

# BFS-S

# Installation Guide

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Please scan the QR code to view and download the installation manual



## General Notice And Safety Instructions

**SAVE THESE INSTRUCTIONS** -This manual contains important instructions for ZJBENY Solar building Fire Fighter Safety Switch that shall be followed during installation and maintenance of the Fire Fighter Safety Switch BFS-S1, BFS-S2, BFS-S3.

### General notice

#### DISCLAIMER

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### Important safety precautions

Attention! 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:**

- International Standards: IEC 60364-7-712 Electrical installations of buildings - Requirements for special installations or locations - Solar Photovoltaic (PV) power supply systems.
- MIS3002: Microgeneration Installation Standard - requirements for contractors undertaking the supply, design, installation, set to work commissioning and handover of solar photovoltaic (PV) microgeneration systems.
- Local building regulations.
- Guidelines for lightning and overvoltage protection.

### Note!

- 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.
- The installation of these devices may only be performed by certified technical personnel.
- All the installation works should be tested in accordance with relevant local legislation at the time of installation.

### Intended use of the Domestic firefighter safety Switch

- The Domestic Firefighter safety Switch(BFS-S) has been especially developed as a safety device for direct current (DC) photovoltaic installations. The DC disconnect switch is used to disconnect the connected strings of the installation in case of an emergency situation. Such an emergency situation could be in case of fire.

### Location of the Domestic Firefighter Safety Switch

- The BFS-S 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 is conforms to IP66 which makes it suitable for outdoor usage when needed.

### Normal operation:

- AC Supply Cut-Off Shutdown  
When the AC power to the BFS-S is interrupted, the BFS-S will automatically switch to OFF, breaking the DC connection between the solar panels and the inverter.  
Once the AC power to the BFS-S is restored, the BFS-S will automatically switch to ON, restoring the DC connection between the solar panels and the inverter.

### Special Operation

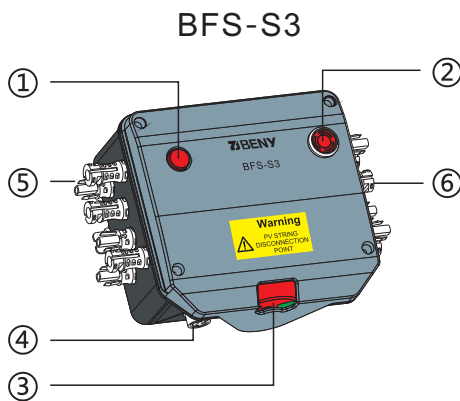
- Over Temperature Shutdown  
If the temperature inside the BFS-S enclosure exceeds 85° C, the BFS-S will automatically switch to OFF, breaking the DC connection between the solar panels and the inverter, to protect the internal components and create a safe situation. Once the temperature drop back to below 75° C, the BFS-S will automatically switch to ON, restoring the DC connection between the solar panels and the inverter.
- Manual Shutdown  
Upon the user operating the red push button switch located in BFS-S enclosure, the BFS-S performs a Rapid Shutdown, breaking the DC connection between the solar panels and the inverter.

# Solar Building Fire Fighter Safety Switch Installation Manual

## Specifications

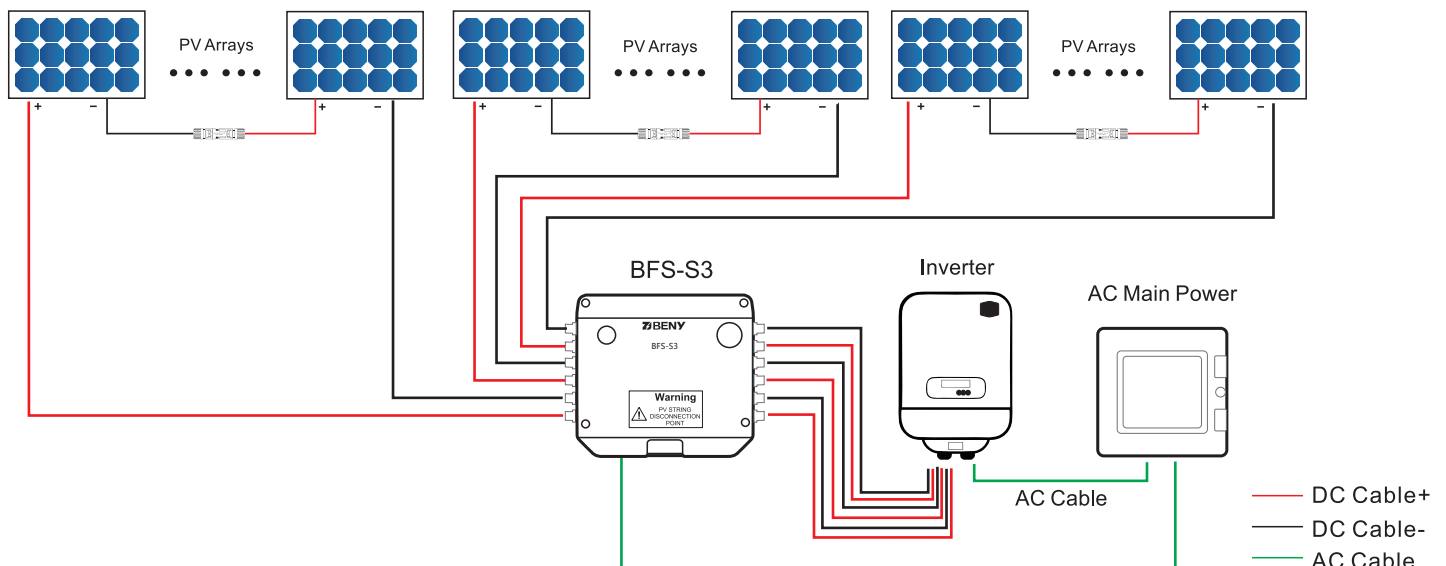
Model	BFS-S			
Max DC Voltage IEC/EN 60947-3	1500V	1350V	1000V	800V
Max DC Current IEC/EN 60947-3	50A	50A	50A	50A
Models	BFS-S1	BFS-S2	BFS-S3	
Number of Strings	1 strings	2 strings	3 strings	
Operating Voltage	90Vac-260Vac			
Nominal Voltage	230Vac			
Nominal Current	30mA			
Start up Current	Average 100mA			
Switch on Action Current	Max 300mA			
Standard Compliance	IEC/EN60947-3			
Protection Degree	IP66			
Storage Temperature	-40°C~+85°C			
Operating Temperature Range	-20°C~+50°C			
Maximum Operating Temperature Before Automatic Switch OFF	+85°C			
Protection Level	Class II			
Mechanical Endurance	9700			
Electrical Endurance	300			

## Appearance Introduction



Model	Description and Status
①LED Indicator	Red light ON: 220VAC power connected. Red light OFF: 220VAC power disconnected.
②Emergency Button	Button Released and Red LED light ON: 220VAC power connected. Button Pressed and Red LED light OFF: 220VAC power disconnected.
③Switch Indicator	Indicator light turns RED, means DC Switch ON Indicator light turns GREEN, means DC Switch OFF
④AC connector	Connect to AC Main Power
⑤MC4 connector	PV DC Input
⑥MC4 connector	PV DC Output

## Wiring Diagram

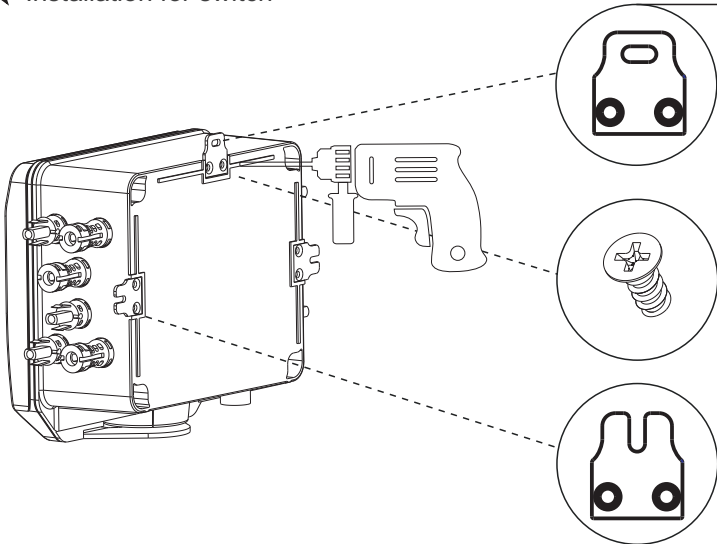


## Solar Building Fire Fighter Safety Switch Installation Manual

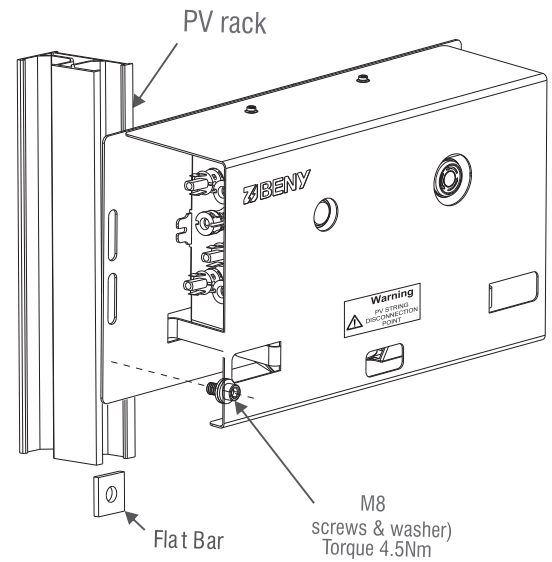
### Installation Instructions

#### ● Step 1: Install the switch in place

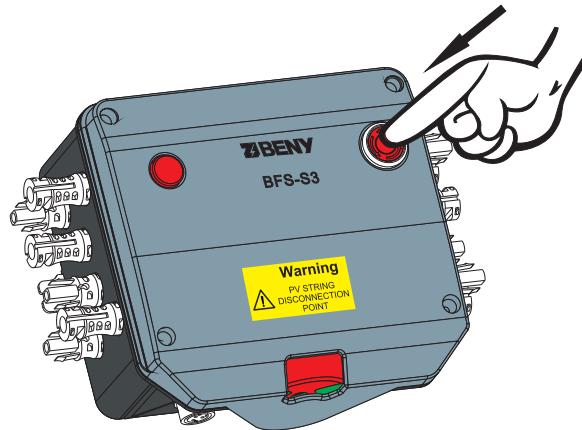
★ Installation for switch



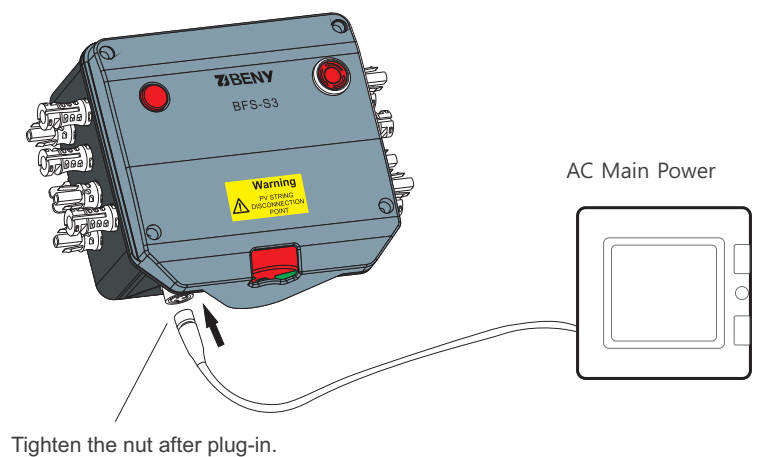
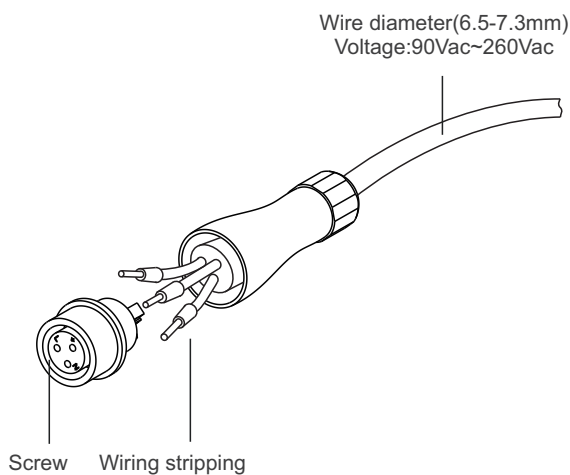
★ Installation for switch with protection cover(Optional)



#### ● Step 2: Press Emergency Button to keep AC circuit pre-disconnected.



#### ● Step 3: Connect to AC Main Power



## Solar Building Fire Fighter Safety Switch Installation Manual

- **Step 4: Testing before use**

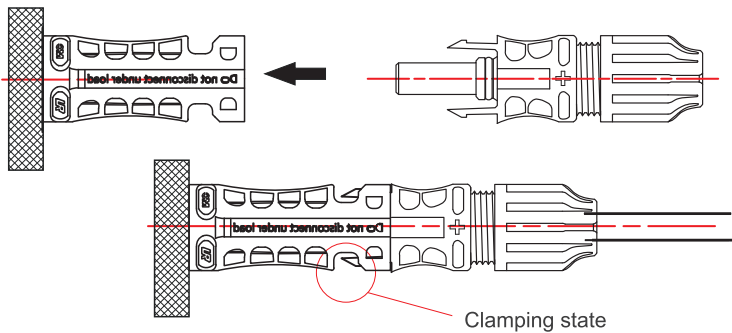
After AC Power connected, Red light still OFF

Release Emergency Button, Red light ON, within 60 seconds, Switch Indicator turn GREEN to RED.

After 60 seconds, Press Emergency Button, Red light OFF, Switch Indicator turn RED to GREEN.

- **Step 5: Connect to PV arrays**

### Wiring requirement for EVO2



### Note!

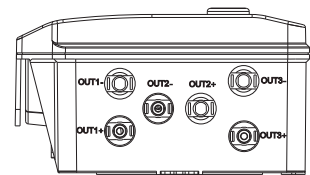
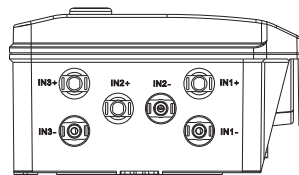
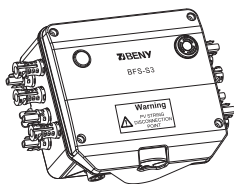
Before Connect to PV arrays, Make sure BFS-S on "OFF" status .  
(Red Indicator OFF, Switch Indicator switch to GREEN)



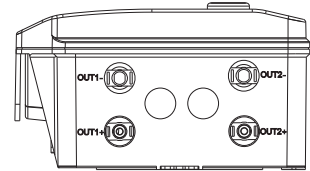
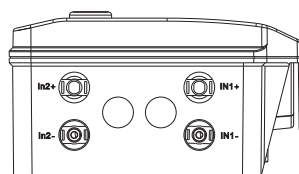
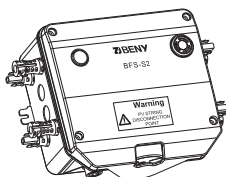
### Warning

All EVO2 connectors must be installed and sealed properly with isolator to maintain IP66NW rating.

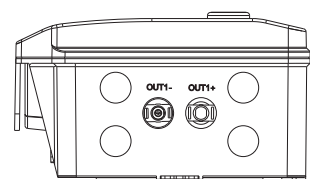
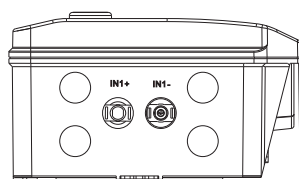
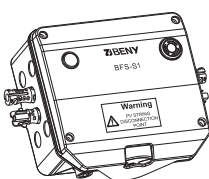
### BFS-S3

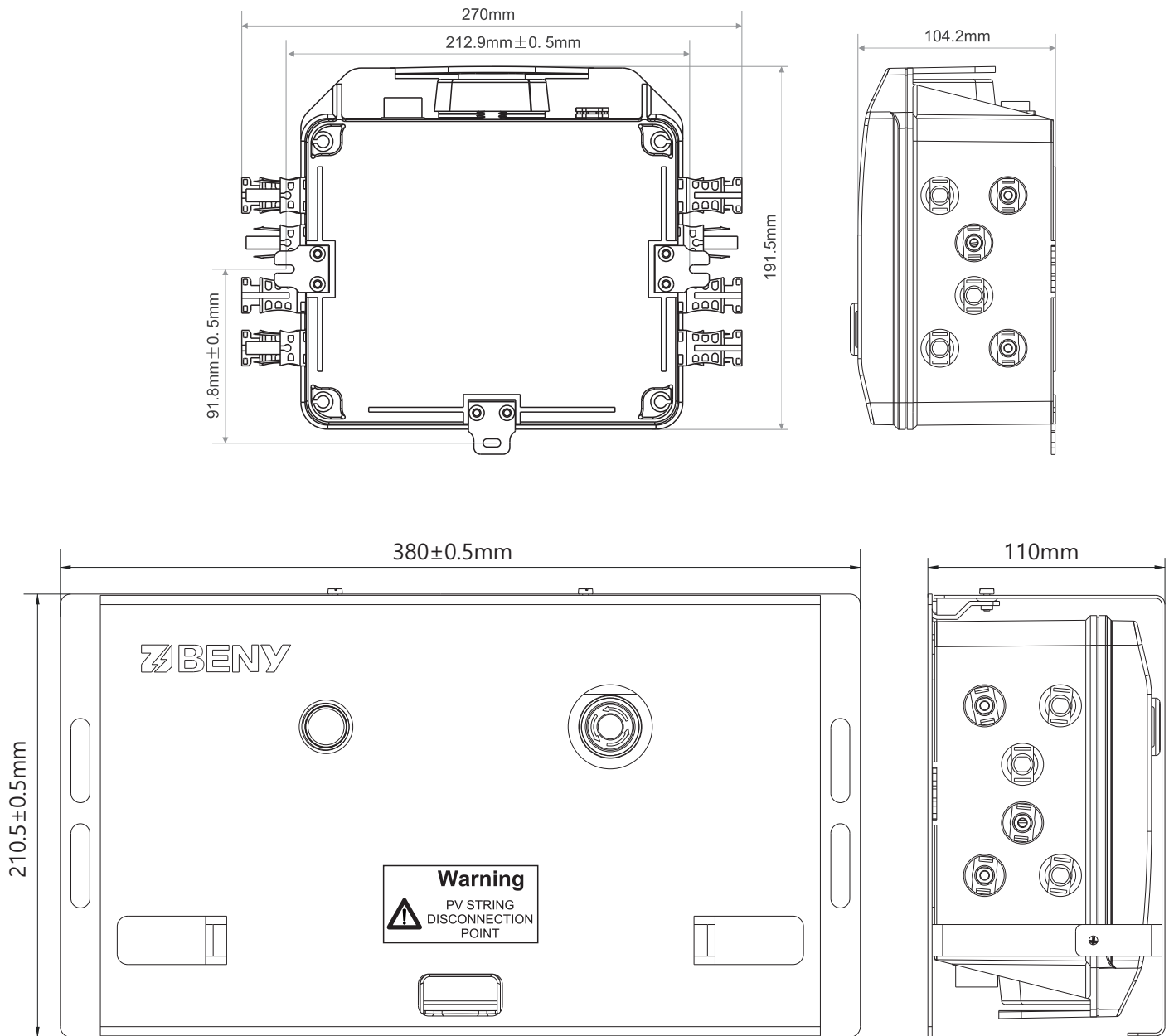


### BFS-S2



### BFS-S1



**Solar Building Fire Fighter Safety Switch Installation Manual****Dimensions****After-Sales Support**

Thanks for using ZBENY Solar building Fire Fighter Safety Switch. If any problem occur when/afer installation, please contact us.

Email: [benyi@zjbeny.com](mailto:benyi@zjbeny.com)