

Fire Fighter Safety Switch for Solar Building



Automatic DC
Power Shutdown



AC Power Manual
Shutdown



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

IP66 Aluminum enclosure
with breathing valve



UL508i listed and IEC PV2
DC switch built-in







Genuine MC4 Plug
and Play



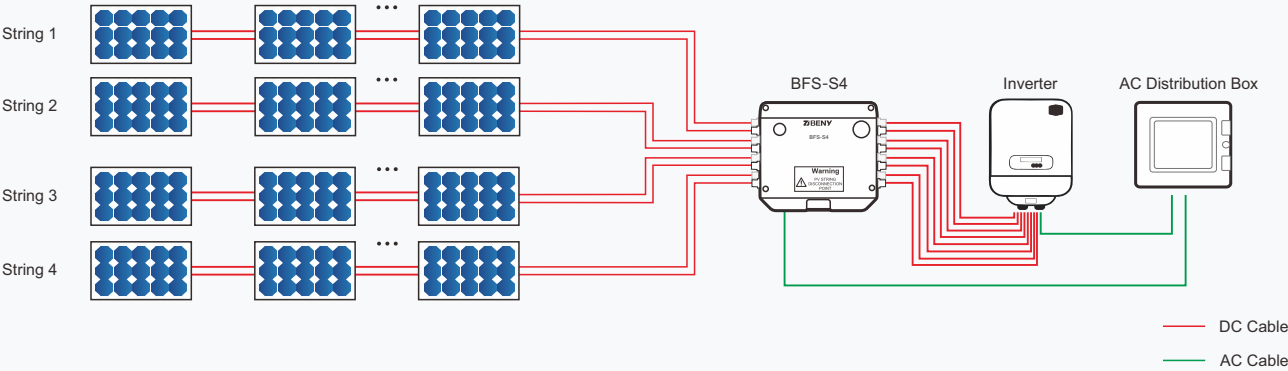
Protection cover for
rooftop installation
is available



Specifications

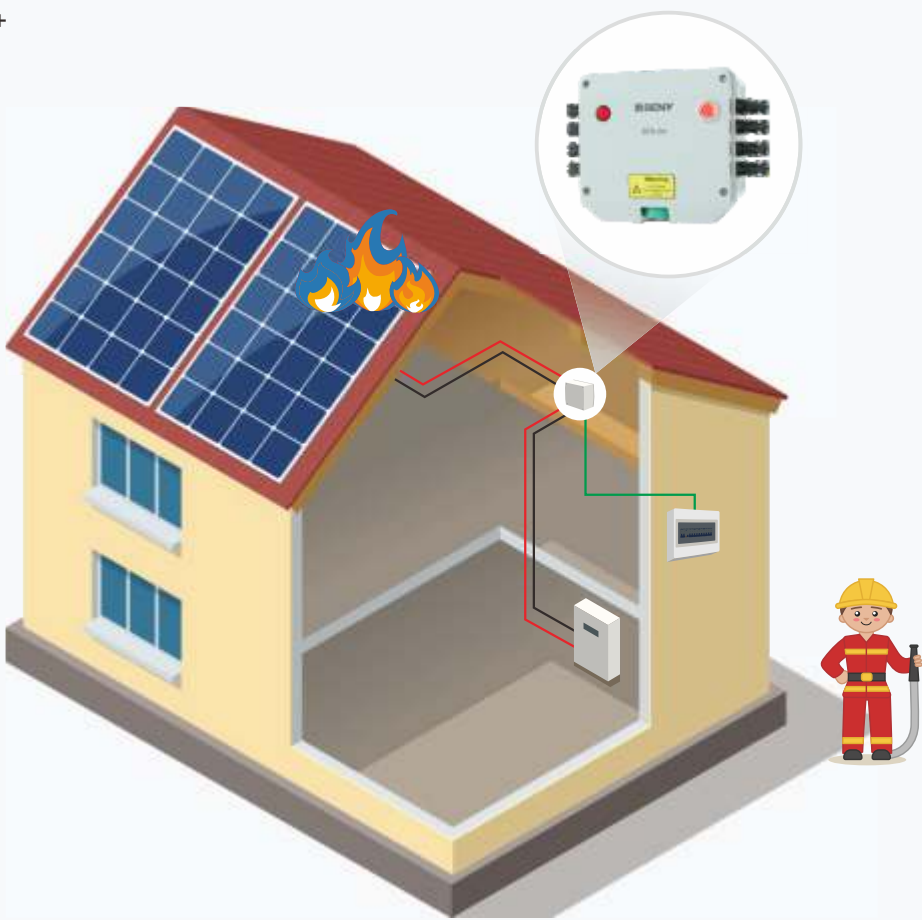
Models	BFS-S			
Models	BFS-S1	BFS-S2	BFS-S3	BFS-S4
Number of Strings	1 string	2 strings	3 strings	4 strings
				
Max String Voltage(Vdc)	300V-1500V			
Max String Current(A)	50A			
Operating Voltage	90Vac-260Vac			
Nominal Voltage	230Vac			
Nominal Current	30mA			
Start up Current	Average 100mA			
Switch 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



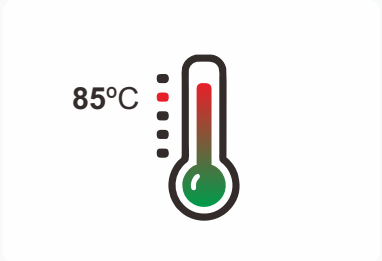
How the solution works?

- DC Cable +
- DC Cable -
- AC Cable



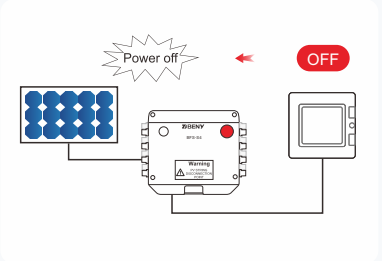
Shutdown Mode

Automatic Shutdown
When Over Temperature



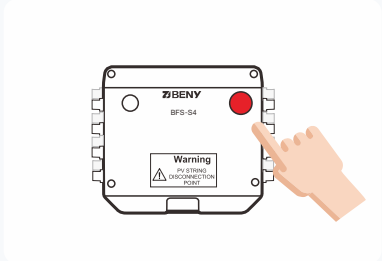
Automatically OFF the DC Power, when temperature inside of BFS-S enclosure $\geq 85^{\circ}\text{C}$. Once temperature drops to $\leq 75^{\circ}\text{C}$, DC power will be back automatically.

Automatic Shutdown
When AC Power Loss



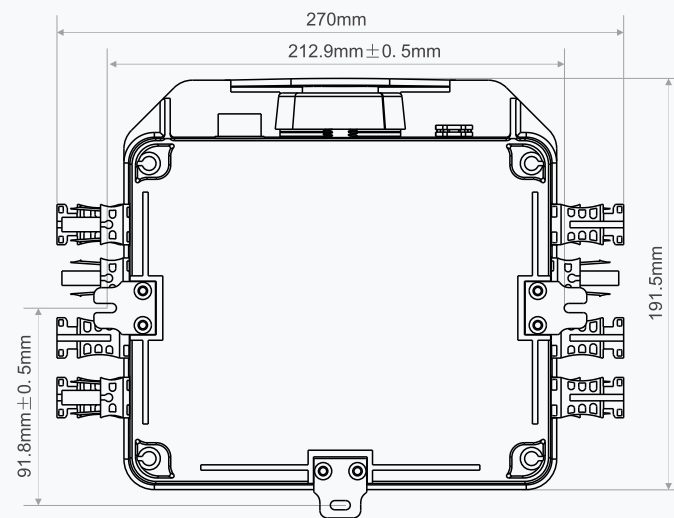
Automatically OFF the DC Power, when AC Power is lost accidentally or manually turn off by firefighter, so to make safety zone for firefighters. Once AC Power is back, DC Power will be back automatically.

100% Shutdown
By Emergency Button

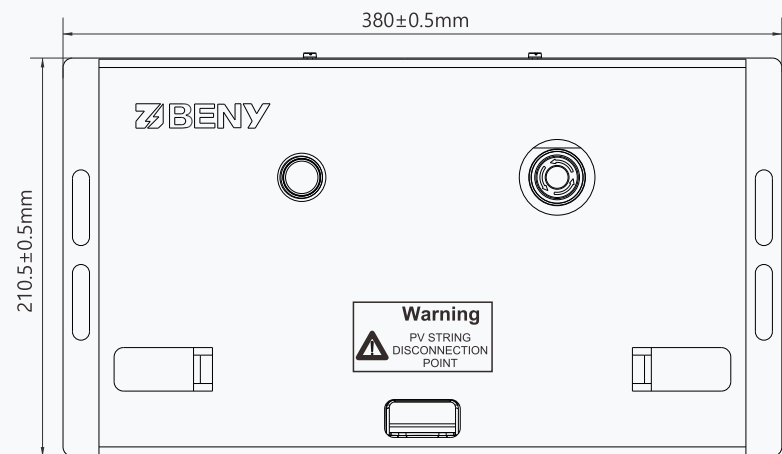


Press the emergency button to keep DC Power 100% OFF even when AC Power is back in order to ensure a wholly safe zone for firefighters.

Dimensions



BFS-S1/S2/S3/S4



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



Automatic DC
Power Shutdown



AC Power Manual
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

IP66 Aluminum enclosure
with breathing valve



IEC PV2 DC switch built-in







Genuine MC4 Plug
and Play



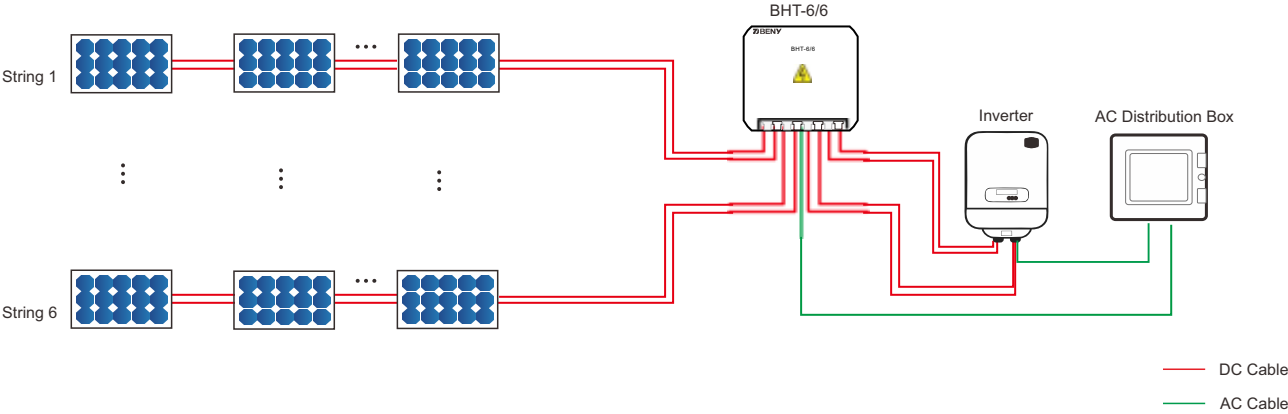
The bottom MC4, switch and
socket are as shown in the
figure.



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			

Diagram



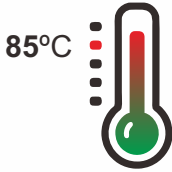
How the solution works?

- DC Cable +
- DC Cable -
- AC Cable



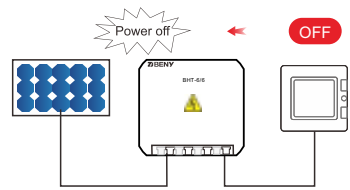
Shutdown Mode

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

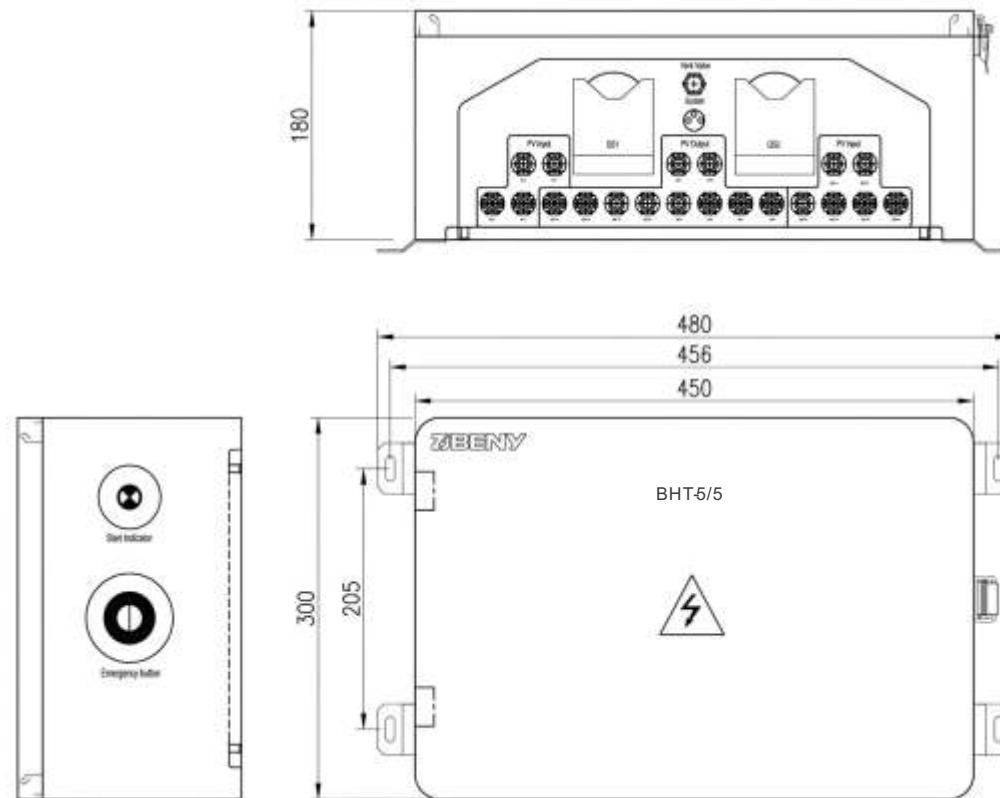


DC Power will automatically switch off when AC Power is lost accidentally or is manually turned off by the firefighter in order to ensure a wholly safe zone for the firefighters. Once the AC Power is back on, DC Power will automatically return.

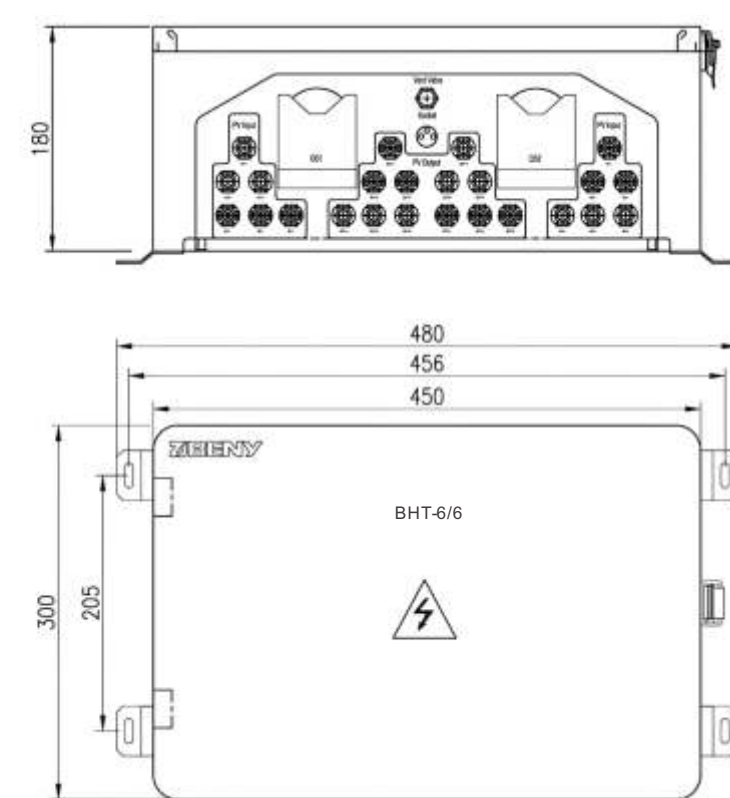
100% Shutdown
By Emergency Button



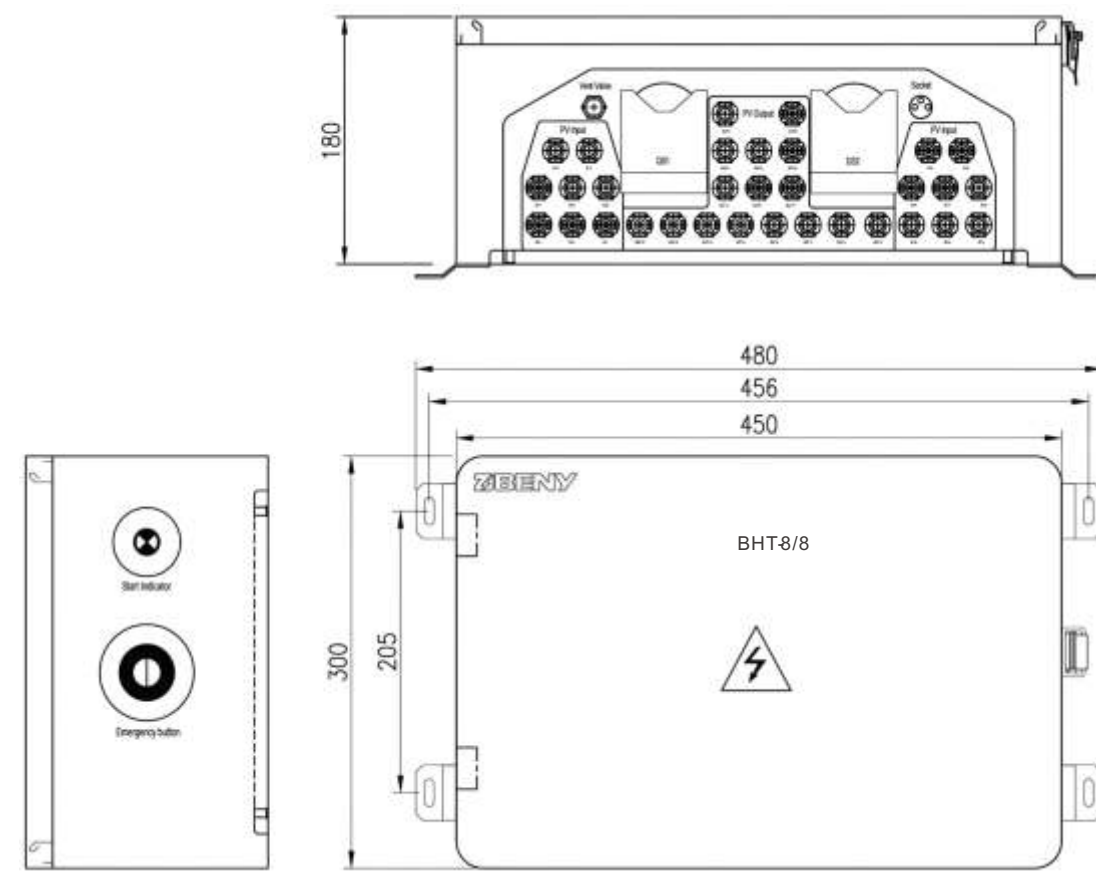
Press the emergency button to keep DC Power 100% OFF even when AC Power is back in order to ensure a wholly safe zone for firefighters.



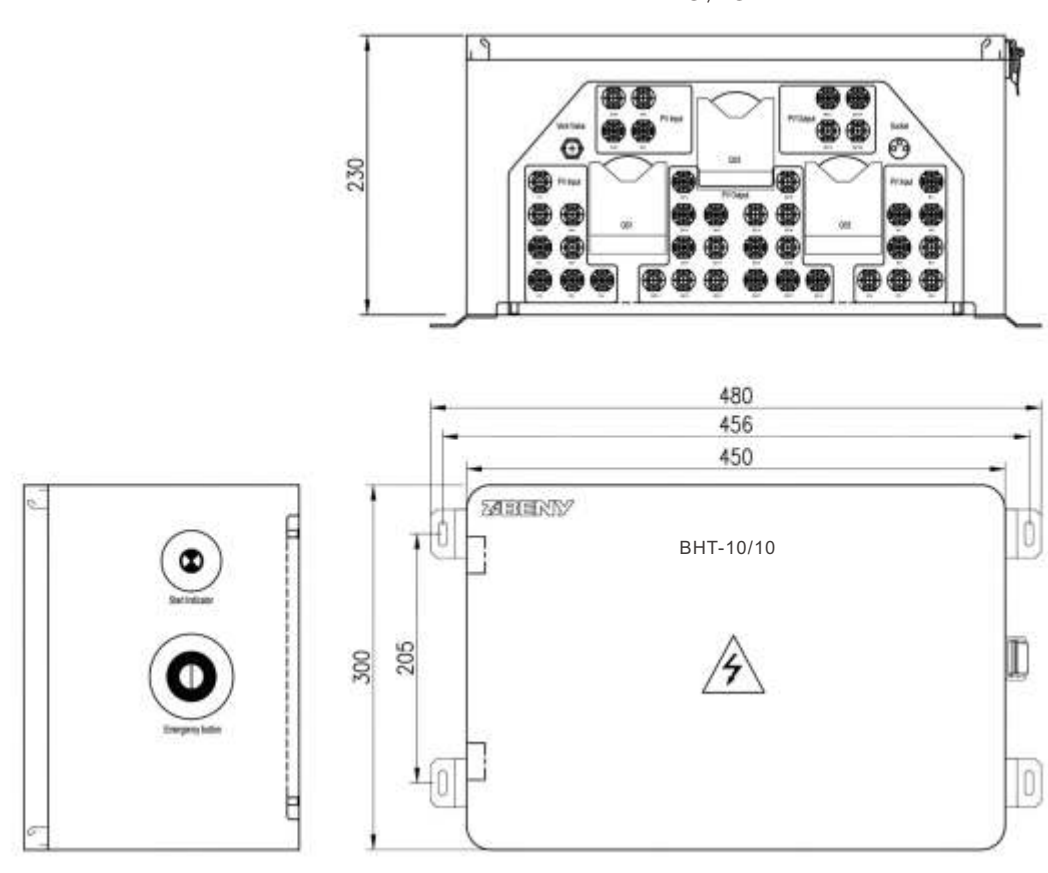
BHT 5/5



BHT 6/6



BHT 8/8



BHT 10/10