

FIREFIGHTER SAFETY SWITCH

For Residential, Commercial and Utility PV Systems



Main Functions



AC OFF = DC OFF Auto

If AFS detect no AC current, it will automatically cut off the DC power at once.



>70°C = DC OFF Auto

If AFS detect the temperature is above 70°C, it will automatically cut off the DC power at once.



AC ON = DC ON Auto

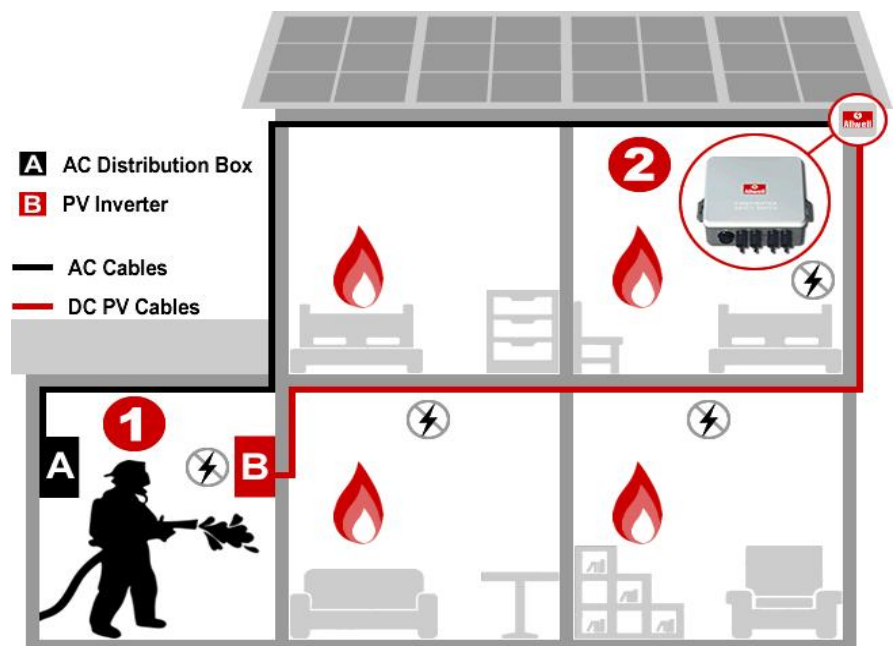
If AFS detect the AC power is back, it will turn on the DC power automatically.

Fatal Risk: Fighting a Fire in the House with PV System

According to the standard international safety routine, in the event of a fire, the first step for any firefighter in fighting a fire is to shut down the main AC power circuit. This makes a place for firefighter to fighting a fire without the risk of electrocution.

However, it is still danger for fighting a fire if the house has photovoltaic systems, even the firefighter find the DC isolator and shut it down manually.

Since in most photovoltaic systems, the DC isolator is integrated into the DC/AC power inverter. After switching off the DC isolator, the cables between the DC solar modules and DC/AC power inverter running through the building are still subject to up to 1500Vdc. That left firefighters facing a very serious of potential electrocution danger.



With Our Firefighter Safety Switch (AFS)

Our firefighter safety switch (AFS) provides the solution. It directly disconnects the DC current in closest to the solar panels automatically and creates a safer situation for firefighters.

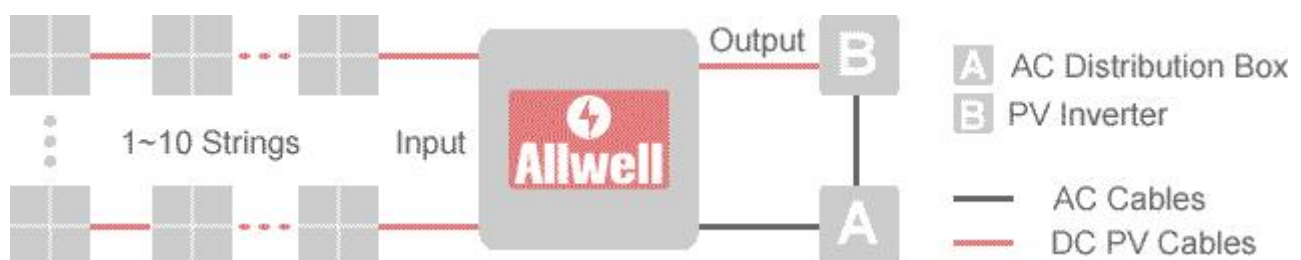
1. The firefighter turn off the AC power manually

No more action needed, just like fighting the fire in the house without photovoltaic system.

2. The AFS will shut down the DC power automatically

If AFS detect no AC current more than 5 seconds, it will automatically cut off the DC current at once.

Wiring Diagram



Structure

1 Robust Enclosure

IP 67 watertight & flame-retardant
PC+ABS made from the world-famous brand

2 Safety Rubber Seal

Possible placement for controlled maintenance

3 Temperature Sensor

The AFS will automatically switch off in case the temperature rises above 70°C

4 Power Supply (UPS)

Support the power for DC switch action while no AC power

5 Breathing Valve

Avoids condensation inside the enclosure and maximum endurance and lifetime

6 Motor-Driven DC Switch

Certificated by TUV DC switch with 10 year warranty

7 External & Fixed Brackets

Easy installation without need for opening enclosure

8 AC Connections

The Aviation plug has 3 pins for AC connection. Easy connect to AC distribution box without need for opening enclosure

9 Auxiliary Function

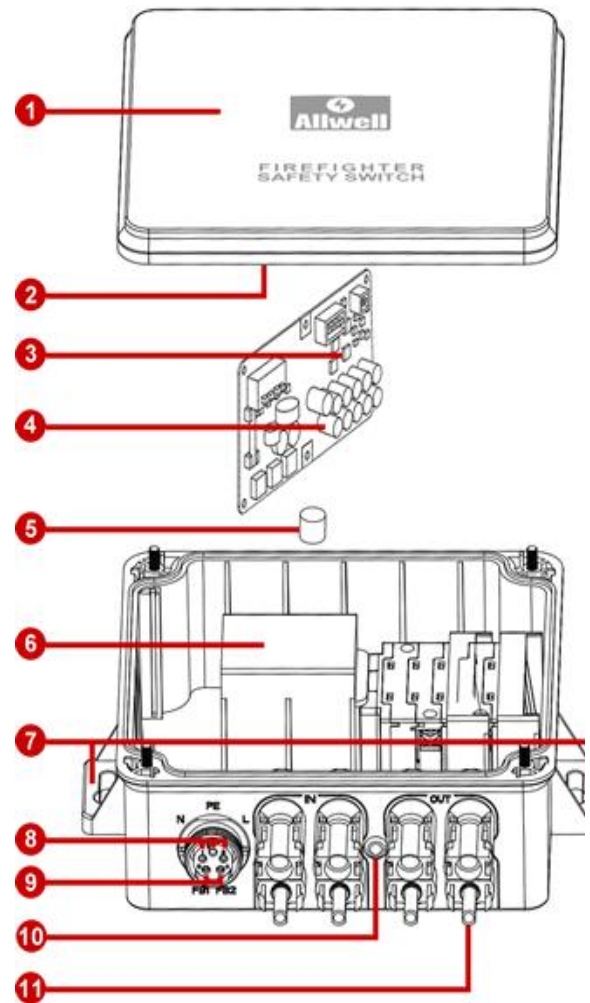
Reserve 2 pins in Aviation plug for extra indicator light if needed

10 LED Indicator Light

Visual feedback of the switch position in daytime and nighttime

11 DC MC4 Connectors

Easy installation, Must using the same brand MC4 connectors for connecting



Features

TUV Certificate 1 6

No.1 of the world authority
certificate of string level
Firefighter Safety Switch.

Up to 1500Vdc 6 11

Match for
600/800/1000/1200/1500 Vdc.
The main switch also has the
TUV Certificate.

Up to 10 Strings 6 11

Match for 1/2/3/4/5/6/7/8/9/10
Strings PV system.

Flame-retardant 1

The enclosure is made from
PC+ABS or Steel, it has
Flame-retardant function.

IP 67 1 2

With waterproof design, IP67
rating was certificated by TUV.

Breathable 5

The breathing valve of the
enclosure greatly reduce the
condensation inside.

Indicator Light 10

The LED indicator light can
real-time display the status
(on/off) of the DC power all the
time.

Extended Module 9

With an extra wiring, an extra
indicator light could be leaded
to wherever you want.

Easy Installation 7 8 9 11

Mounting 2/4 screws;
Connecting/plug in the aviation
socket & MC4s.

Main Ratings

Number of Strings	1-10
String Voltage	300-1500 (V dc)
String Current	9-55(A)
Operating Voltage	100-270 (V ac)
Rated Voltage	230 (V ac)
Rated Current	30(mA)
Protection Degree	IP 66
Protection Level	Class II
Operating Temperature Range	-20°C - +50°C
Storage Temperature Range	-40°C - +85°C
Max. Temp. Before Automatic Switch Off	+70°C
TUV Certification	CE
DC Switch According to	EN 60947-1&3
Max. Number of Operations	10000
Number of Operations Under Load (PV1)	>1500

Type Code Explanation

AFS	-	S1~10	-	L/M/H
Allwell Firefighter Safety Switch	-	S tring Level 1~10 Number of Strings	-	Grade

Allwell's Firefighter Safety Switch (AFS-S1/2)



Residential System

1 or 2 Strings

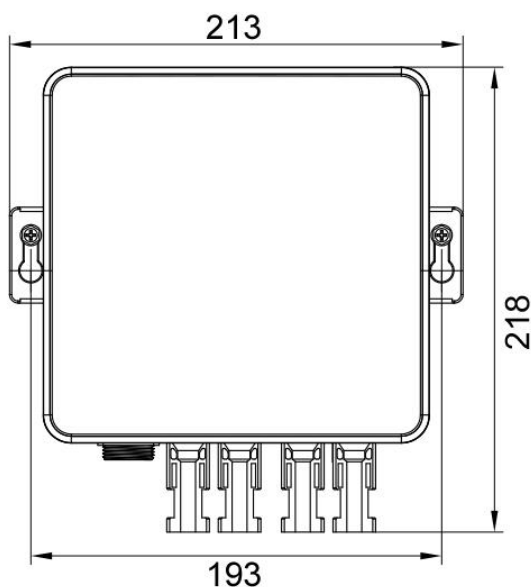
Up to 30A @ 1500Vdc

Ratings Table

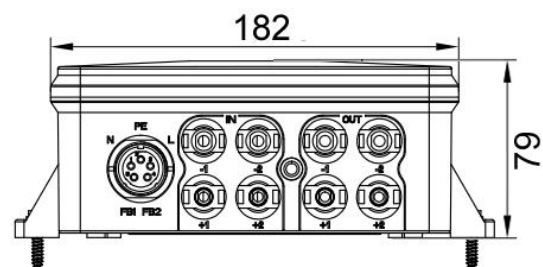
No.	Type	Number of Strings	Number of Poles	V DC A	Ratings according to EN IEC 60947-1&3, DC-PV1				
					600V	800V	1000V	1200V	1500V
1	LFS-S1-L	1	2	A	20	20	20	20	20
2	LFS-S1-M	1	2	A	30	30	30	30	30
3	LFS-S1-H	1	2	A	30	30	30	30	30
4	LFS-S2-L	2	4	A	20	20	20	20	20
5	LFS-S2-M	2	4	A	30	30	30	30	30
6	LFS-S2-H	2	4	A	30	30	30	30	30

Dimensional Drawing

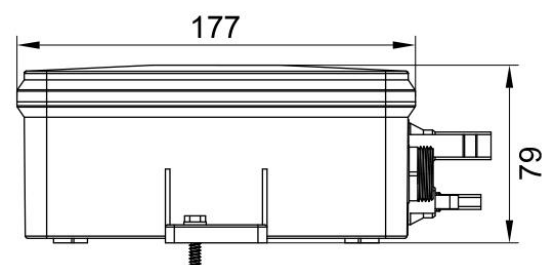
Front View



Bottom View



Side View



Allwell's Firefighter Safety Switch (AFS-S3/4/5)



**Commercial
or
Utility System**

3/4/5 Strings

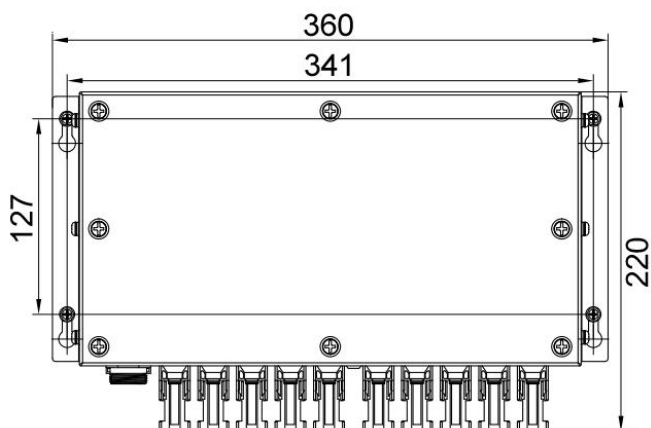
Up to 30A @1500Vdc

Ratings Table

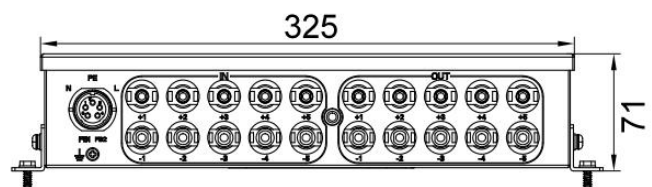
No.	Type	Number of Strings	Number of Poles	V DC A	Ratings according to EN IEC 60947-1&3, DC-PV1				
					600V	800V	1000V	1200V	1500V
1	LFS-S3-L	3	6	A	20	20	20	20	20
2	LFS-S3-M	3	6	A	30	30	30	30	30
3	LFS-S3-H	3	6	A	30	30	30	30	30
4	LFS-S4-L	4	8	A	20	20	20	20	20
5	LFS-S4-M	4	8	A	30	30	30	30	30
6	LFS-S4-H	4	8	A	30	30	30	30	30
7	LFS-S5-H	5	10	A	30	30	30	30	30

Dimensional Drawing

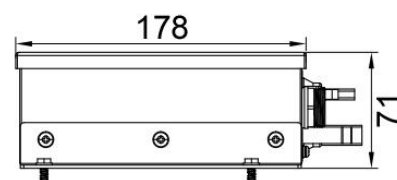
Front View



Bottom View



Side View



Allwell's Firefighter Safety Switch (AFS-S6/7/8/9/10)



**Commercial
or
Utility System**

6/7/8/9/10 Strings

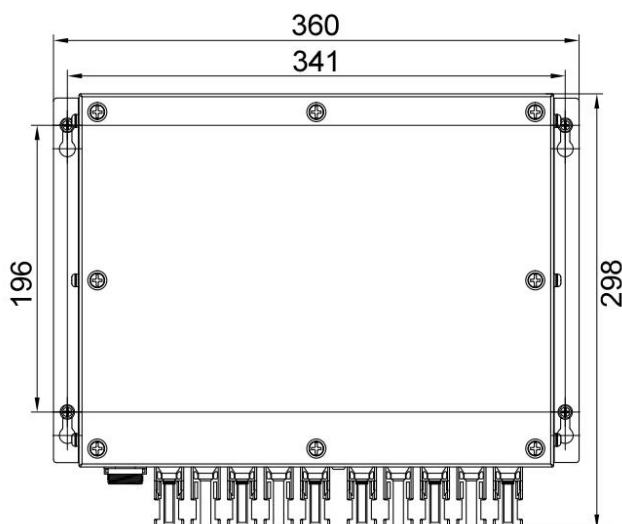
Up to 30A @ 1500Vdc

Ratings Table

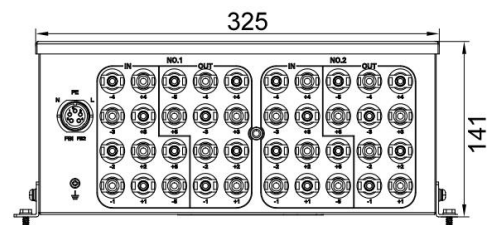
No.	Type	Number of Strings	Number of Poles	V DC A	Ratings according to EN IEC 60947-1&3, DC-PV1				
					600V	800V	1000V	1200V	1500V
1	LFS-S6-L	6	12	A	20	20	20	20	20
2	LFS-S6-M	6	12	A	30	30	30	30	30
3	LFS-S6-H	6	12	A	30	30	30	30	30
4	LFS-S7-L	7	14	A	20	20	20	20	20
5	LFS-S7-M	7	14	A	30	30	30	30	30
6	LFS-S7-H	7	14	A	30	30	30	30	30
7	LFS-S8-L	8	16	A	20	20	20	20	20
8	LFS-S8-M	8	16	A	30	30	30	30	30
9	LFS-S8-H	8	16	A	30	30	30	30	30
10	LFS-S9-H	9	18	A	30	30	30	30	30
11	LFS-S10-20	10	20	A	30	30	30	30	30

Dimensional Drawing

Front View



Bottom View



Side View

