

# Fire Fighter Safety Switch for Solar Building

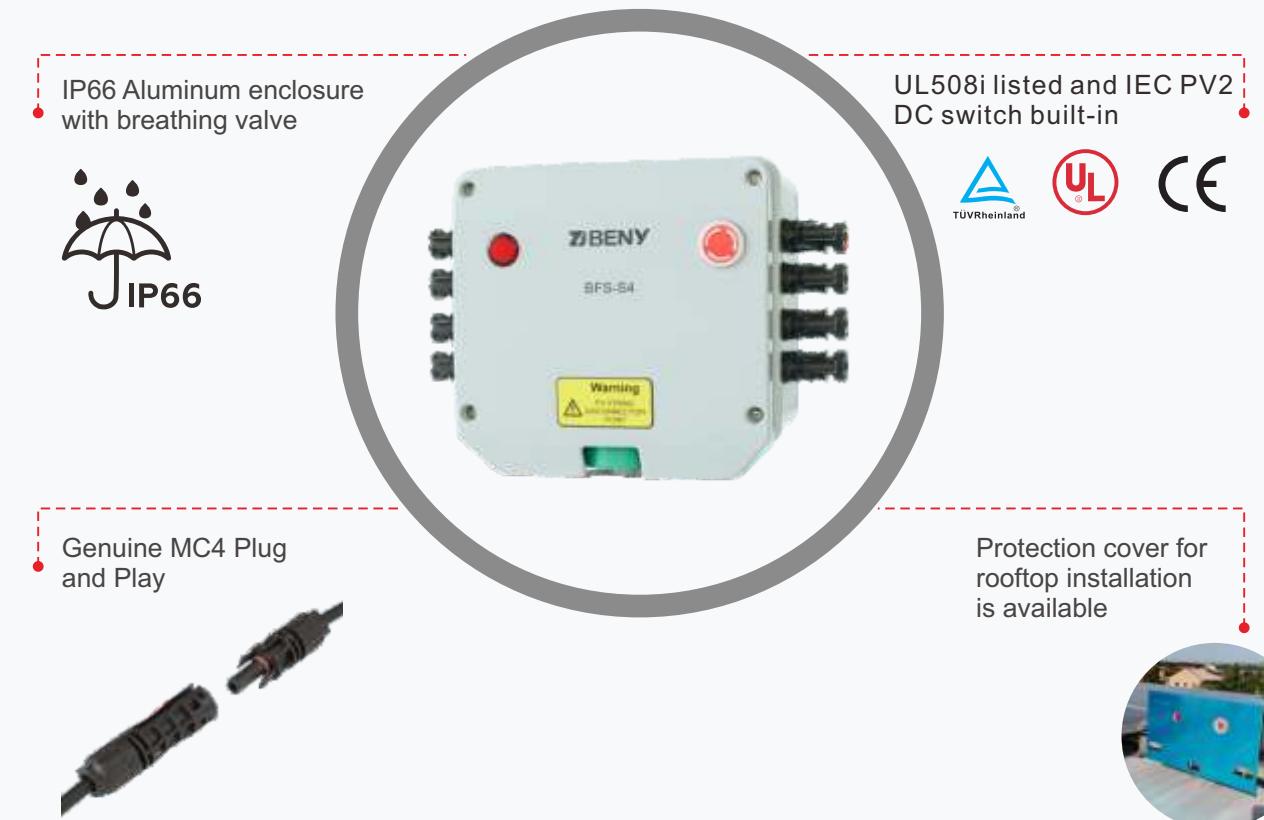


## Application

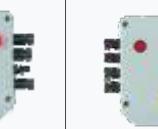
**ZBENY** The BFS-S Series Firefighter Safety Switch is a DC Isolation Solution for solar rooftop fire safety, providing DC manual switch-off in the event of a fault. Make a safe area and operating space to protect the firefighter from DC electric shock. As the firefighter cuts off the AC power in the house, the safety switch will disconnect the DC power at the same time.

- String Level Rapid Shutdown
- Up to 1500VDC, 50A per string
- Plug and Play for easy installation
- No cross-talk with inverter or Wifi
- Compatible with most string inverters and panels

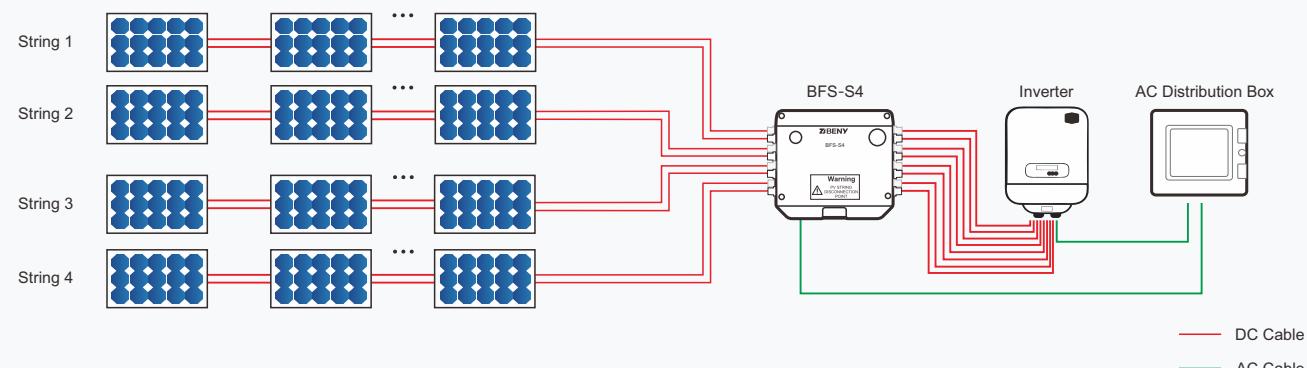
## Features



## Specifications

Models	BFS-S			
Models	BFS-S1	BFS-S2	BFS-S3	BFS-S4
Number of Strings	1 string	2 strings	3 strings	4 strings
				
Max String Voltage(Vdc)		300V-1500V		
Max String Current(A)		50A		
Operating Voltage		90Vac-260Vac		
Nominal Voltage		230Vac		
Nominal Current		30mA		
Start up Current		Average 100mA		
Switch on Action Current		Max 300mA		
Standard Compliance		IEC / EN 60947-3		
Protection Degree		IP66		
Storage Temperature Allowed Between		-40°C~+85°C		
Operating Temperature Range		-40°C~+70°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		

## Diagram



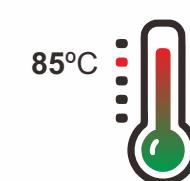
## How the solution works?

- DC Cable +
- DC Cable -
- AC Cable



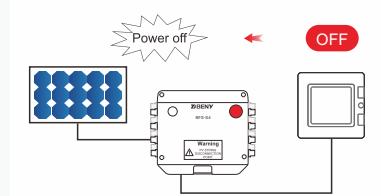
## Shutdown Mode

Automatic Shutdown When Over Temperature



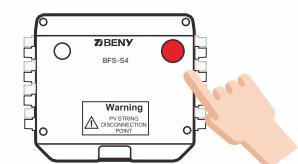
Automatically OFF the DC Power, when temperature inside of BFS-S enclosure  $\geq$  85°C. Once temperature drops to  $\leq 75^\circ\text{C}$ , DC power will be back automatically.

Automatic Shutdown When AC Power Loss



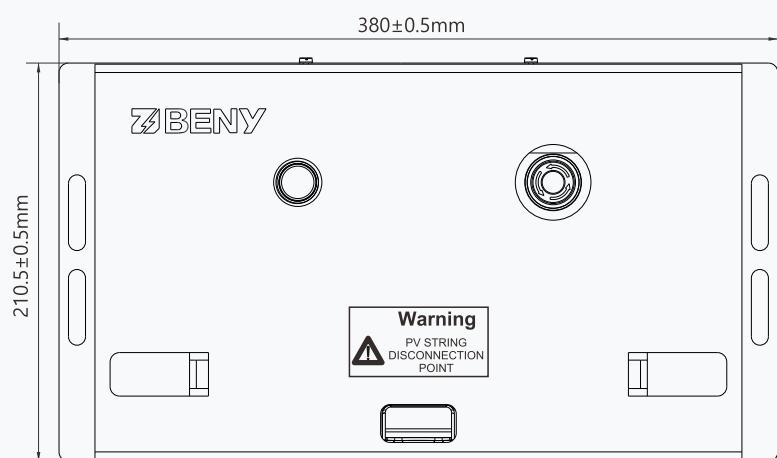
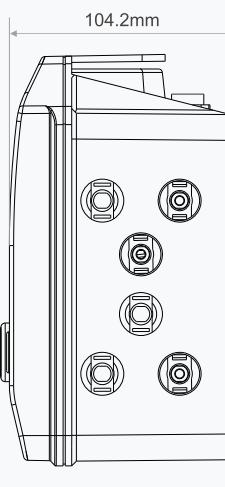
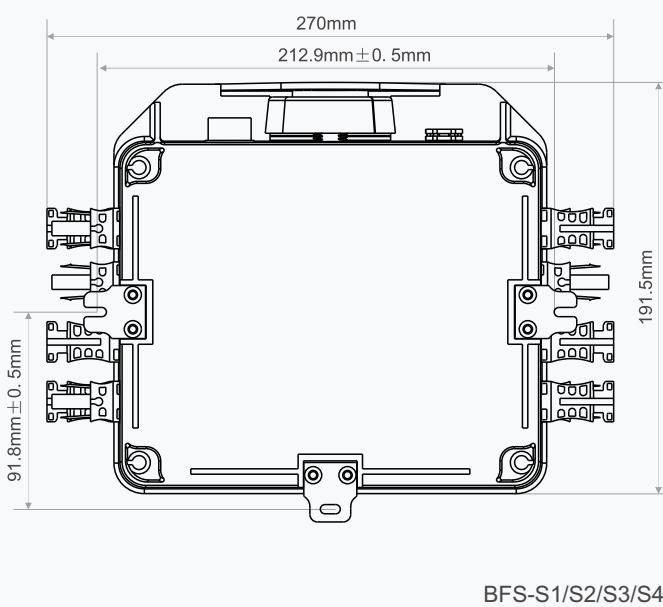
Automatically OFF the DC Power, when AC Power is lost accidentally or manually turn off by firefighter, so to make safety zone for firefighters. Once AC Power is back, DC Power will be back automatically.

100% Shutdown By Emergency Button

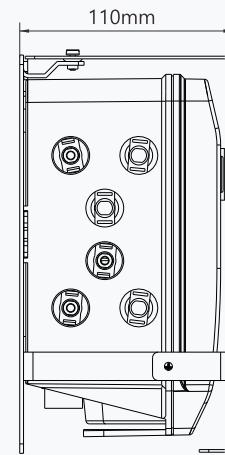


Press the emergency button to keep DC Power 100% OFF even when AC Power is back in order to ensure a wholly safe zone for firefighters.

## Dimensions



BFS-S1/S2/S3/S4 With Protection Cover



CASE STUDY: 6kW Grid-tied System in the Philippines



CASE STUDY: 5kW Grid-tied System in Asia

# PV combiner Box with Rapid Shutdown

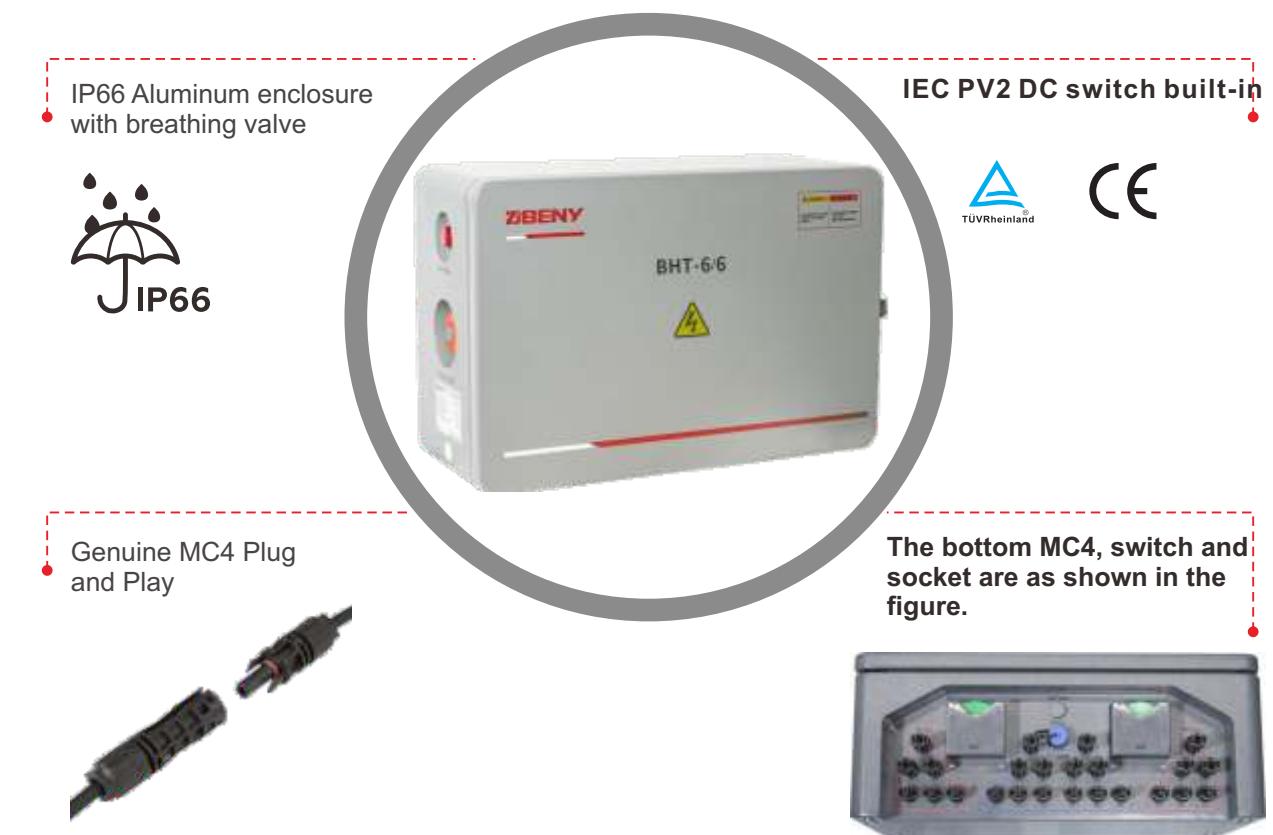


## Application

**ZBENY** The BHT-X/X Series PV Combiner Box with Rapid Shutdown is a DC Isolation Solution for solar rooftop fire safety providing DC manual switch-off in the event of a fault. Make a safe area and operating space to protect the firefighter from DC electric shock. As the device cuts off the AC power in the house, the safety switch will disconnect the DC power at the same time.

- String Level Rapid Shutdown
- Up to 1500VDC, 50A per string
- Plug and Play for easy installation
- No cross-talk with inverter or Wifi
- Compatible with most string inverters and panels

## Features



## Specifications (5-10 string)

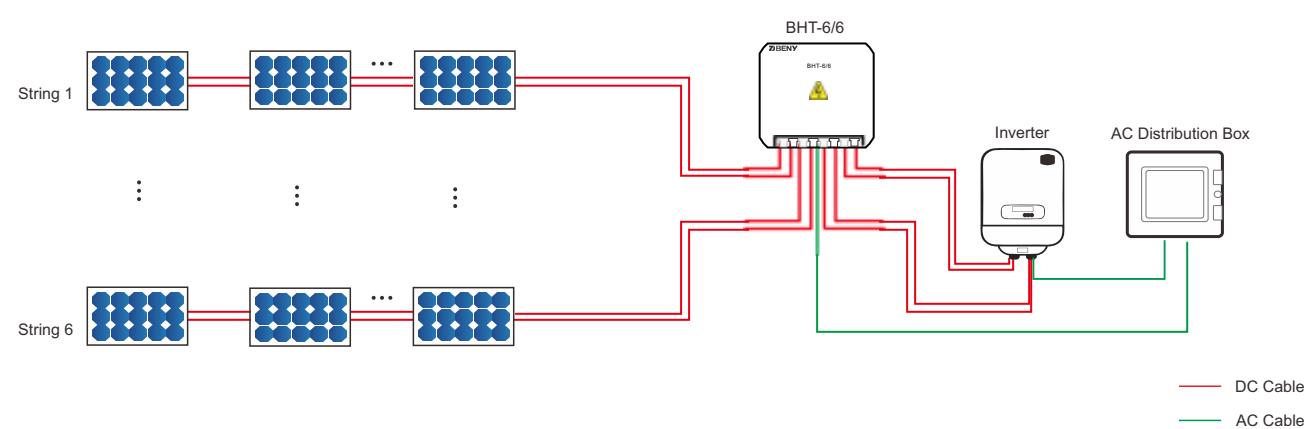
Models	BTH-X/X			
Models	BHT-5/5	BHT-6/6	BHT-8/8	BHT-10/10
Number of Strings	5 strings	6 strings	8 strings	10 strings
				
Max String Voltage(Vdc)	300V-1500V			
Max String Current(A)	50A			
Operating Voltage	90Vac-260Vac			
Nominal Voltage	230Vac			
Nominal Current	30mA			
Start up Current	Average 100mA			
Switch on Action Current	Max 300mA			
Standard Compliance	IEC / EN 60947-3			
Protection Degree	IP66			
Storage Temperature Allowed Between	-40°C~+85°C			
Operating Temperature Range	-40°C~+70°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			

## How the solution works?

- DC Cable +
- DC Cable -
- AC Cable

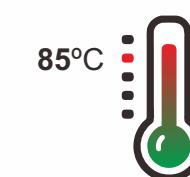


## Diagram



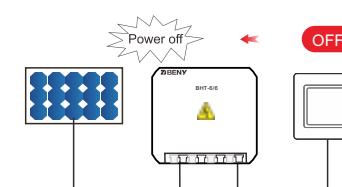
## Shutdown Mode

Automatic Shutdown When Over Temperature



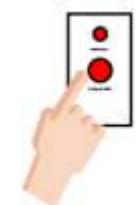
DC Power will automatically switch off when the temperature inside the BFS-S enclosure is  $\geq 85^{\circ}\text{C}$ . Once the temperature drops to  $\leq 75^{\circ}\text{C}$ , the DC power will automatically return.

Automatic Shutdown When AC Power Loss

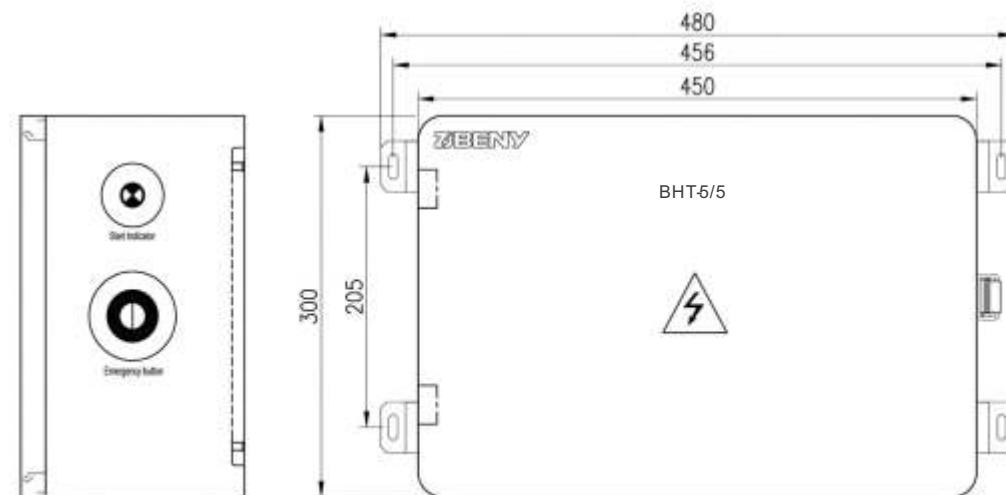
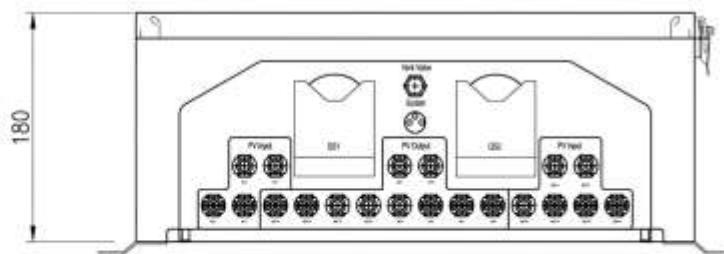


DC Power will automatically switch off when AC Power is lost accidentally or is manually turned off by the firefighter in order to ensure a wholly safe zone for the firefighters. Once the AC Power is back on, DC Power will automatically return.

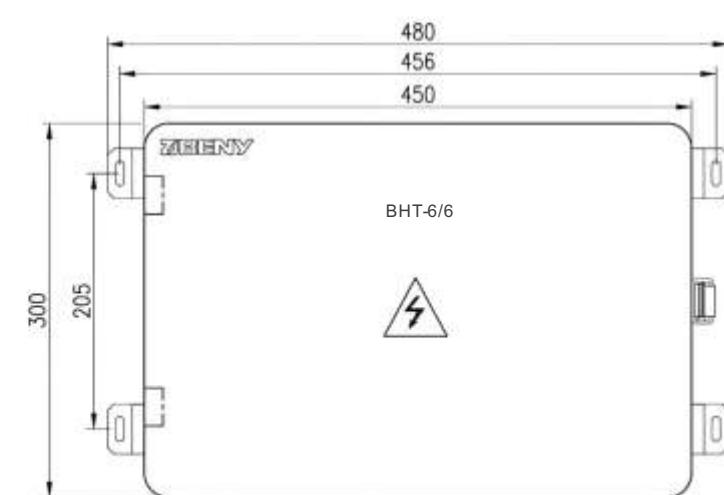
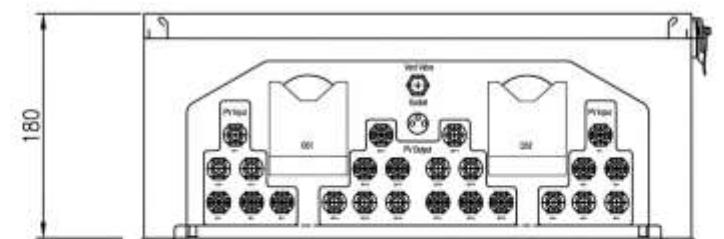
100% Shutdown By Emergency Button



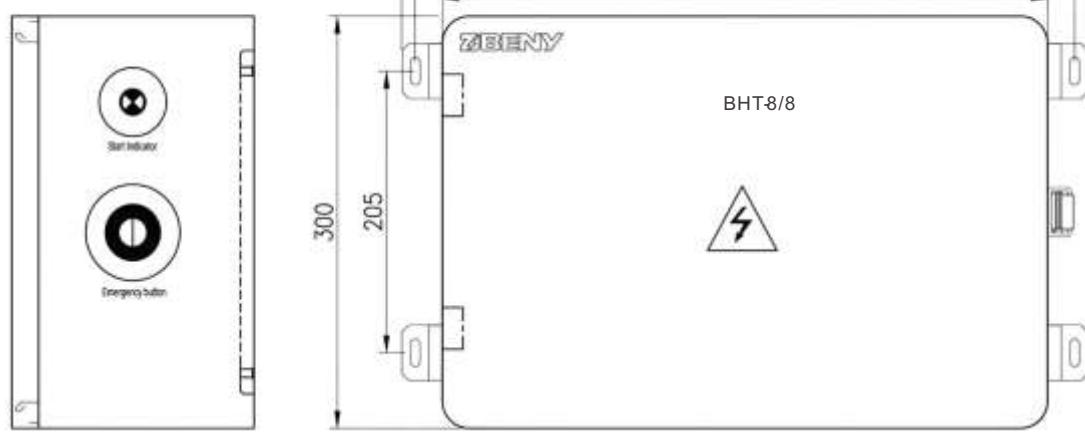
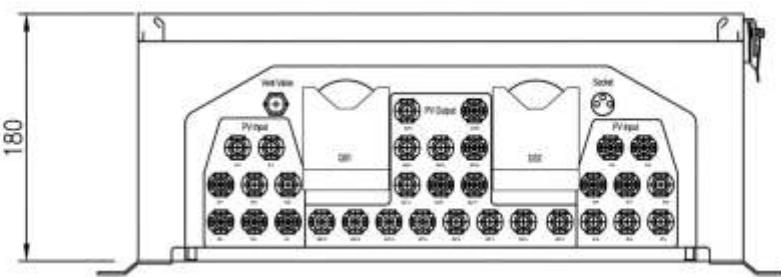
Press the emergency button to keep DC Power 100% OFF even when AC Power is back on in order to ensure a wholly safe zone for firefighters.



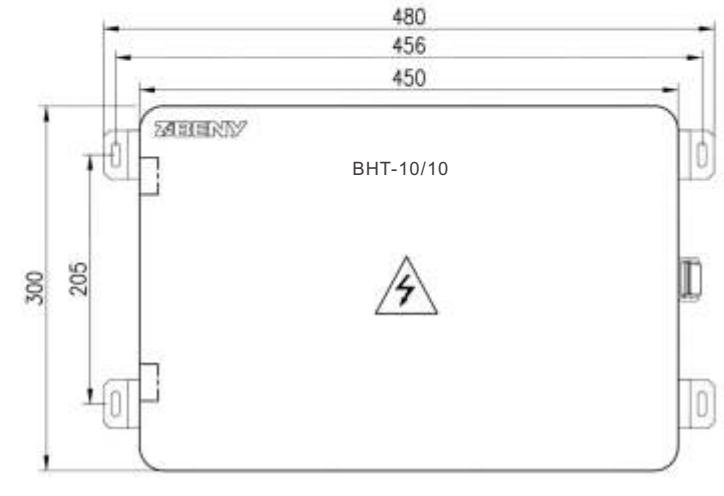
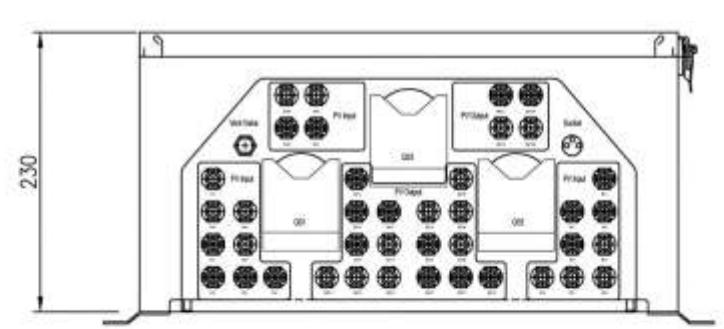
BHT 5/5



BHT 6/6



BHT 8/8



BHT 10/10