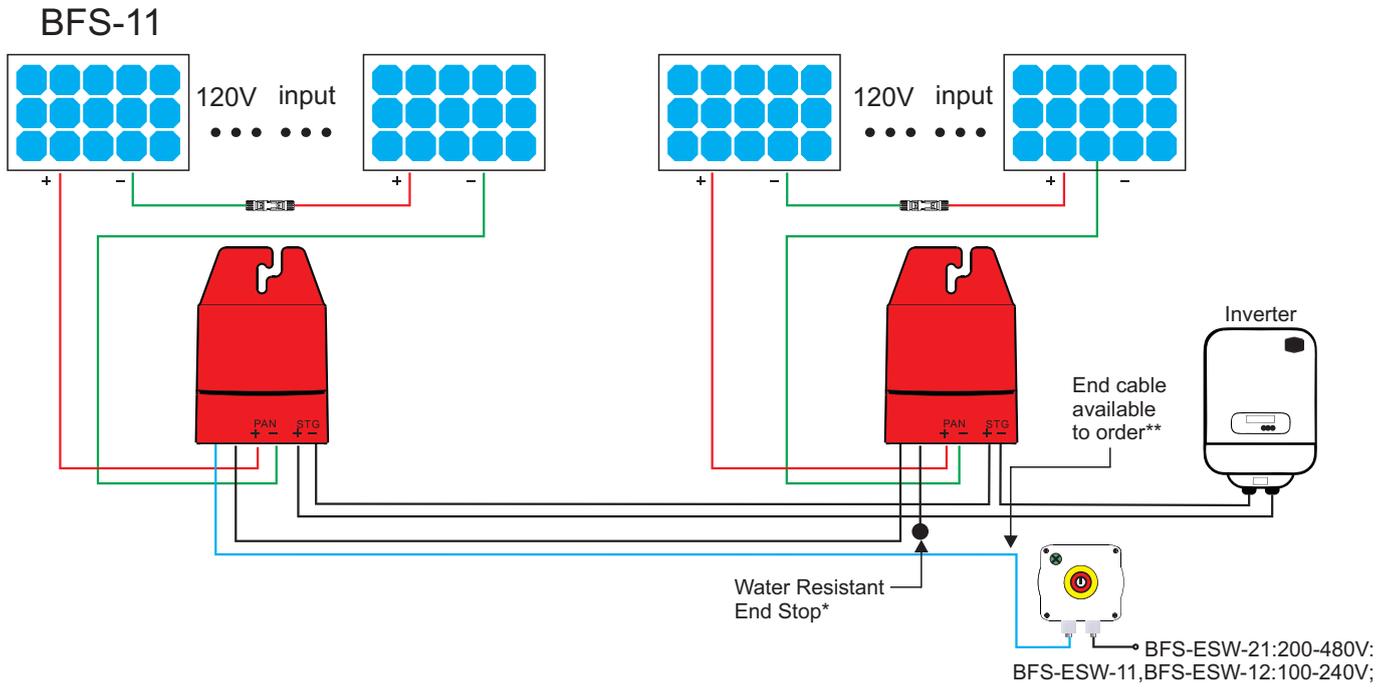
So the button switch can control the BFS rapid shutdown devices.

A communication that is no cross-talk with the inverter or WIFI source.

## BFS-11/BFS-12 RSD SPECIFICATIONS

	BFS-11	BFS-12
Max operating Voltage Voc(V dc)	120V	2x120V
Max operating current (A dc)	18A/20A	
Max. output power(W)	2400W	
IP Class Protection	>IP68	
Range of operating voltage (V dc)	10-120V	
Max. array short circuit current (A dc)	18A/20A	
Max. outputOperating voltage (V dc)	120V	
Rated Max. output current (A dc)	18A/20A	
Communication Type	2x1mm <sup>2</sup> Signal cables + connectors	
Signal Cable Length	1800mm	
Maximum Air Ambient (°C)	55°C	
Storage/shipping Temperature range	-30°C to +80°C	
Operating Ambient Temperature range	-30°C to +55°C	
Standard Compliance	EN 62109-1; EN 61000-6	
PV Panel Cable Length	180mm	
PV Connectors	Staubli MC4 (Standard) Jinko connectors for option	
Warranty	BFS-11/BFS-12: 25Years BFS-ESWXX(-K): 5Years	

## How the solution works?

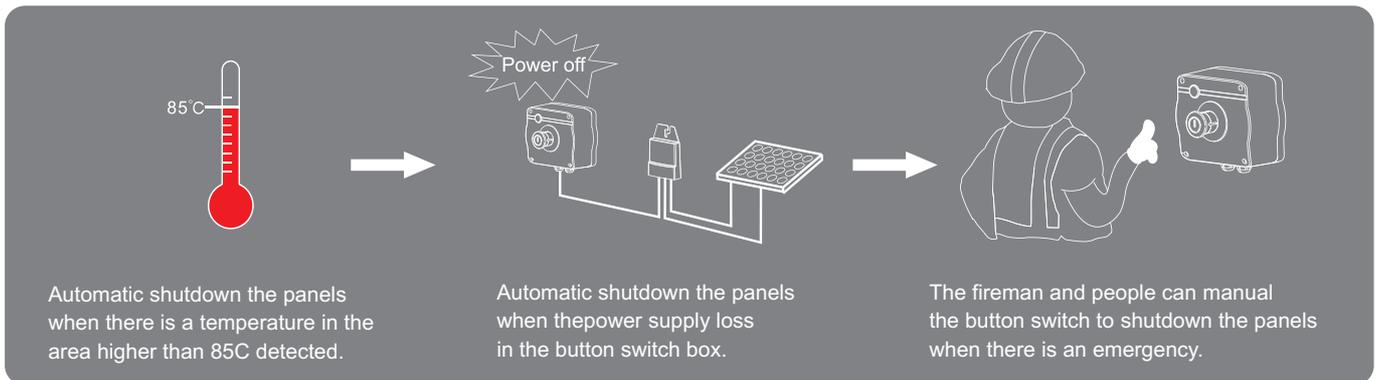


Each BFS-11/BFS-12 device can hold solar modules output at max 120V in total, the modules connect in series as solar string goes to inverter as PV system designing. One more thing on the rooftop is the connection of BFS-11/BFS-12 RSD and button switch via communication cable.

**Note:** If your market requires NEC2017/NEC2020 requirement, we recommend one RSD BFS-11 connects 1 panel ( $\geq 40V$ ) or 2 panels ( $< 40V$ ); BFS-12 connects 2 panels ( $\geq 40V$ ) or 4 panels ( $< 40V$ ).



## A complete RSD solution



## Emergency shutdown switch



The Emergency Switch offers the manual shutdown of solar panels on the roof top by pushing the button. AC power from grid or AC side at solar inverter both could be the power source for the emergency switch.

And when the AC power loss, automatic rapid shutdown the DC panels at the meantime. (The green light is ON only indicate the AC power supply is live).

Note: The max allowed length and distance of communication cable between emergency switch and RSD is 150M.

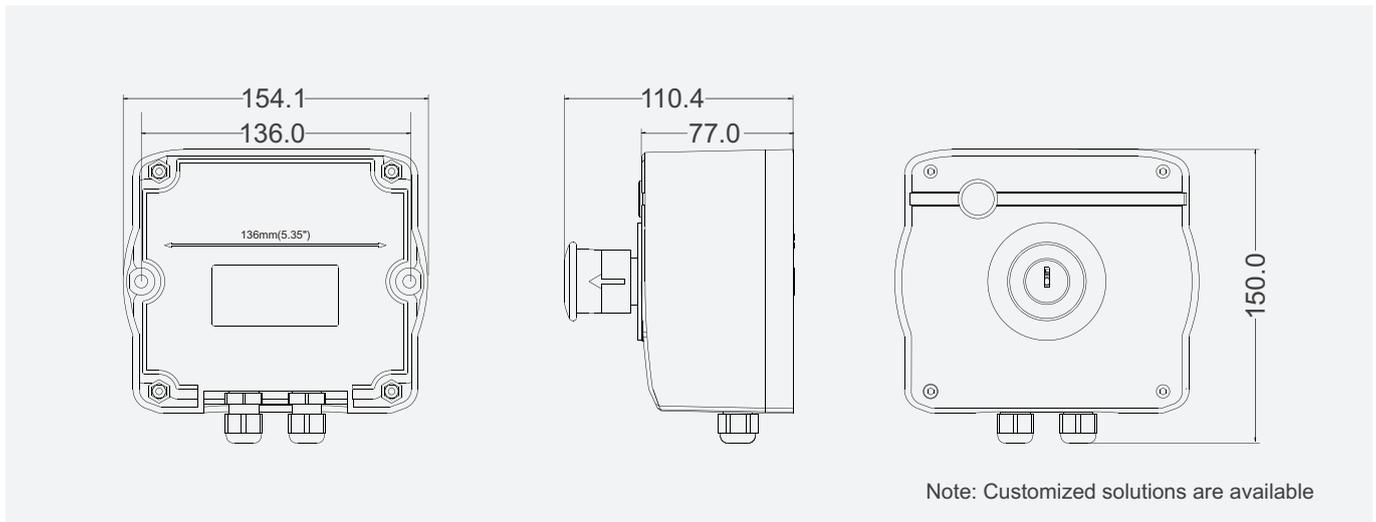
## Specification of button switches

Part Number	Description
BFS-11	Rapid Shutdown Unit for solar panel/panels 120V input.
BFS-12	Rapid Shutdown Unit for solar panel/panels 2X120V inputs.
BFS-ESW11	Emergency Button Switch for BFS-11, max 38 units RSD (230V AC power input).
BFS-ESW12	Emergency Button Switch for BFS-11, max 90 units RSD (230V AC power input).
BFS-ESW11-K	Emergency Button Switch with Key Lock for BFS-11, max 38 units RSD (230V AC power input).
BFS-ESW12-K	Emergency Button Switch with Key Lock for BFS-11, max 90 units RSD (230V AC power input).
BFS-ESW21	Emergency Button Switch for BFS-11, max 150 units RSD (200V-480V AC power input).
BFS-ESW21-K	Emergency Button Switch with Key Lock for BFS-11, max 150 units RSD (200V-480V AC power input).
BFS-CCABLE	20m signal cable with female communication connector for end of string.
BFS-CCABLES	2m signal cable with male and female communication connectors for between strings or panels.

## Install dimension

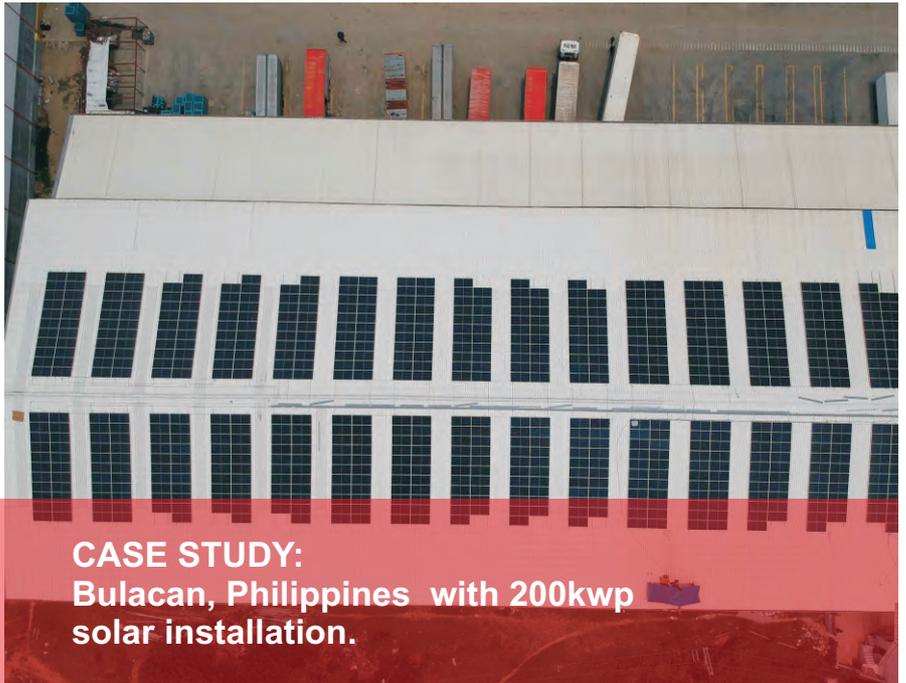
BFS-ESW11-(K)/BFS-ESW12-(K)

Unit: (mm)





**CASE STUDY:**  
Philippines with 1.2MW  
solar installation.



**CASE STUDY:**  
Bulacan, Philippines with 200kwp  
solar installation.



**CASE STUDY:**  
Festival Supermall Alabang  
Solar Rooftop, 2.8MW



**CASE STUDY:**  
Pampanga, Philippines 1.3MW





---

## Zhejiang Benyi Electrical Co., Ltd.

Address : Changjiang Rd, Wenzhou Daqiao Industry Park,  
Beibaixiang Town, Yueqing, Wenzhou City, Zhejiang Province, China, 325600

TEL : +86-577-5717 7008 Email : benyi@zjbeny.com

VERSION : 20211110

For the latest version of specification, please refer to [www.benyi.com](http://www.benyi.com) or contact to [benyi@zjbeny.com](mailto:benyi@zjbeny.com)  
We reserve the right to explain the terms of specification.

