

BFS-S

Installation Guide

ZHEJIANG BENYI NEW ENERGY CO.,LTD.

Address : SHUANGHUANGLOU INDUSTRIAL ZONE, BEIBAIXIANG,
YUEQING, WENZHOU, ZHEJIANG P.R. CHINA, 325603

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

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For the latest version of specification, please refer to www.benyi.com or contact to benyi@zjbeny.com
We reserve the right to explain the terms of specification.

Importer Information

Importer: XXXXXXXX

Address: XXXXXXXX



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, BFS-S4.

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.

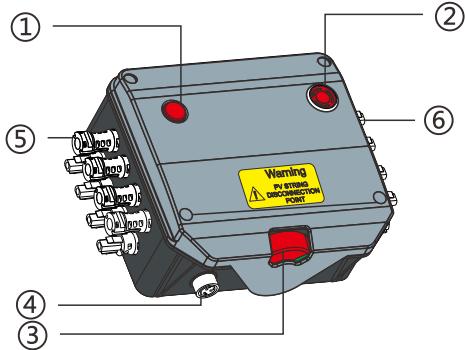
Solar Building Fire Fighter Safety Switch Installation Manual

Specifications

Model	BFS-S			
Max DC Voltage IEC/EN 60947-3	800V,1000V,1350V,1500V			
Max DC Current IEC/EN 60947-3	50A			
Models	BFS-S1	BFS-S2	BFS-S3	BFS-S4
Number of Strings	1 strings	2 strings	3 strings	4 strings
Operating Voltage		90Vac-260Vac		
Nominal Voltage		220Vac		
Nominal Current		30mA		
Start up Current		Average 100mA		
Switch on Action Current		Max 300mA		
Standard Compliance		IEC/EN60947-1&3		
Operating Temperature Range		-20°C~+50°C		
Protection Degree		IP66		
Storage Temperature		-40°C~+85°C		
Maximum Operating Temperature Before Automatic Switch OFF		+85°C		
Protection Level		Class II		
Mechanical Endurance		10000		
Electrical Endurance		1800(20A/70°C)		
Communication(Optional)		RS485		

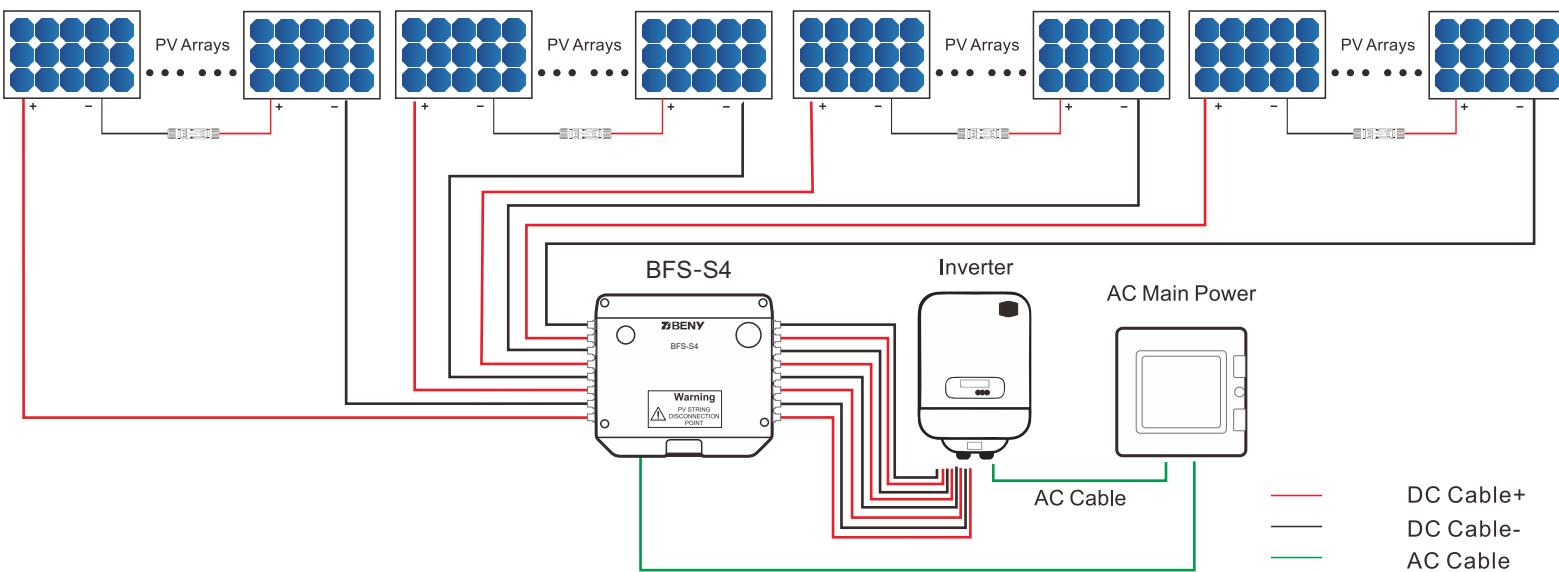
Appearance Introduction

BFS-S4



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

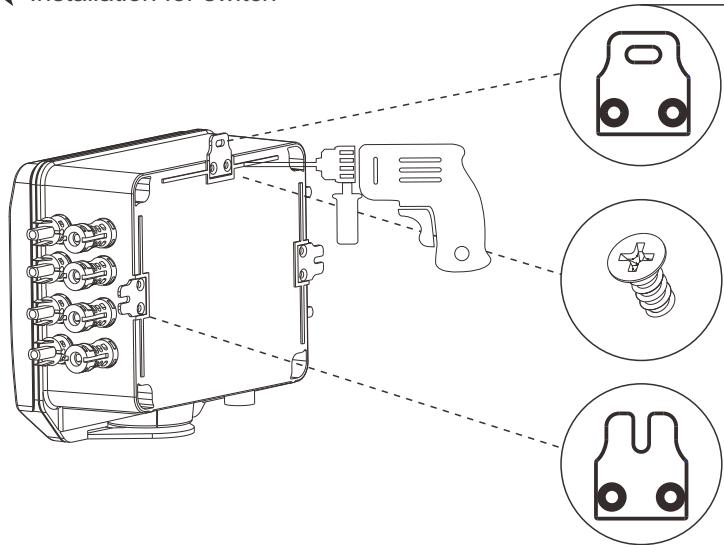


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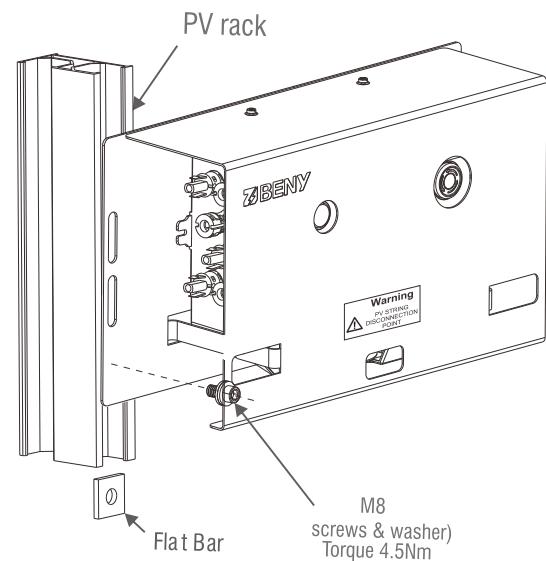
Installation Instructions

- Step 1: Install the switch in place

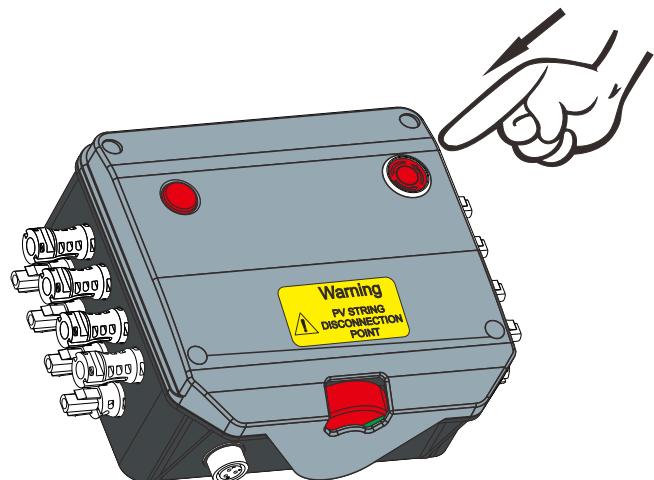
★ Installation for switch



★ Installation for switch with protection cover(Optional)

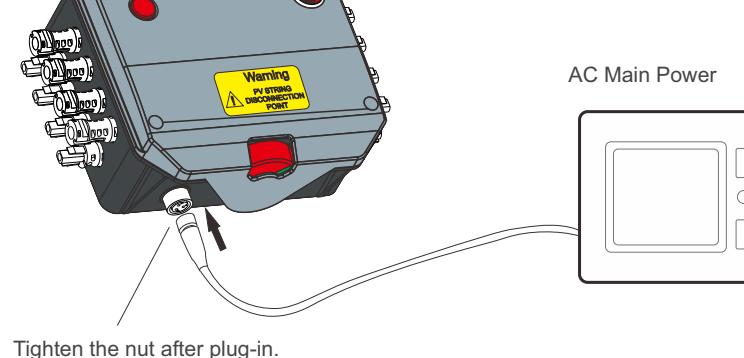
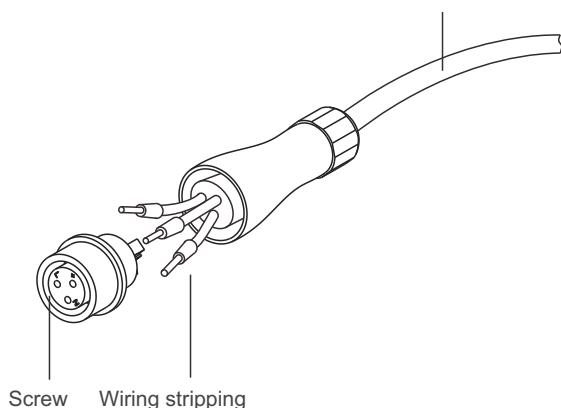


- Step 2: Press Emergency Button to keep AC circuit pre-disconnected.



- Step 3: Connect to AC Main Power

Wire diameter(6.5-7.3mm)
Voltage:90Vac~260Vac



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- Step 4: Testing before use

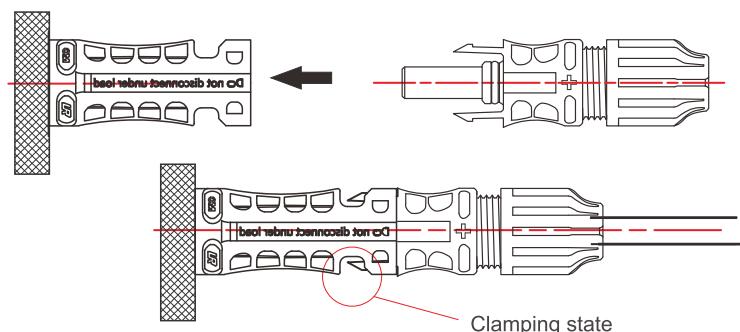
After AC Power connected, Red light still OFF

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

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

- Step 5: Connect to PV arrays

Wiring requirement for EVO2



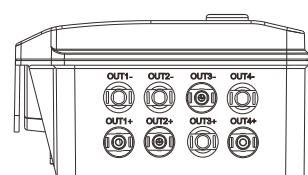
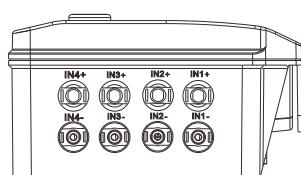
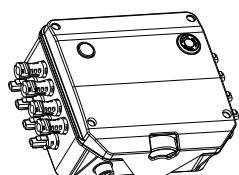
Note!

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

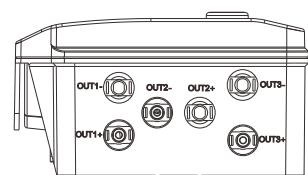
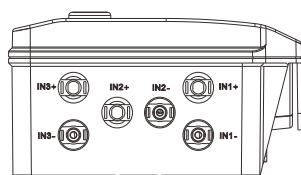
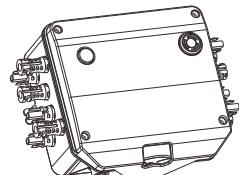
Warning

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

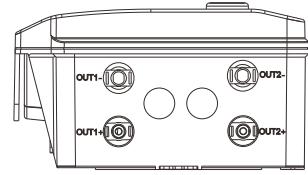
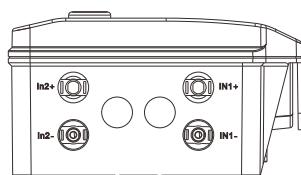
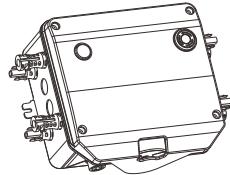
BFS-S4



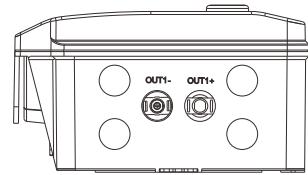
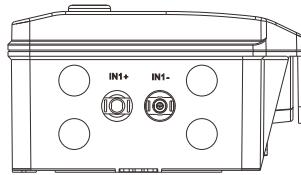
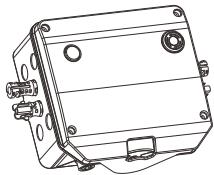
BFS-S3



BFS-S2

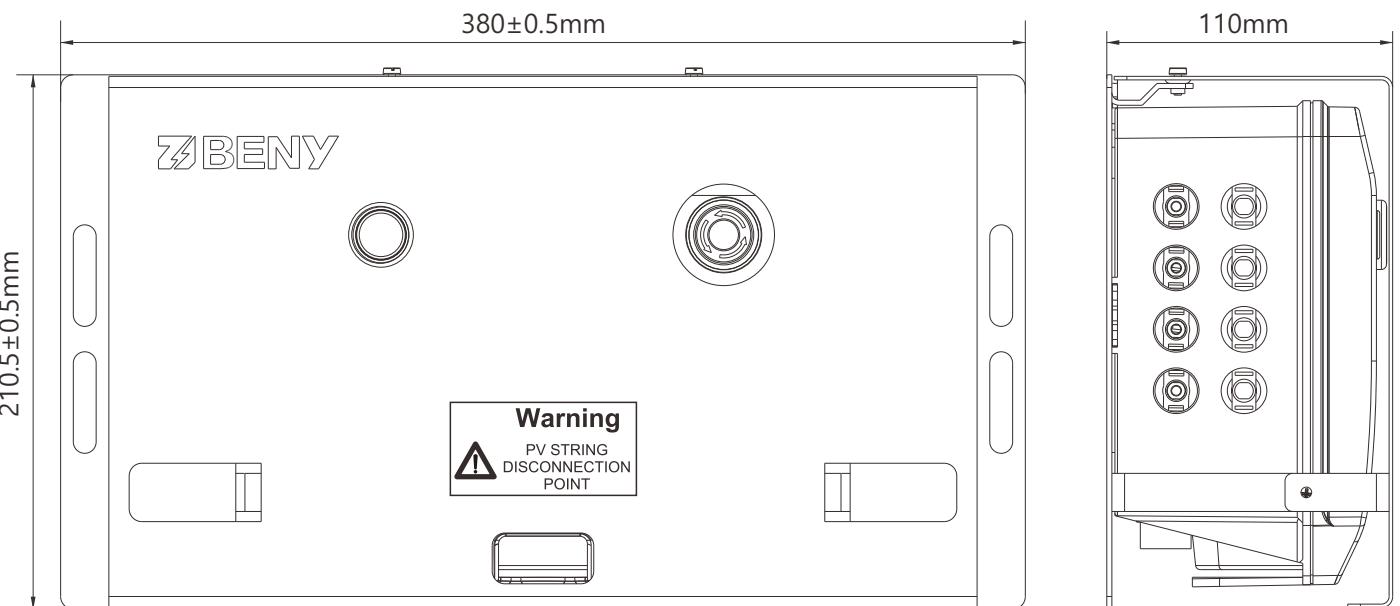
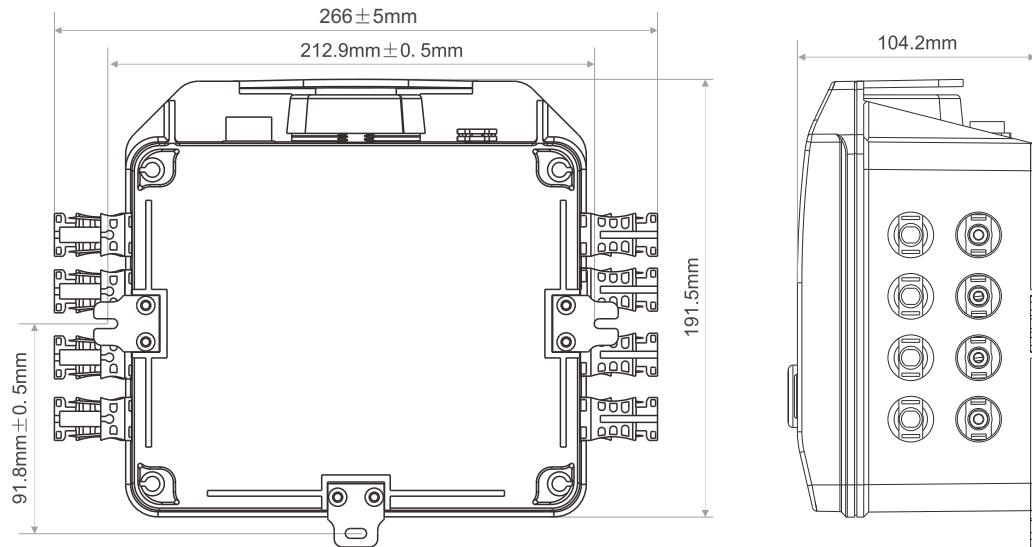


BFS-S1



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Dimensions



After-Sales Support

Thanks for using ZJBENY Solar building Fire Fighter Safety Switch. If any problem occur when/afier installation, please contact us.
Email: benyi@zjbeny.com