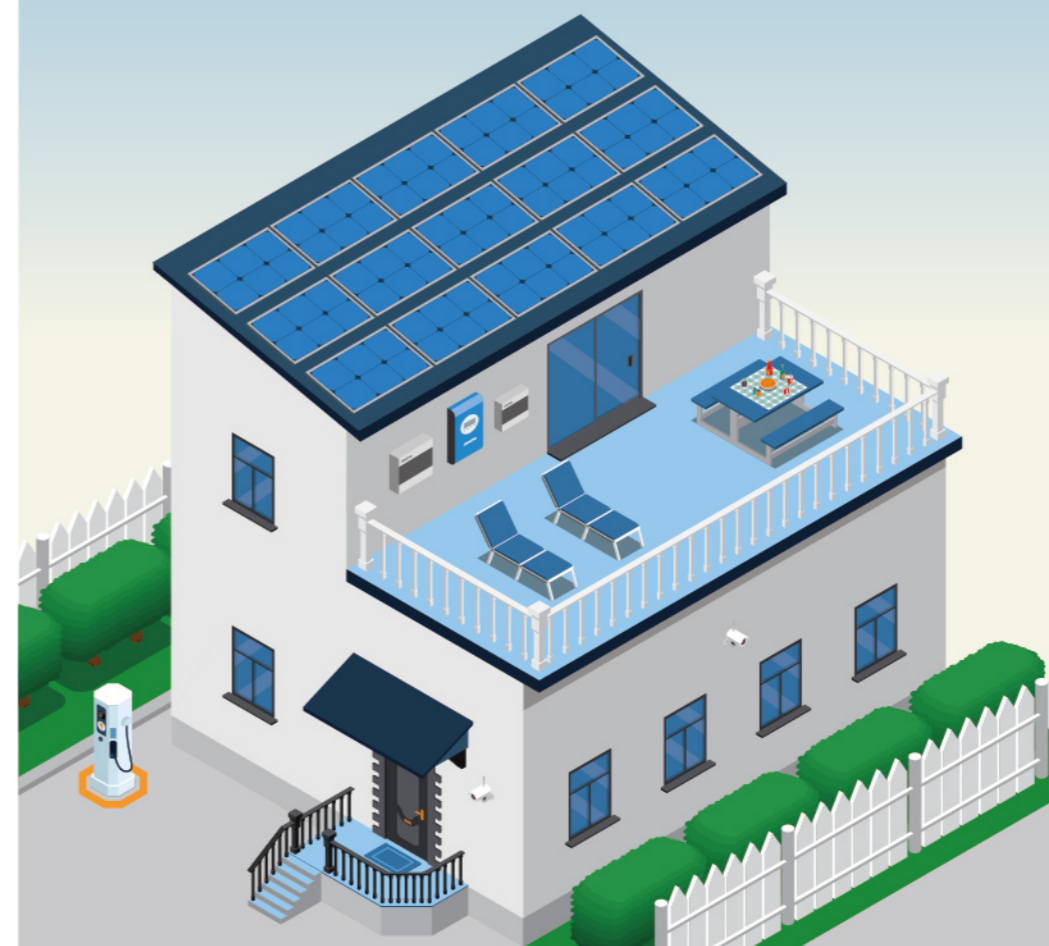


GRID-CONNECTED SYSTEM SOLUTIONS

Residential grid-connected system protection components selection manual





ABOUT SUNTREE

Suntree Electric Group Co., Ltd., a leader in China's smart electrical industry, A legendary large-scale group company. The group has nine wholly-owned or holding subsidiaries. It has formed four major R&D and production bases in Shanghai, Shenzhen, Zhuhai and Zhejiang. The "Suntree", "litto", "NADY" Brands have high influence in the industry.

"Provide users with more valuable smart electrical products and services", sources, smart electric ,power grids, etc. The large business department is committed to solar photovoltaic power generation systems, smart fire safety systems, Urban intelligent electrical system, power grid distribution network automation, medium and high voltage transmission and distribution system etc. to provide high-quality electrical components products and solutions.

Suntree Electric has strong independent innovation capabilities, has a number of core technologies, and has obtained Nearly 100 software copyrights, patents and new product identification certificates

Set an extensive global network in more than 110 countries and regions, especially the Swedish distributor who has 24 branches and offices. Bring solution to more than 3000 customers, achieve 20%+ business growth. Since Suntree Electric Group was founded, we have never stop exploring the balance between human, nature and technology, to bring safe electricity to the one you loved

DEVELOPMENT PATH

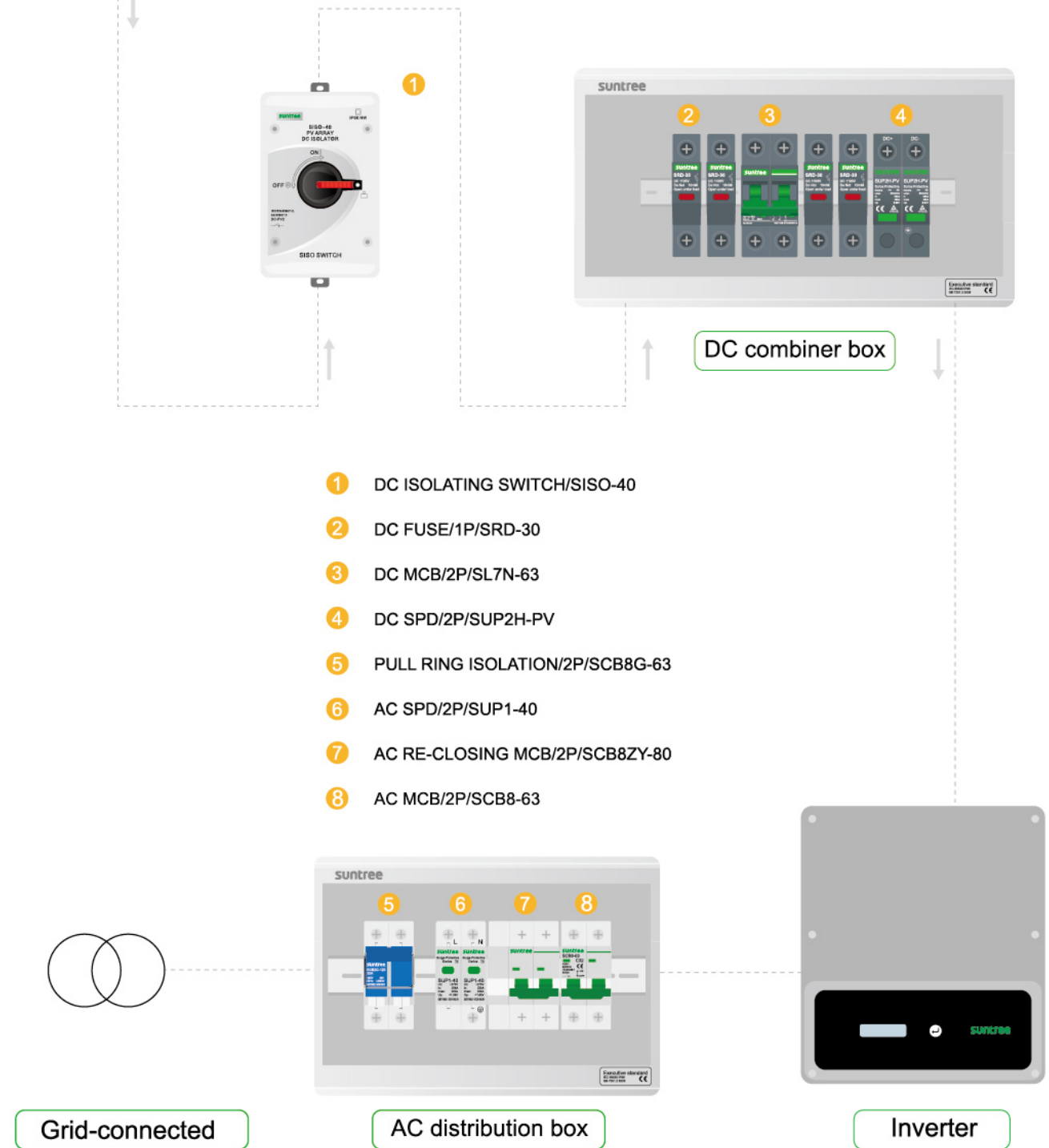
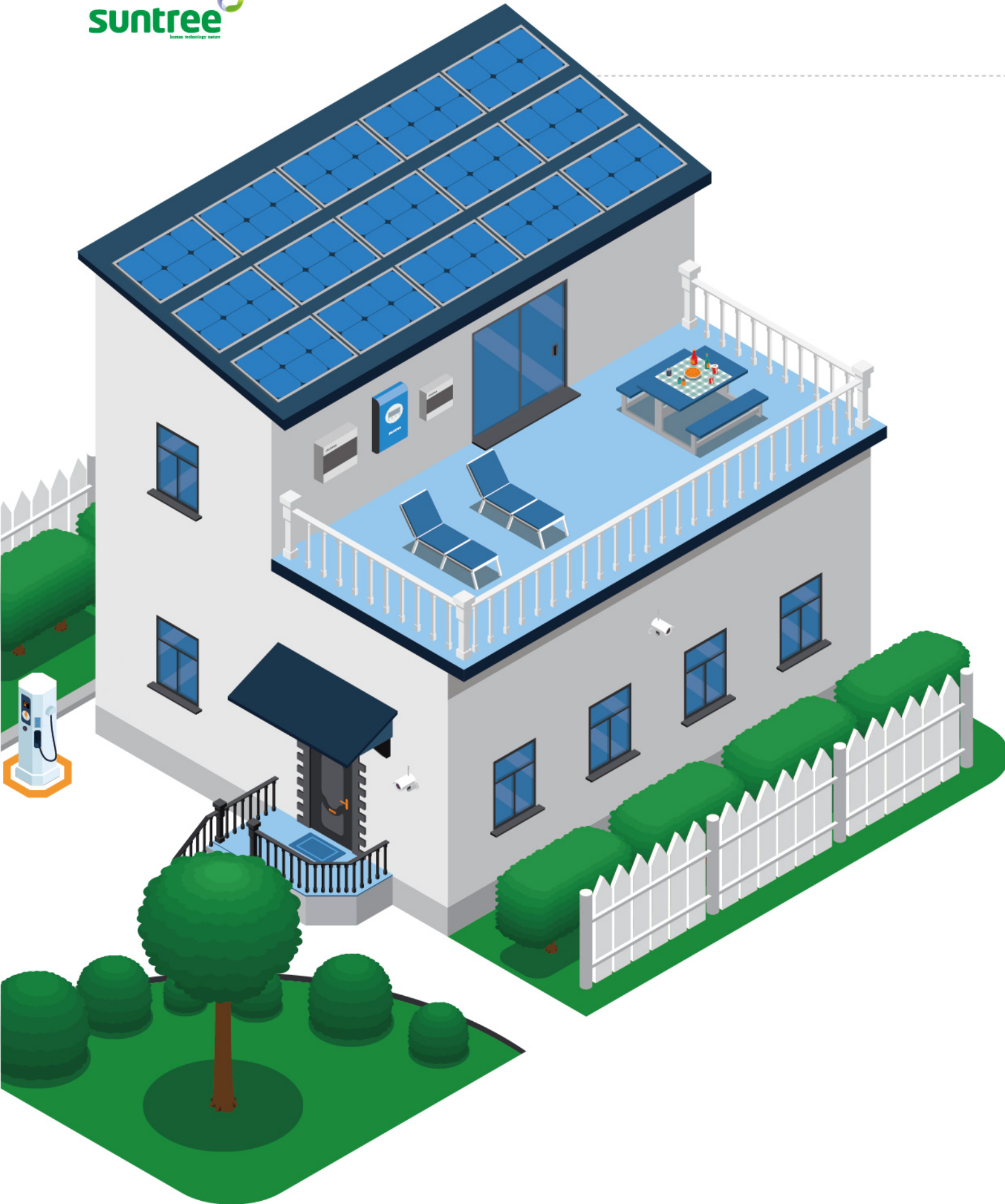


INTERNATIONAL CERTIFICATE



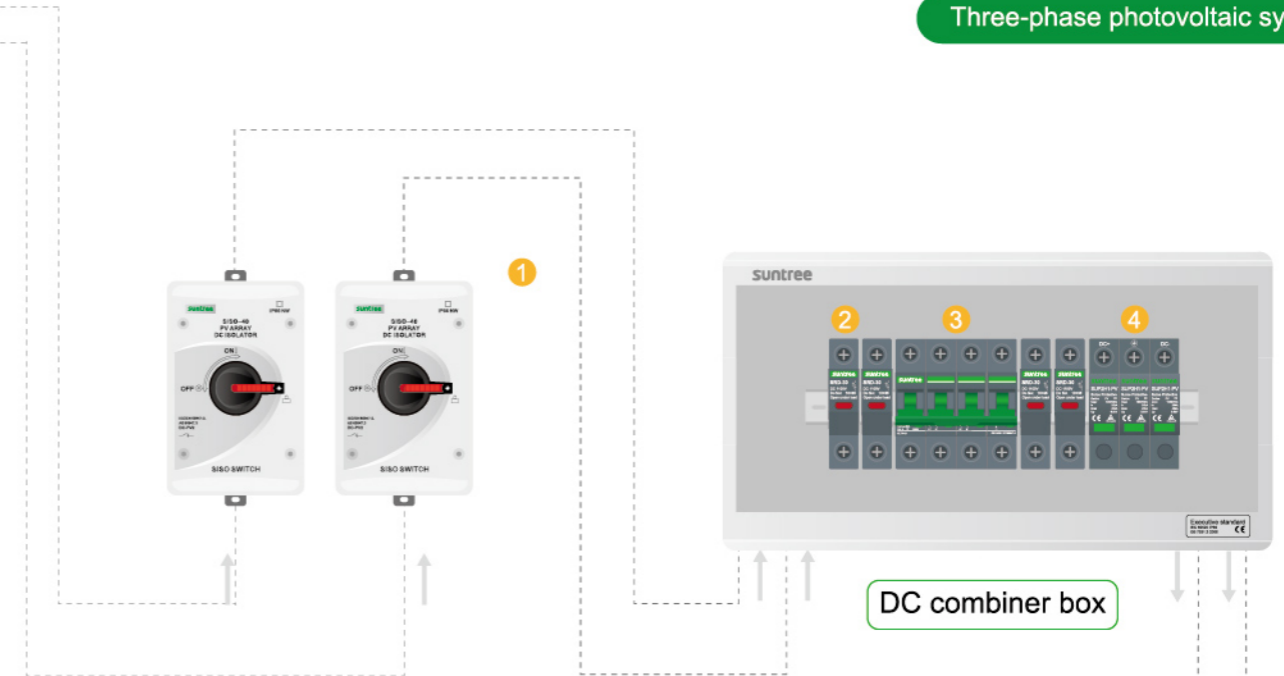
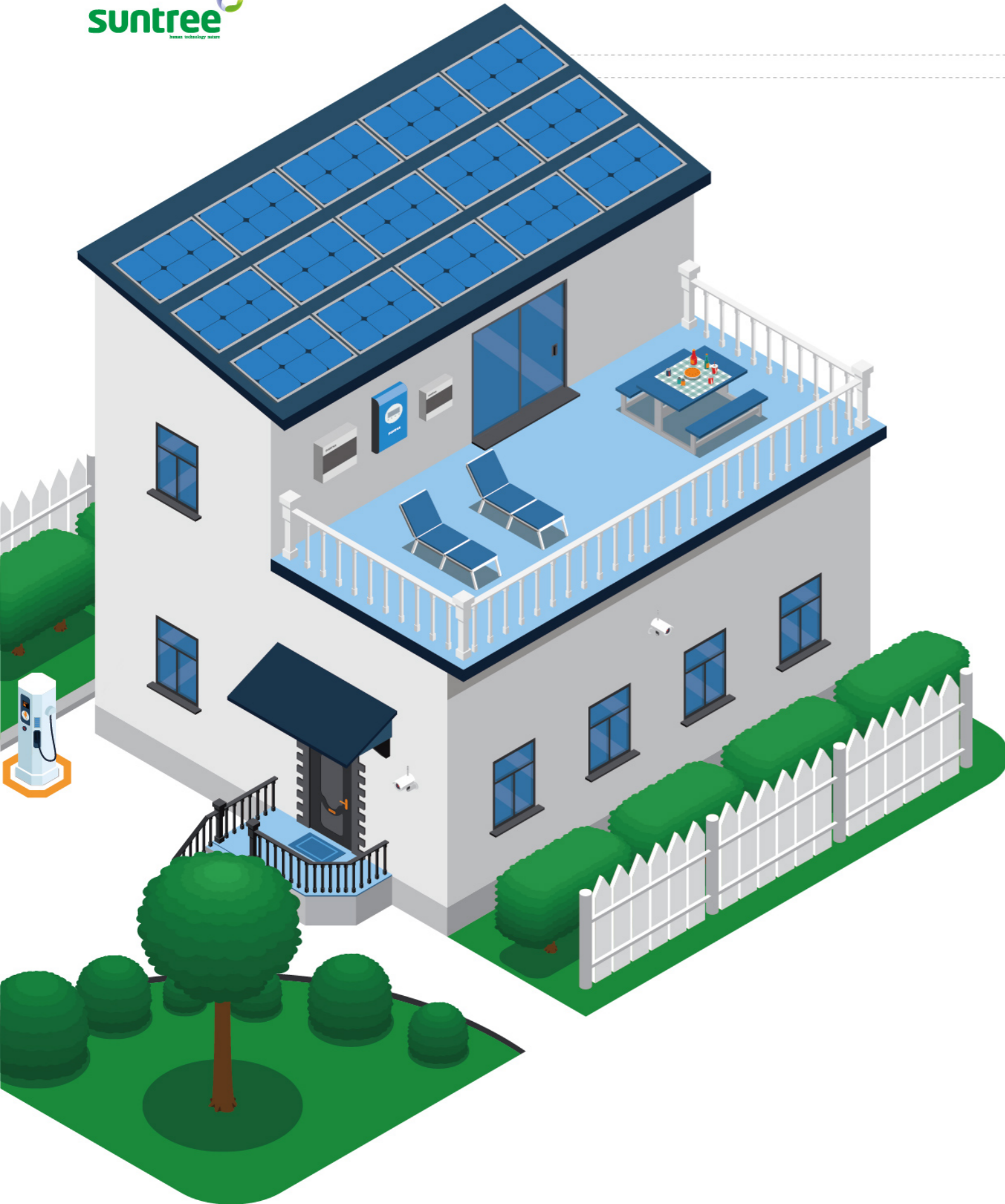
RESIDENTIAL GRID TIE SYSTEM

Single-phase photovoltaic system



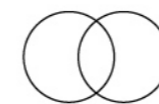
RESIDENTIAL GRID TIE SYSTEM

Three-phase photovoltaic system

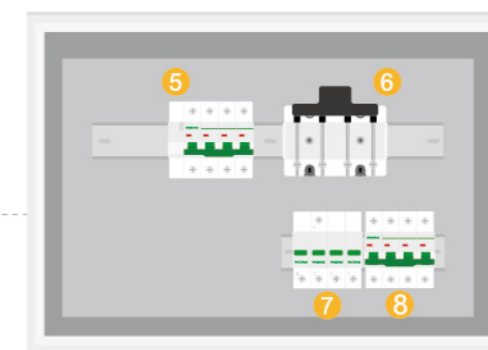


DC combiner box

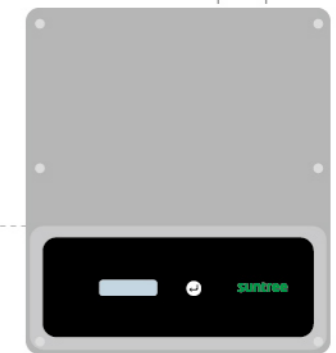
- ① DC ISOLATING SWITCH/SISO-40
- ② DC FUSE/1P/SRD-30
- ③ DC MCB/4P/SL7N-63
- ④ DC SPD/3P/SUP2H-PV
- ⑤ AC RE-CLOSING MCB/2P/SCB8ZY-125
- ⑥ KNIFE BRAKE/4P/HD11N-63
- ⑦ AC SPD/4P/SUP1-40
- ⑧ AC MCB/4P/SCB8-63



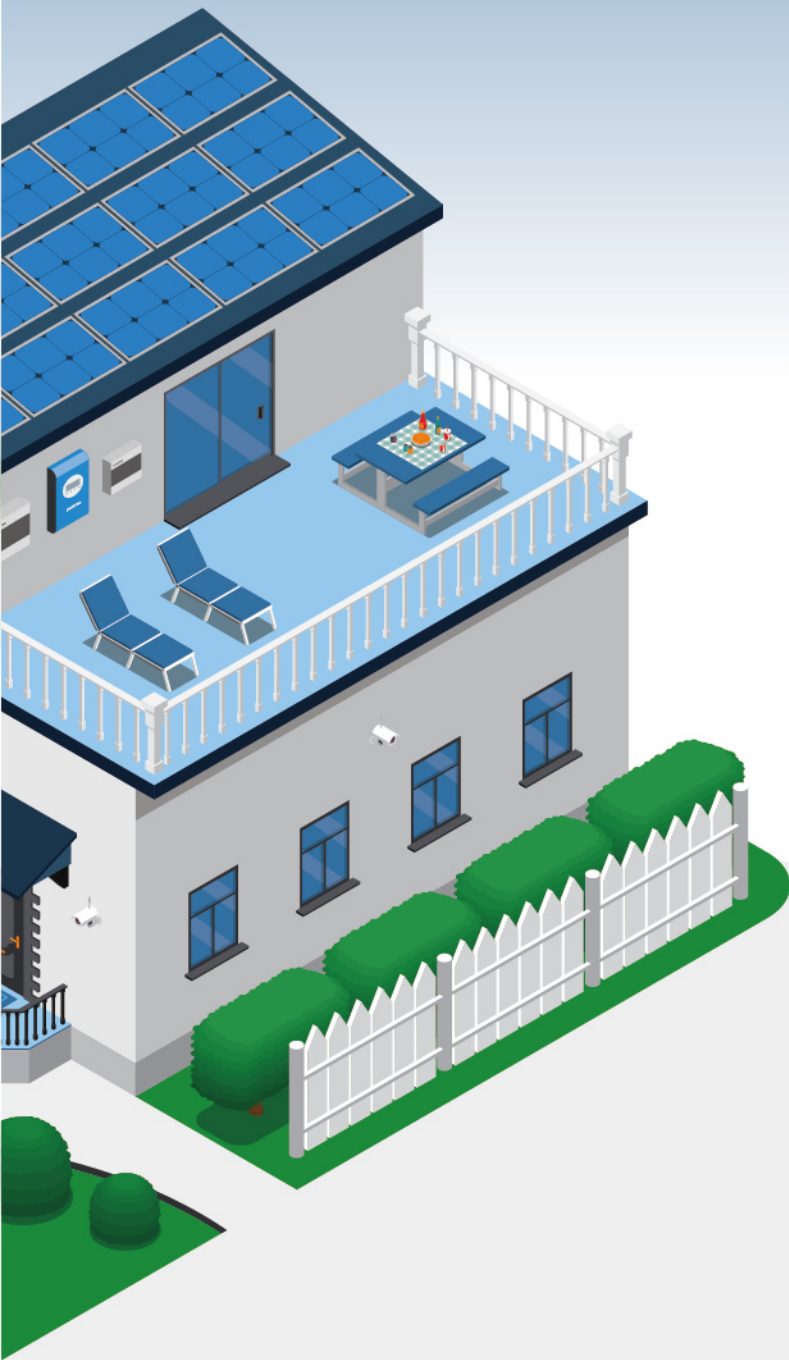
Grid-connected



AC distribution box



Inverter



DC Isolating Switch
SISO-40

01
04



DC Fuse
SRD-30

05
08



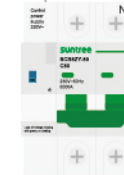
DC Circuit Breaker
SL7N-63

09
12



PV Grid-Connected Mcb
SCB8ZY-80

17
20



DC Surge Protector
SUP2H-PV

13
16



AC Surge Protector
SUP1-40

21
24



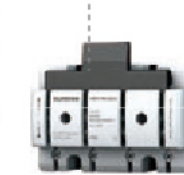
AC Circuit Breaker
SCB8-63

25
28



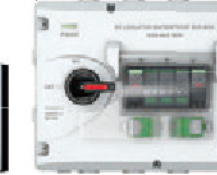
Knife Switch
HD11N-63

29
32



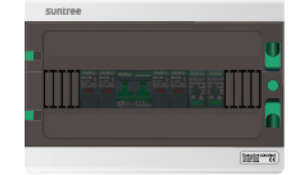
DC Isolating
Switch Waterproof
Bus-box
SISO-40/S

33
36



DC Combiner Box Series
SHLX-PV

37
50





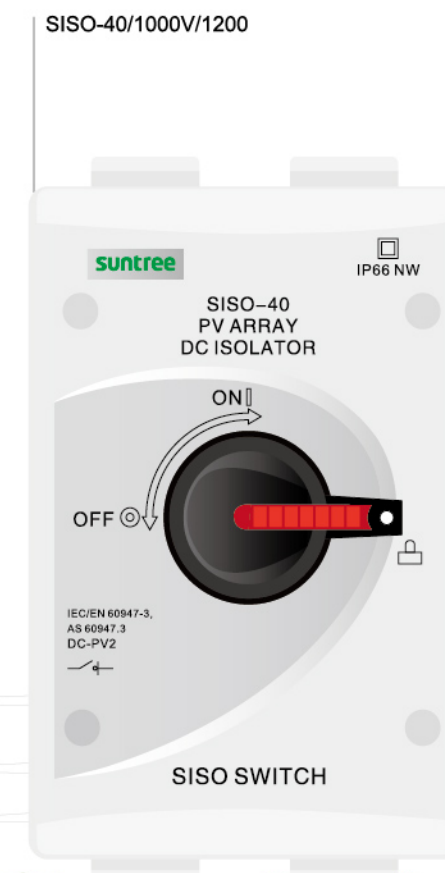
This product passed EC authorized Lab IP66 waterproof testing. Also our company will take simulation tests irregularly, similar to customer's using environment, to make sure this product completely conforms to IP66 protection grade

DC ISOLATOR SWITCH

Disconnect the Power during the maintenance of the DC side of the Residential grid-connected system Outdoor Application

PRODUCT ADVANTAGES

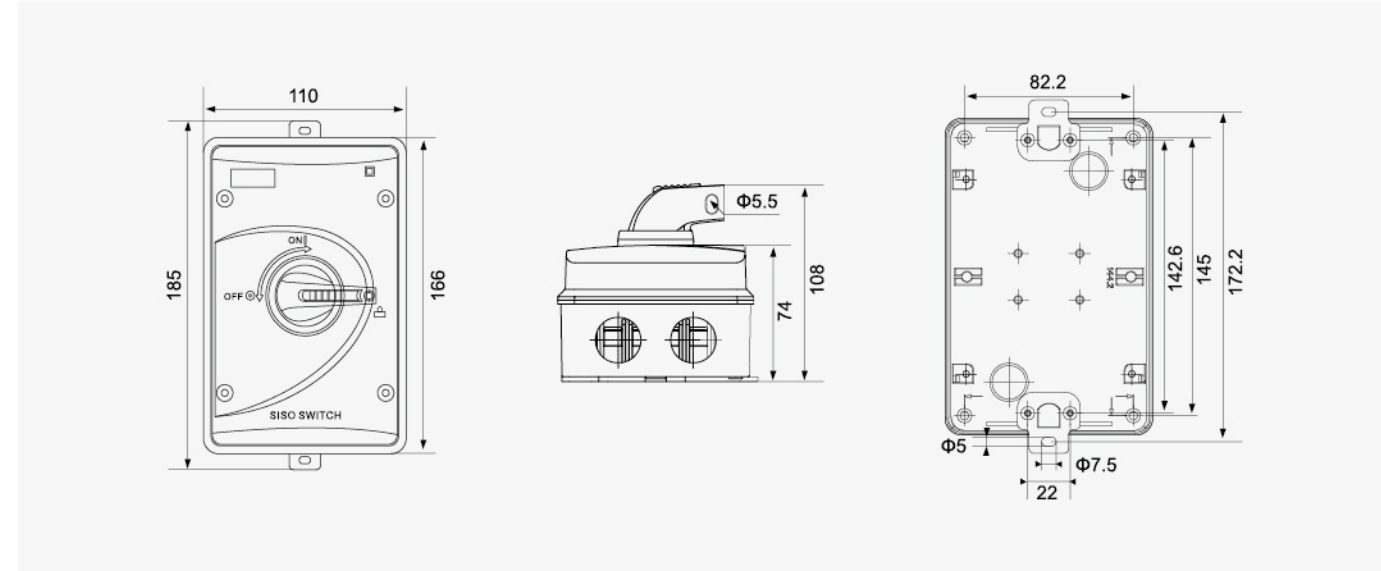
- UV Resistant IP66 Enclosure
- Extremely Short Power Shut Off Time Of Approx.2msLid Only Removable In"off"Position
- Earth Terminal
- IEC60947-3,AS/NZS60947.3: 2015DC-PV1 DC-PV2 DC-21B
- 10A To 32A UP To DC1200vEasy To Install



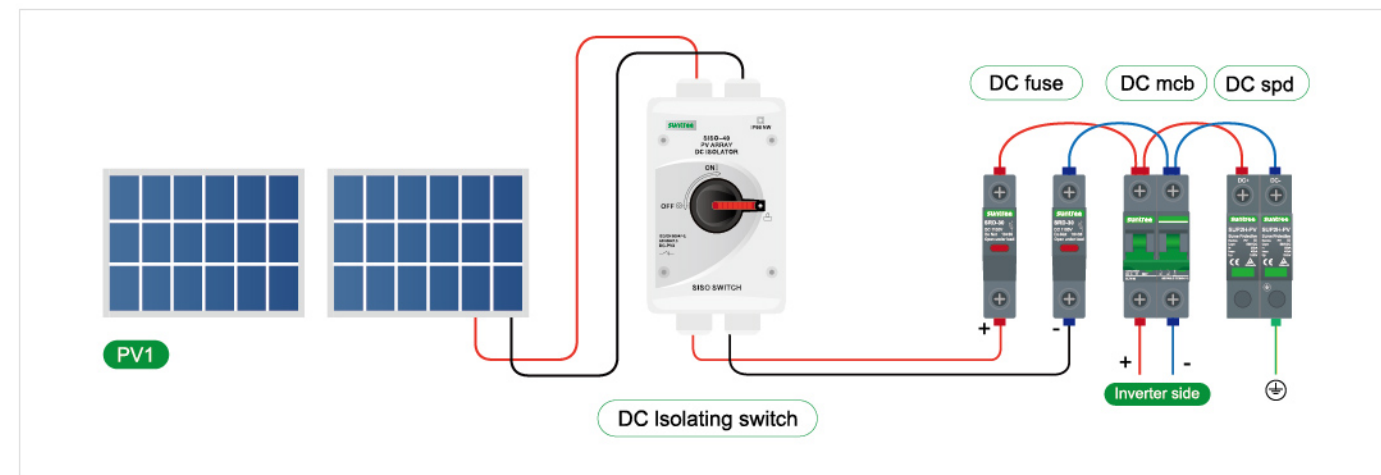
MODEL AND SIGNIFICANCE

S	ISO	40	/	MC	MD: Din rail mounting MB: Panel mounting MC: IP66NW with panel MC4 connector top in and bottom out MT: IP66NW with cable MC4 connector bottom in and bottom out No code default to: IP66NW waterproof DC isolator switch
Company Code	PV switch-disconnectors	Design No			

DIMENSIONS (MM)



WIRING DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

Type	SISO-40MD, SISO-40
Function	Isolator, Control
Standard	IEC/EN 60947-3, AS 60947.3
Utilization category	DC-PV2/DC-21B
Pole	4P
Rated frequency	DC
Rated voltage(Ue)	300V, ≤600V, 800V, 1000V, 1200V
Rated operational current(Ie)	10A, 16A, 25A, 32A, 40A, 50A
Rated insulation voltage(Ui)	1500V
Conventional free air thermal current(Ith)	32A
Conventional enclosed thermal current(Ithe)	29A
Rated short-time withstand current(Icw)	1kA, 1s
Rated short-circuit making capacity(Icm)	1.7kA
Rated conditional short-circuit current(Icn)	3kA
Rated impulse withstand voltage(Uimp)	8.0kV
Overvoltage category	II
Suitability for isolation	Yes
Uv resistant	Yes
Polarity	No polarity, "+" and "-" polarities could be interchanged.
Service Life/Cycle Operation	
Mechanical	20000
Electrical	2000
Installation Environment	
Ingress protection Enclosure	IP66NW
Ingress protection Switch body	IP20
Storage Temperature	-40°C~+85°C
Mounting Type	Vertically or horizontally
Pollution degree	3
Suitable environment	Outdoor/Indoor
Torque:Nm	1.8-2.0
Cable range:mm²	4mm²-16mm²





PLUG IN DESIGN

Quick replacement of fusible core to improve efficiency



INDICATION WINDOW DESIGN

Indication window design Whether the fuse link is a normal signal

(When the light is on, it means damage, and when it is not on, it is normal.)



PA66 FLAME RETARDANT MATERIAL

Flame retardant class V2

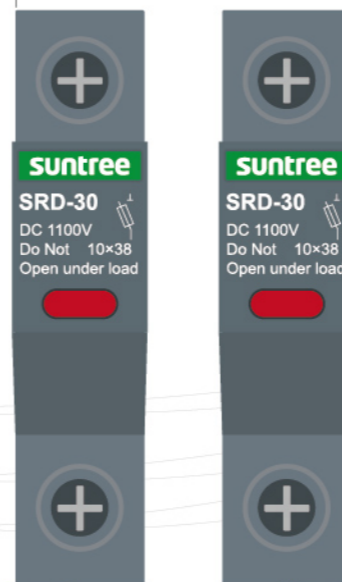
DC FUSE

Used for overload and short circuit protection of Residential grid-connected system

SRF-30/1000V



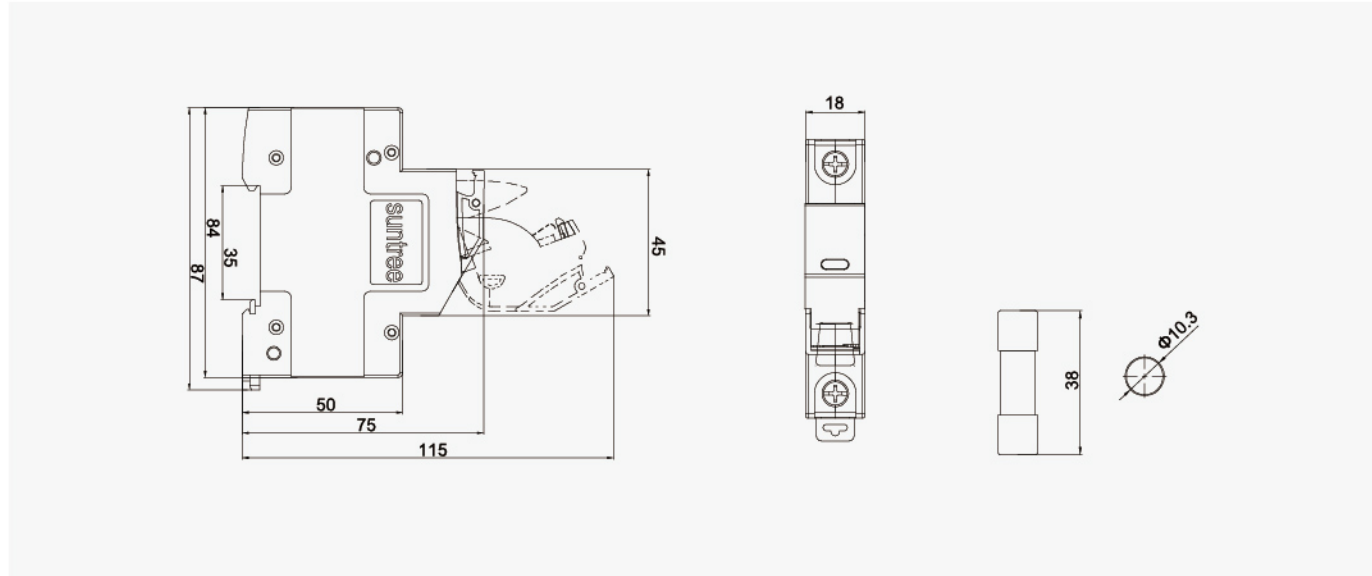
SRD-30/1100V



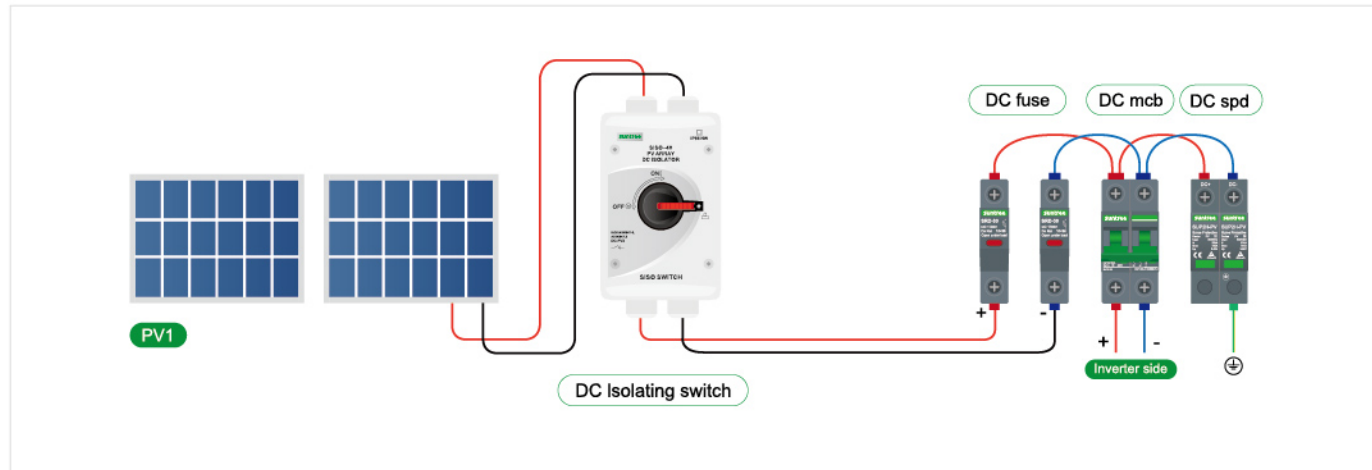
MODEL AND SIGNIFICANCE



DIMENSIONS (MM)



WIRING DIAGRAM



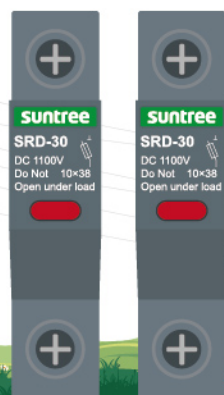
ELECTRICAL TECHNICAL REFERENCE

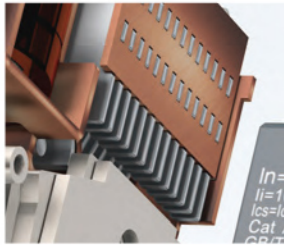
Product Model	SRD-30
Citation standards	IEC/EN60947-1 IEC/EN 60947-3
Rated insulation voltage Ui	1200V
Rated service voltage Ue	DC1100V
Rated service current (Ie)	2/3/4/5/6/8/10/12/15/16/20/25/30A
Rated impulse withstand voltage Uimp	6kV
Rated acceptable power dissipation	4W
Numbers of poles	1P
Rated limiting short circuit current	30kA
Fuse dimensions for use	10mm×38mm
Ingress protection	IP20
Use category	PV-0

AERATING PARAMETERS

Poles (P)	Ambient temperature	Temperature in cabinet (° C reference) volume: 0.1m³	Derating factor
1~4	25	30	1
1~4	30	40	0.93
1~4	40	50	0.9
1~4	50	60	0.85
5~24	-11	30	0.9
5~24	3	40	0.85
5~24	18	50	0.75
5~24	40	60	0.6
5~24	55	65	0.5
5~24	60	70	0.45
5~24	65	75	0.6

For "> 5p" items, the data are measured when 24P are powered on at the same time.





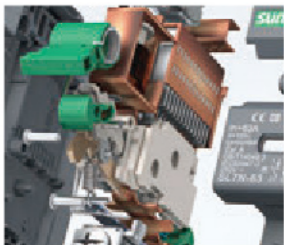
U-SHAPED MAGNETIC BLOWING STRUCTURE TO

Improve arc extinguishing ability



UNIQUE SHAPE DESIGN

And high recognition.



6KA

High segmentation capability



ACCESSORIES SUCH AS SHUNT AND AUXILIARY CAN BE ASSEMBLED

which can protect the load-side products more comprehensively

DC CIRCUIT BREAKER

Used for overload and short circuit protection of Residential grid-connected system

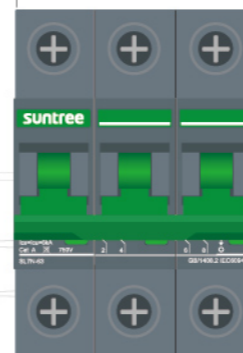
SL7N-63/1P/250V



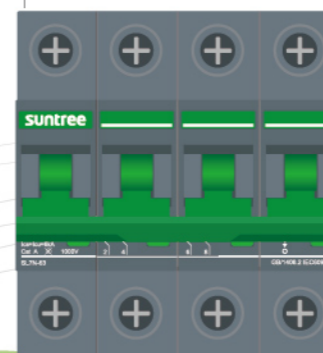
SL7N-63/2P/550V



SL7N-63/3P/750V



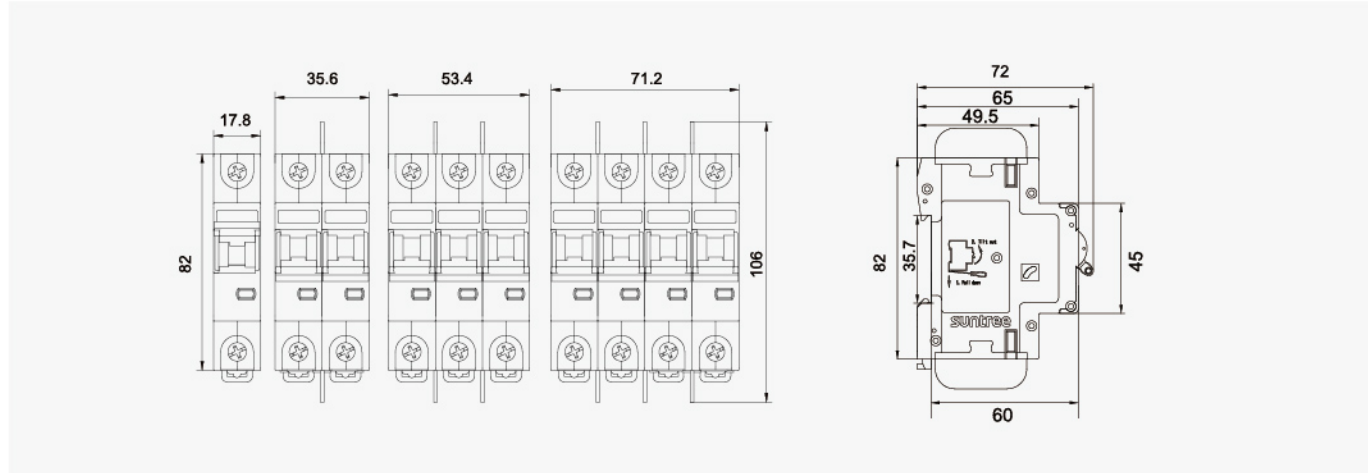
SL7N-63/4P/1000V



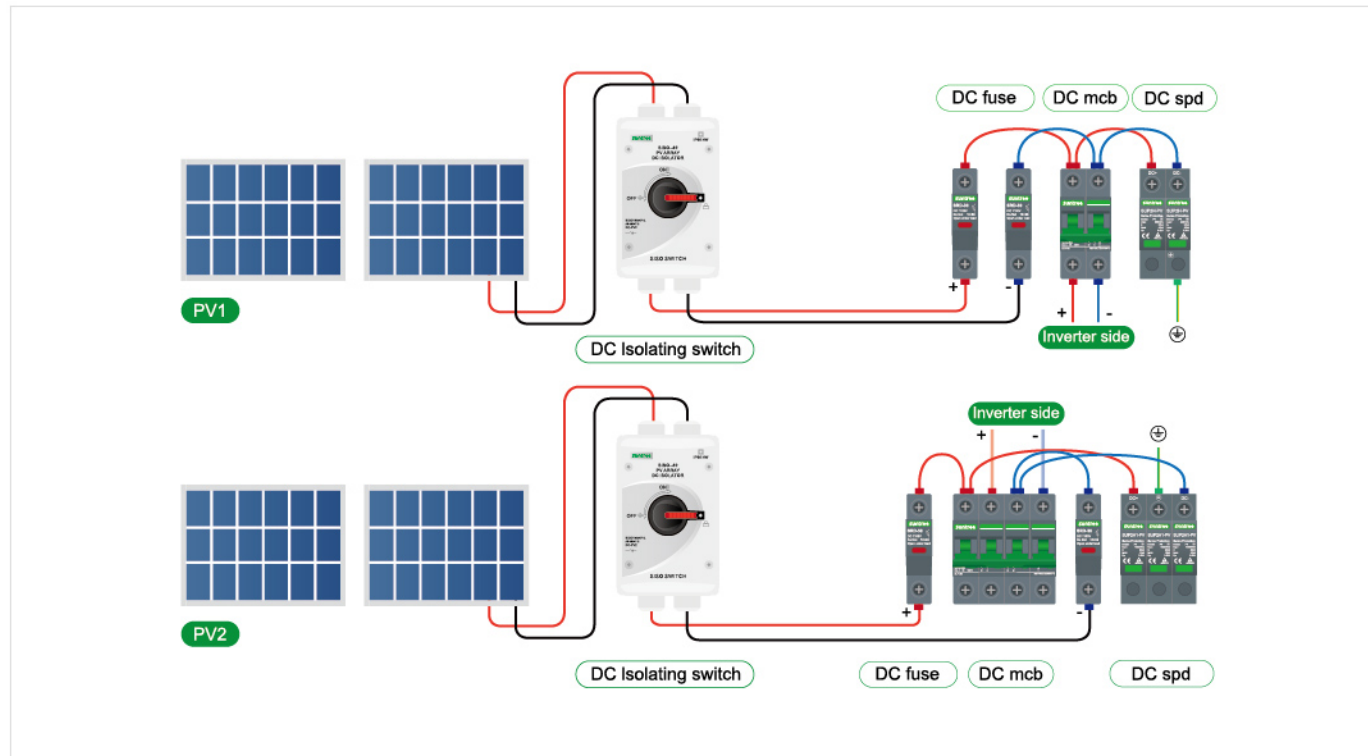
MODEL AND SIGNIFICANCE



DIMENSIONS (MM)



WIRING DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

Rated insulation voltage (Ui)	1250V
Rated service voltage (Ue)	DC(1P):15V,60V,100V,180V,250V ; DC(2P):125V,375V , 550V,600V,800V DC(3P):750V,800V ; DC(4P):800V,1000V 1200V
Rated current of current shell frame	63A
Different currents In the same current shell frame	6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated service short-circuit breaking capacity Ics=Icu	Ics=Icu=6kA(2P800V/4P1200V Ics=Icu= 2KA)
Mechanical life	20000 Times
Electrical life	4000 Times
Certificate	CB CE
Rated impulse withstand voltage Uimp	6kV
Trip characteristics / trip type	B/C
Overvoltage category	III
Class of pollution	3
Ingress protection	IP20
Resistance to heat and humidity	Class 2
Relative humidity	≤95%
Standards compliant	IEC 60947-2 GB/T 14048.2
Shock resistance	According to IEC60068-2-6
Mechanical shock resistance parameters	According to IEC60068-2-27
Service ambient temperature	-30°C~70°C
IEC60068-4Resistance to heat and humidity(IEC60068-4)	Class Db (temperature 55°C 6 cycles)
Storage ambient temperature	-40°C~85°C
Altitude	≤2000m
Weight accessories	0.12kg/P
Accessories	OFISD/MX/MN/MX+OF
MX control voltage Us	DC:12V,24V,220V ; AC:110V,220V,380V power supply recommended not less than 75W
MN rated voltage Un	AC220V AC380V





HEAT DISSIPATION HOLE

Quickly dissipate heat, reduce the service temperature.



HIGH RELIABILITY

Single chip voltage up to 750V



PLUG-IN CLIPS

Easy module replacement



FLASH BARRIER

Prevent arc propagation in current impact

DC SURGE PROTECTOR

Lightning protection and operating overvoltage protection for Residential grid-connected systems

SUP2H-PV/2P/500V



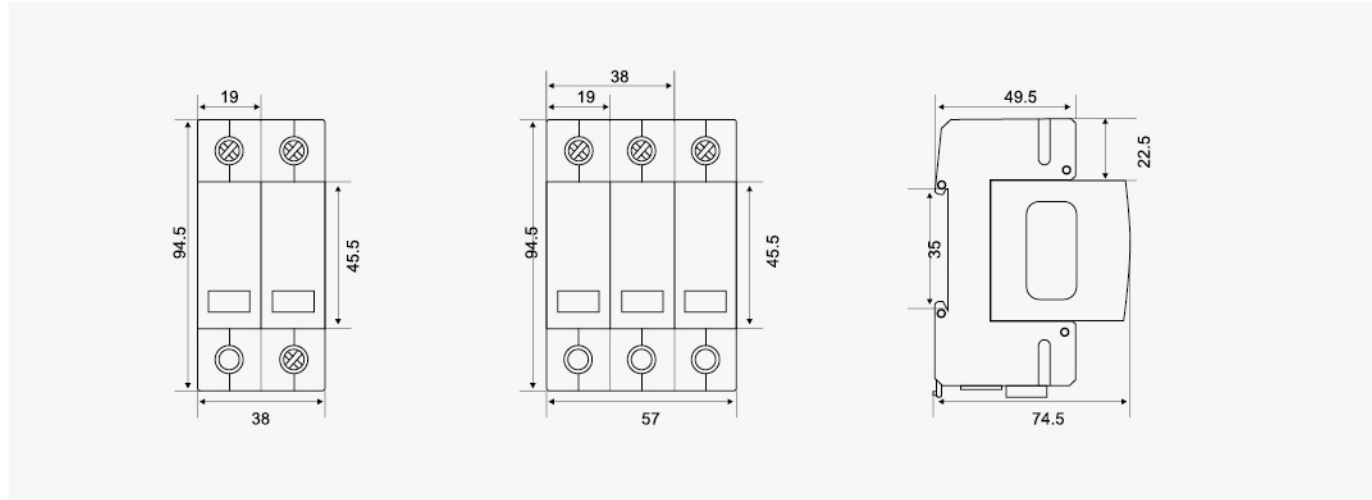
SUP2H1-PV/3P/1000V



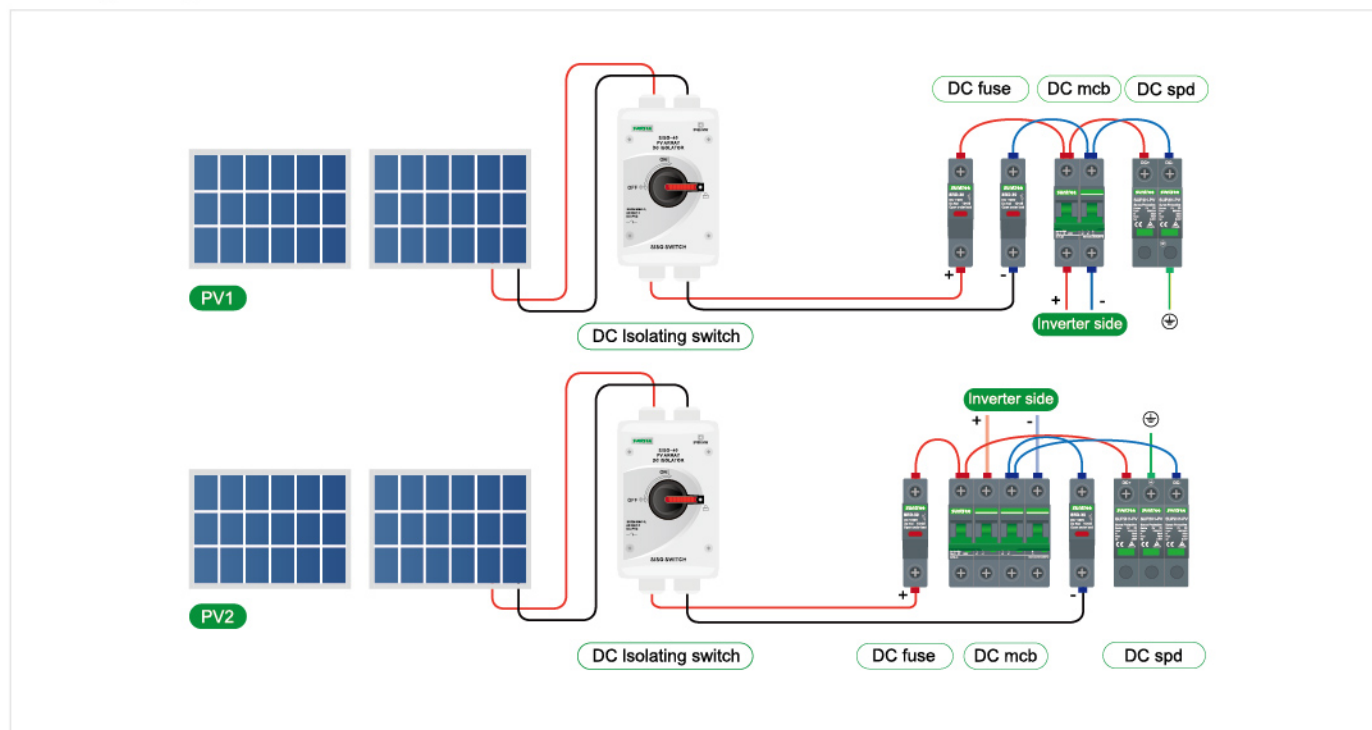
MODEL AND SIGNIFICANCE

S	UP	2	-	H1	/		X
Enterprise code	Surge protector device	Design Number		PV codeDC dedicated		Maximum accommodating40kA	Remote sensing

DIMENSIONS (MM)



WIRING DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

Product Model	SUP2H-PV			SUP2H1-PV	
	Max. continuous operating voltage (Uc)	500VDC	600VDC	800VDC	1000VDC
Max. discharge current (Imax)(8/20us)	20, 40KA				
Protection level (In)Up	2.8kV	2.8kV	3.0kV	3.6kV	4.0kV
Service temperature	-40°C~+70°C				
Relative humidity	≤95%(25°C)				
Installation mode	35mm standard guide rail				
Window indication	Normal: green; Failure: Red				
Ingress protection	IP20				
Numbers of poles	1P, 2P, 3P				
Leakage 0.75u ImA(uA)	≤20				

INSTALLATION PRECAUTIONS

- The normal range of ambient air temperature should be no higher than +40°C and no lower than -25°C, with a relative humidity of no more than 95%; The altitude of the installation site shall not exceed 2000m;
 - Pollution class 3;
 - Where there is no risk of explosion and the medium is free of gases and conductive dusts sufficient to corrode metals and destroy insulation.
- Wiring resistance
- Grounded copper bus-bar





AUTOMATIC OPENING AND CLOSING

There is no voltage automatic opening, there is voltage automatic closing



STRONG ENVIRONMENTAL ADAPTABILITY AND RELIABLE OPERATION IN EXTREME ENVIRONMENT

-25C~70 C ambient temperature application range, to meet the application needs of various occasions.



MORE RELIABLE PERFORMANCE

Temperature rise ≤55K, breaking capacity up to 10ka electrical life ≥6000 times.



RATED CURRENT 125A

2P maximum frame current is 80A, 4P is 125A



SWITCHABLE FULLY AUTOMATIC OR SEMI-AUTOMATIC MODE

Fully automatic: automatic opening on loss of pressure, automatic closing on pressure

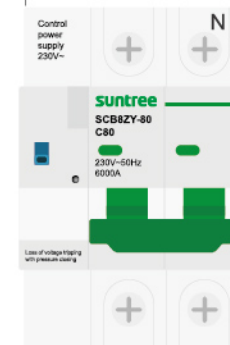
Semi-automatic: automatic opening when pressure is lost, manual closing when pressure is present

PV GRID-CONNECTED MCB

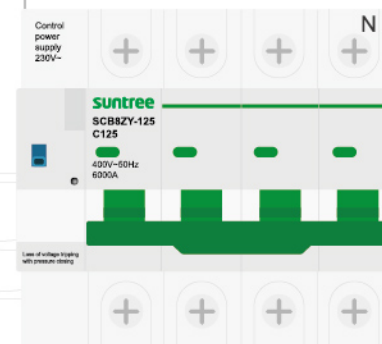
SCB8ZY series photovoltaic grid-connected circuit breakers are suitable for distributed AC 50Hz, rated voltage not exceeding 400V, and rated current not exceeding 125A

In the photovoltaic grid-connected box, the circuit is connected and disconnected, it protected from short circuit, overload, overvoltage, undervoltage, and voltage loss.

SCB8ZY-80/2P



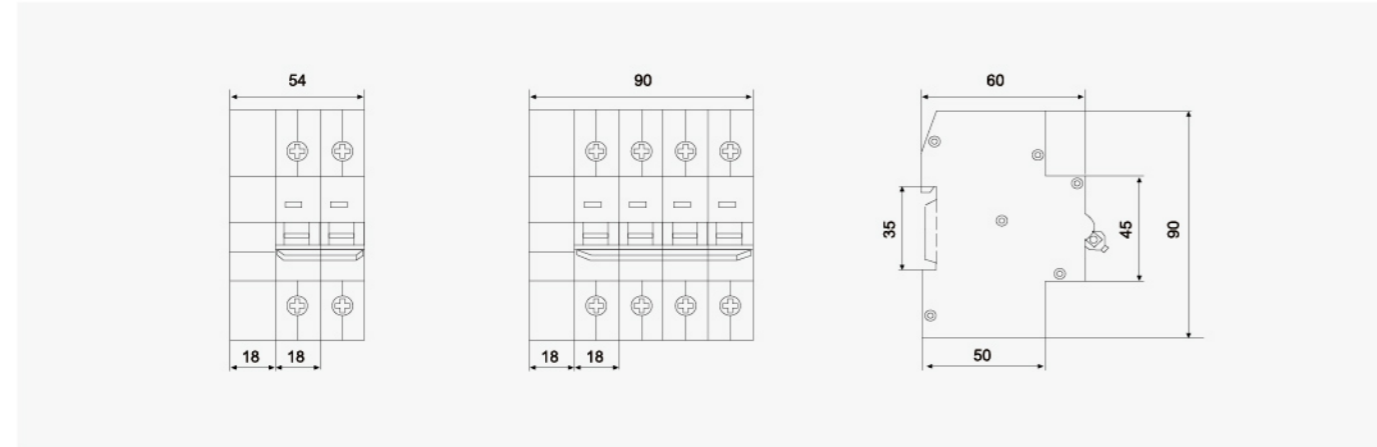
SCB8ZY-125/4P



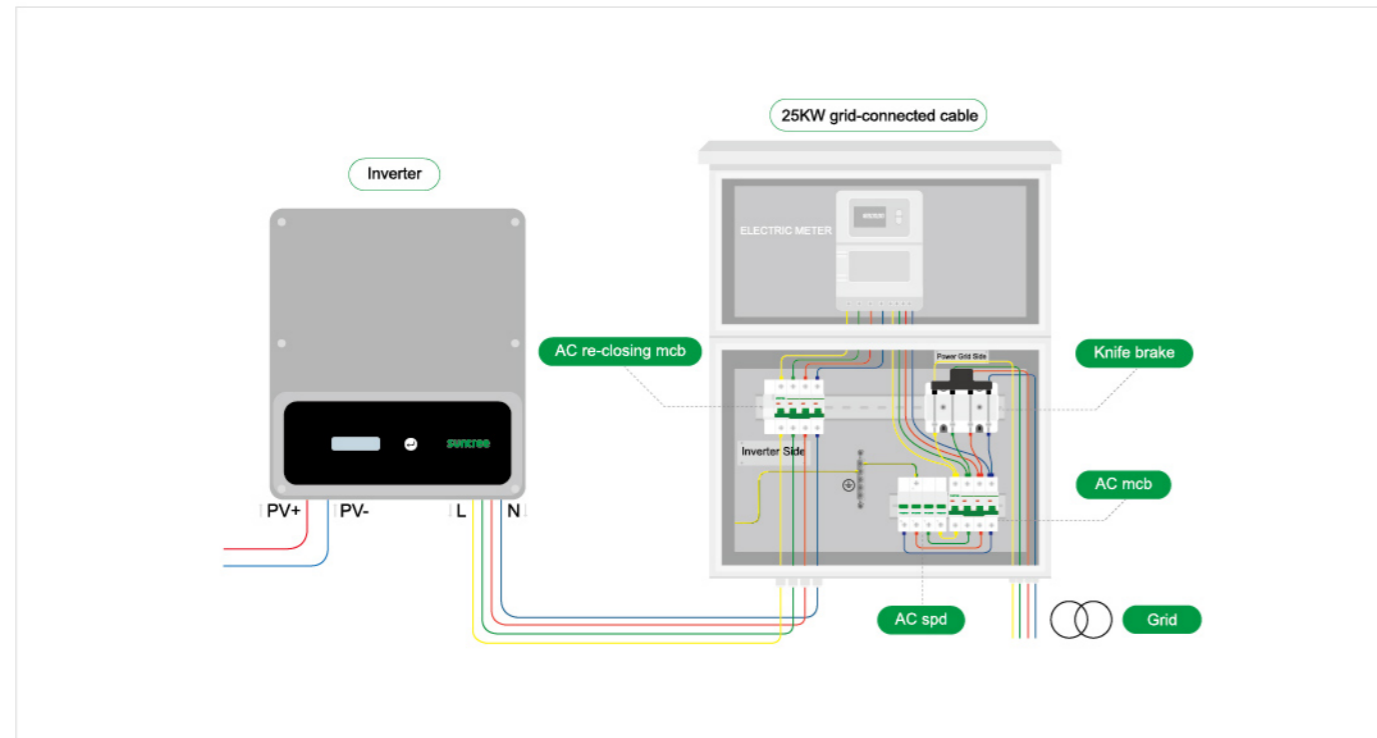
MODEL AND SIGNIFICANCE

S	CB	8	ZY	80/125	T
Enterprise code	Miniature circuitbreaker	Design No.	Automatic opening and closing Overvoltage and undervoltage functions	Frame size rated current	None: default T: with communication

DIMENSIONS (MM)



WIRING REFERENCE

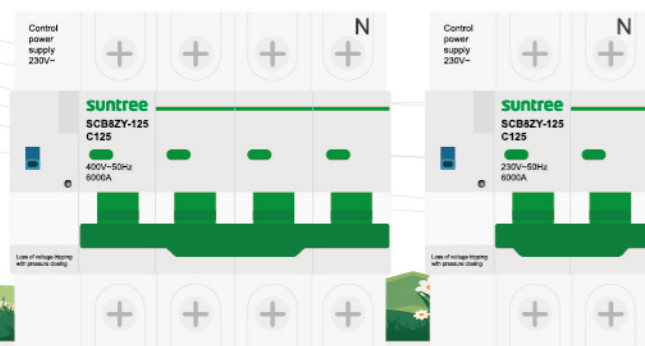


ELECTRICAL TECHNICAL REFERENCE

Fram Class	SCB8ZY-80	SCB8ZY-125
Rated Current	16A/20A/25A/32A/40A/50A/63A/80A	80A/125A
Rated Voltage	230V	400V
Pole	2P、4P	
Rated Frequency	50Hz/60Hz	
Rated Insulation Voltage Ui	500V	
Rated impulse withstand voltage Uimp	4kV	
Rated Short Circuit Capacity	10kA	6kA
Operating Short-circuit Capability	7.5kA	6kA
Mechanical Life	30000	20000
Electrical Life	6000	4000
Restore Working Voltage	185V~275V	
Undervoltage Action Range	≤150V delay 3s~5s tripping	
Overvoltage Action Range	≥290V delay 3s~5s tripping	
Loss of Pressure Action Range	< 45V	
Auto Closing Time	7s~10s	
Operating Temperature	-25°C~+60°C	
Relative Humidity	+20°C should not be higher than 95%; +40°C should not be higher than 50%	
Grid Distance	45mm	

INSTALLATION PRECAUTIONS

- Altitude≤2000m
- Installation category: II, III
- Installation method: Embedded vertical DIN standard rail installation
- Pollution Degree: 2





LIGHTNING PROTECTION MODULE PLUG-IN UPGRADE

It is easy to replace the module and effectively reduce the cost of use



STRONG ENVIRONMENTAL ADAPTABILITY AND RELIABLE OPERATION IN EXTREME ENVIRONMENT

-5C~40C ambient temperature application range, to meet the application needs of various occasions.



MAGNETIC BLOWING ARC EXTINGUISHING

The arc moves to the grid plate through electromagnetic force, and is divided into many series arcs after entering the grid plate. In the arc extinguishing grid, the arc resistance increases and the current decreases until the circuit cannot maintain the arc, forcing the circuit to disconnect.



PA66 FLAME RETARDANT MATERIAL

Flame retardant rating of V-O

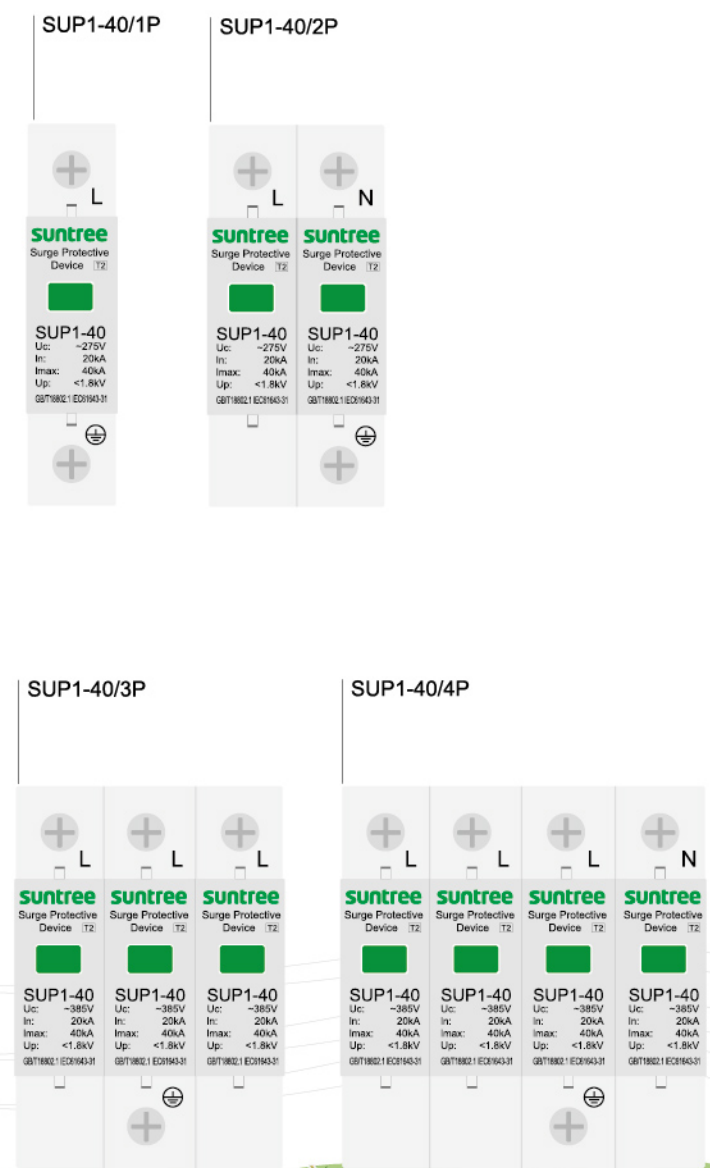


CONTACT INDICATION WINDOW WITH CLEAR POSITION

The whole series of contact positions are visualized to avoid misoperation and more reliable use.

AC SURGE PROTECTOR

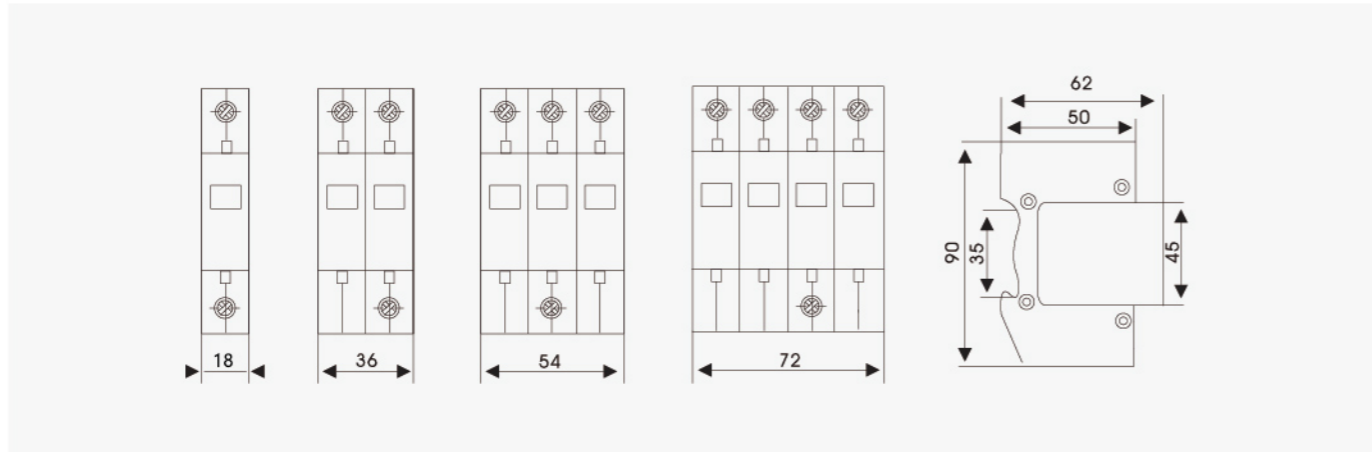
SUP1(D,C, B)5 series surge protection device (n shot SPD, alias surge suppressor, surge arrester) is suitable for TN-S, T-C-S, T Tetc. power supply system of AC 50/60Hz. <30V installed on the joint of LPZ1 or P2 and LPZ3, is designed according to E01643-1, CB180. It complies with 35mm standard rack. There is a release mechanism on the module of surge protection device. When the SPD fails in breakdown for over-heat and over-current, the failure release will help electrical equipment separate from the power supply system and give the indication signal. Green means normal, red means abnormal. It also could be replaced for the module when has operating voltage.



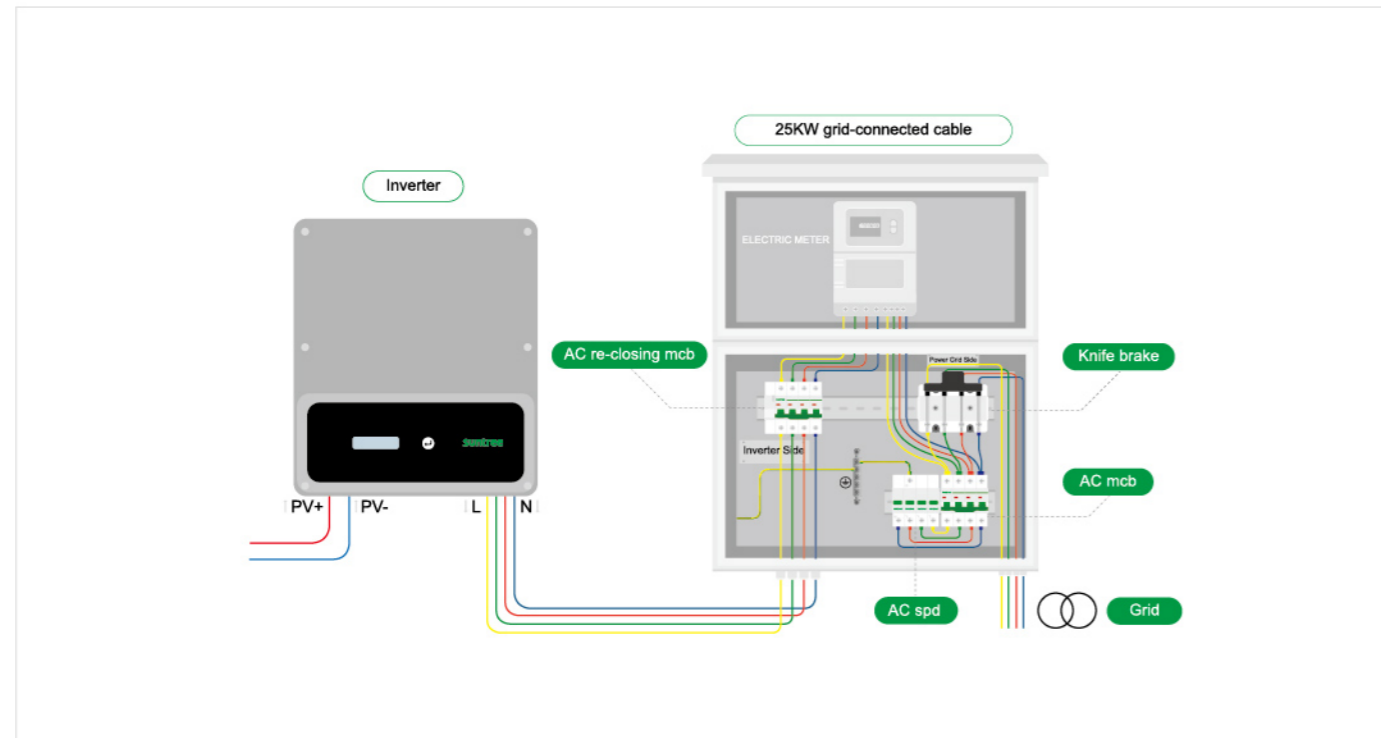
MODEL AND SIGNIFICANCE



DIMENSIONS (MM)



WIRING REFERENCE

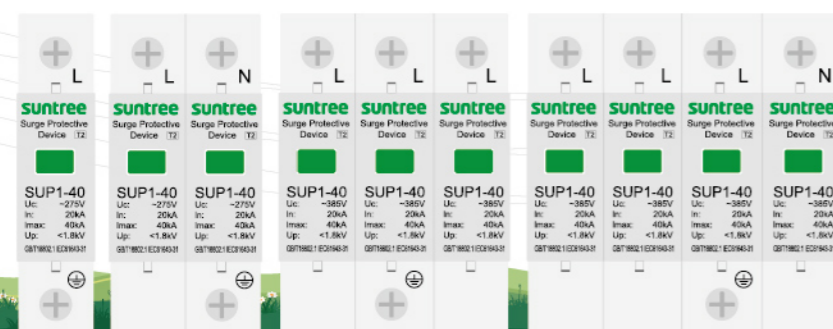


ELECTRICAL TECHNICAL REFERENCE

Technical Parameters	SUP1 D.C.B					
Protection Level B,C,D Grade	D.C.B					
Rated Operating Voltage Un(V~)	380V /220V					
Maximum Continuous Operating Voltage Uc(V~)	275V	320V	385V	385V	385V	420V
Voltage Protection Level Up(V~)kV	≤1.0	≤1.2	≤1.8	≤2.0	≤2.2	≤2.8
Nominal Discharge Current In(8/20s)kA	5	10	20	30	40	60
Maximum Discharge Current Imax(8/20s)kA	10	20	40	60	80	100
Response Time (ns)	<25					
Test Standard	IEC61643.1,GB18802.1					
Operating Environment (centigrade)	-40°C~+85°C					
Max Connection Line	35mm ² hard wire/ 35mm ² strand wire copper line					
Recommended Connection Line	16mm ² hard wire/ 25mm ² strand wire					
Installation	copper line					
Material of Outer Covering	Standard Rail 35mm Burning-proof Nylon					

INSTALLATION PRECAUTIONS

- Voltage: The voltage continuously applied between the SPD terminals does not exceed the maximum continuous working voltage U_c . The altitude should not exceed 2000m
- Ambient air chlorine temperature: normal range $-5^{\circ}\text{C}\sim+40^{\circ}\text{C}$, extreme range $-40^{\circ}\text{C}\sim+70^{\circ}\text{C}$.
- Relative humidity: should be between 30% and 90% at room temperature
- The SPD adopts 35mm standard guide rail to install the product in the distribution cabinet or box of the distribution box.
- There should be no obvious shock and vibration at the installation place
- SPD is connected by copper wire, and its cross-sectional area is: soft wire 2.5~16mm²; hard wire 2.5~25mm². The connecting line should be as short as possible, and the total length should be less than 0.5m
- Neutral wire adopts light blue wire/ground wire adopts green and yellow (two-color) wire, and the cross-sectional area is 16mm²





SMALL VOLUME AND LARGE CURRENT, SAVING INSTALLATION SPACE

The rated current 63A miniature circuit breaker is only 18mm wide, saving 30% space.



STRONG ENVIRONMENTAL ADAPTABILITY AND RELIABLE OPERATION IN EXTREME ENVIRONMENT

-5C~40 C ambient temperature application range, to meet the application needs of various occasions.



MORE RELIABLE PERFORMANCE

Temperature rise ≤55K, breaking capacity up to 6ka electrical life ≥4000 times.



LIGHTER OPERATION

63A product has lighter operation force and is easy to operate



CONTACT INDICATION WINDOW WITH CLEAR POSITION

The whole series of contact positions are visualized to avoid misoperation and more reliable use.

AC CIRCUIT BREAKER

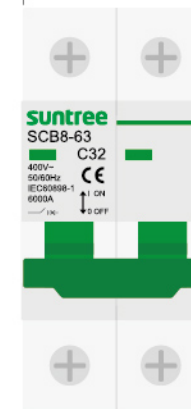
SCB8-63 miniature circuit breaker is a current limiting circuit breaker with overload and short circuit protection, it is applicable for overload and short circuit protection in industrial and commercial lighting distribution systems of AC50/60Hz, single-pole voltage up to and including 230V, and two, three and four-pole voltage up to and including 400V, it also can be used for infrequent on and off conversion of lines in normal circumstances.

It accordance with IEC60898-1, GB/T109631 standard.

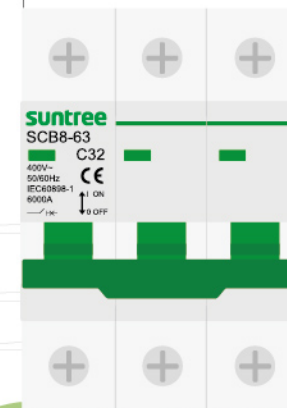
SCB8-63/1P



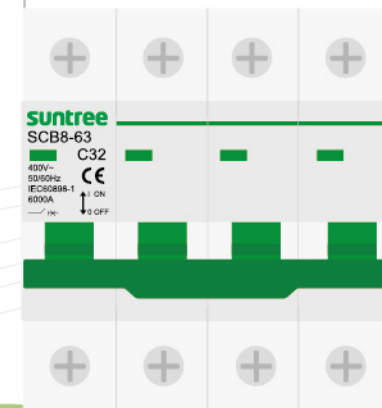
SCB8-63/2P



SCB8-63/3P



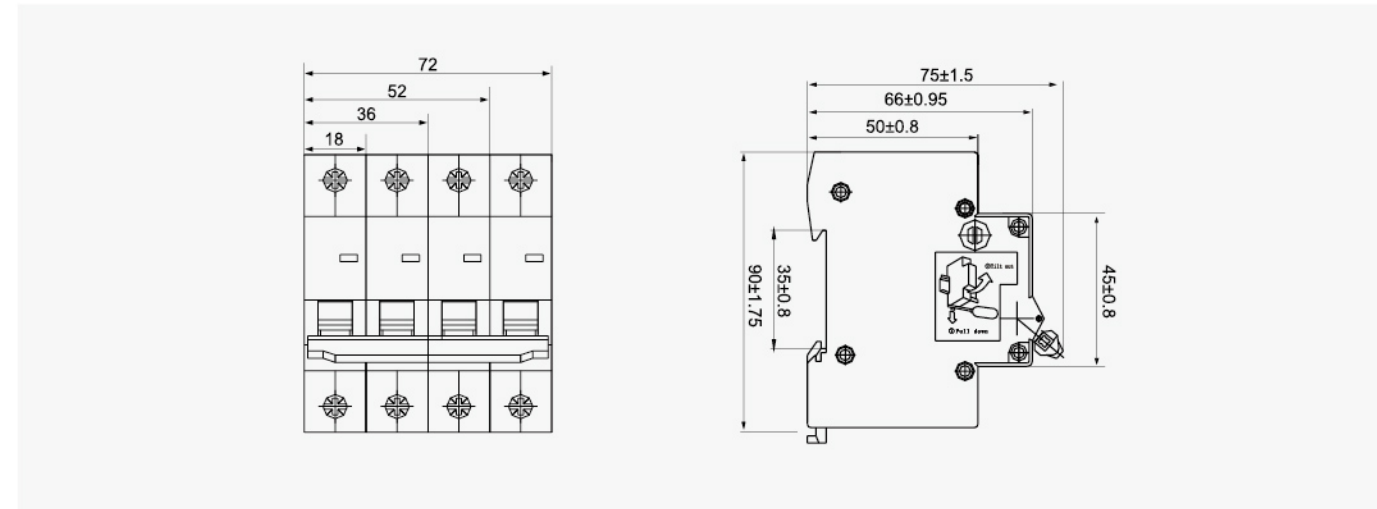
SCB8-63/4P



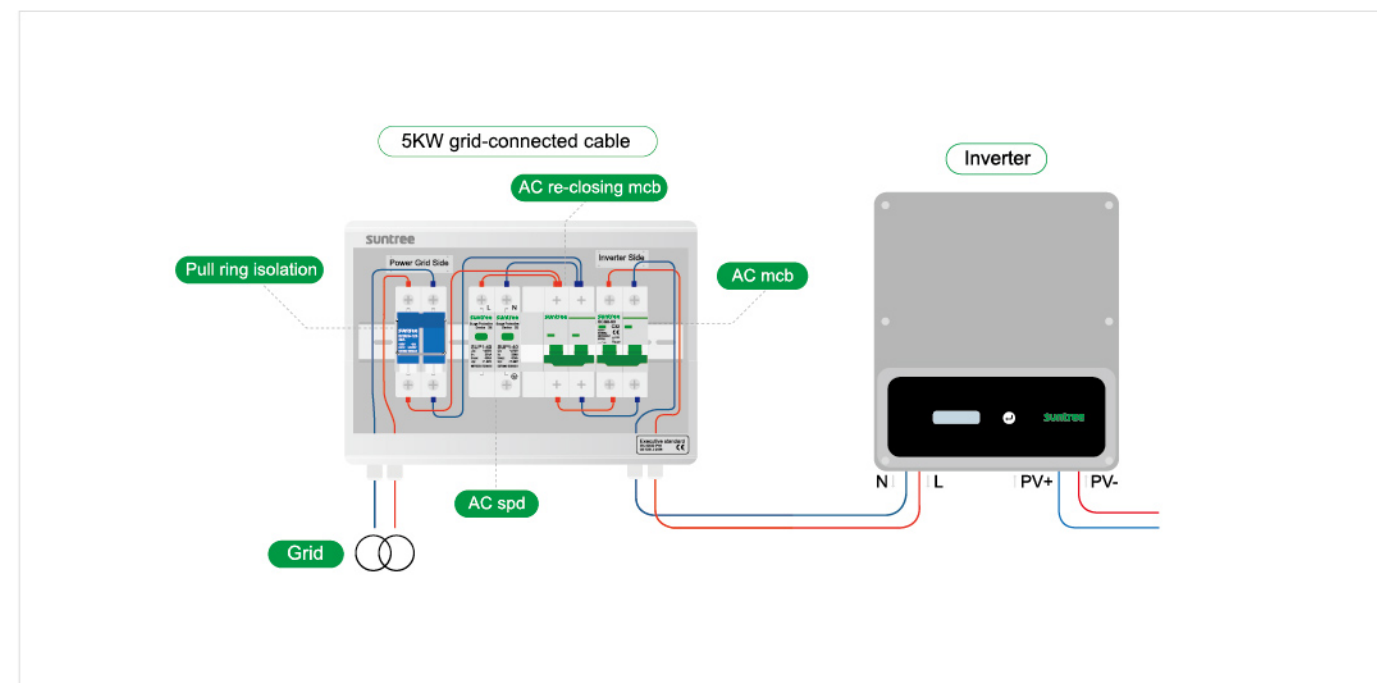
MODEL AND SIGNIFICANCE



DIMENSIONS (MM)



WIRING REFERENCE



ELECTRICAL TECHNICAL REFERENCE

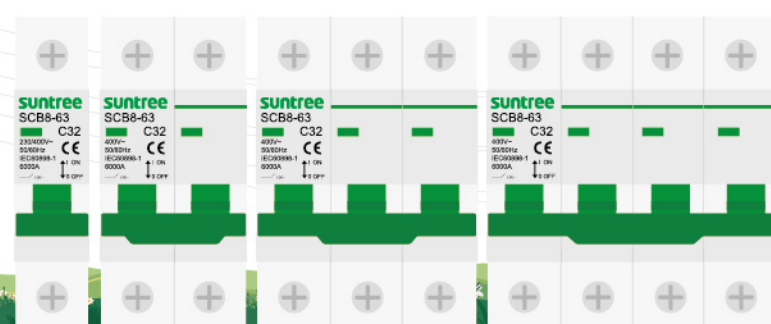
Product Model	SCB8-63	
Pole (P)	1P, 2P	3P, 4P
Rated current (A)	6, 10, 16, 20, 25, 32, 40, 50, 63A	
Rated voltage (V)	AC230/240	AC400
Segmental force(A)	6000	
Instantaneous trip type	B, C, D	
Instantaneous protection current range	3In<I≤5In, 5In<I≤10In, 10In<I≤20In	

WIRE CROSS-SECTIONAL AREA

Rated current (A)	1, 2, 3, 4, 5, 6	10	16, 20	25	32	40, 50	63
Wire cross-sectional area mm ²	1	1.5	2.5	4	6	10	16
Wiring Tightening Torque N. m	Both the power supply end and the negative teaching end are 2.0-2.3						

INSTALLATION PRECAUTIONS

- Ambient air temperature not higher than + 30°C, not lower than - 5°C, 24 hour average not exceeding + 35°C
- The altitude of the installation site shall not exceed 2000m
- The relative humidity of the atmosphere does not exceed 50% at the highest ambient temperature+30°C, and can have a higher relative humidity at lower temperatures, such as 90% at 20°C. Condensation, protective measures should be taken, such as installing a protective cover.
- The installation position should be vertical, and the inclination in each direction should not exceed 10°
- Installed in a place where there is no shock and vibration and no rain and snow
- Pollution level: Level 2
- Installation category: II or III
- Protection class: IP20 (installed in distribution box, distribution cabinet or box IP40)



PV

Meet the requirements of PV grid-connected box and improve the scope of application of the product.

50 °C

Low temperature rise, no derating at 50 °C

20%

Small size, 20% smaller than other manufacturers, and reduced installation size.



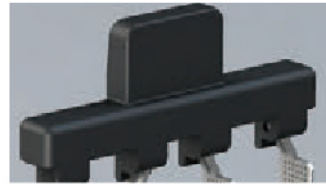
Enables wiring without removing the top cover and increases productivity.



Stainless steel double spring clamps are used to improve reliability in use.



Adopt flame retardant DMC high strength resin.



The handle's anti-touch design reduces the exposure of the copper piece.

KNIFE SWITCH

HD11N series knife switch, suitable for AC 50Hz 400/500/690V, rated service current up to 200A, for PV grid-connected box and other complete sets of power distribution equipment, as a power and load isolation switch, and with visual contact position and disconnection point, to ensure the circuit and equipment maintenance and operator safety use.



HD11N-200/4P




HD11N-125/4P

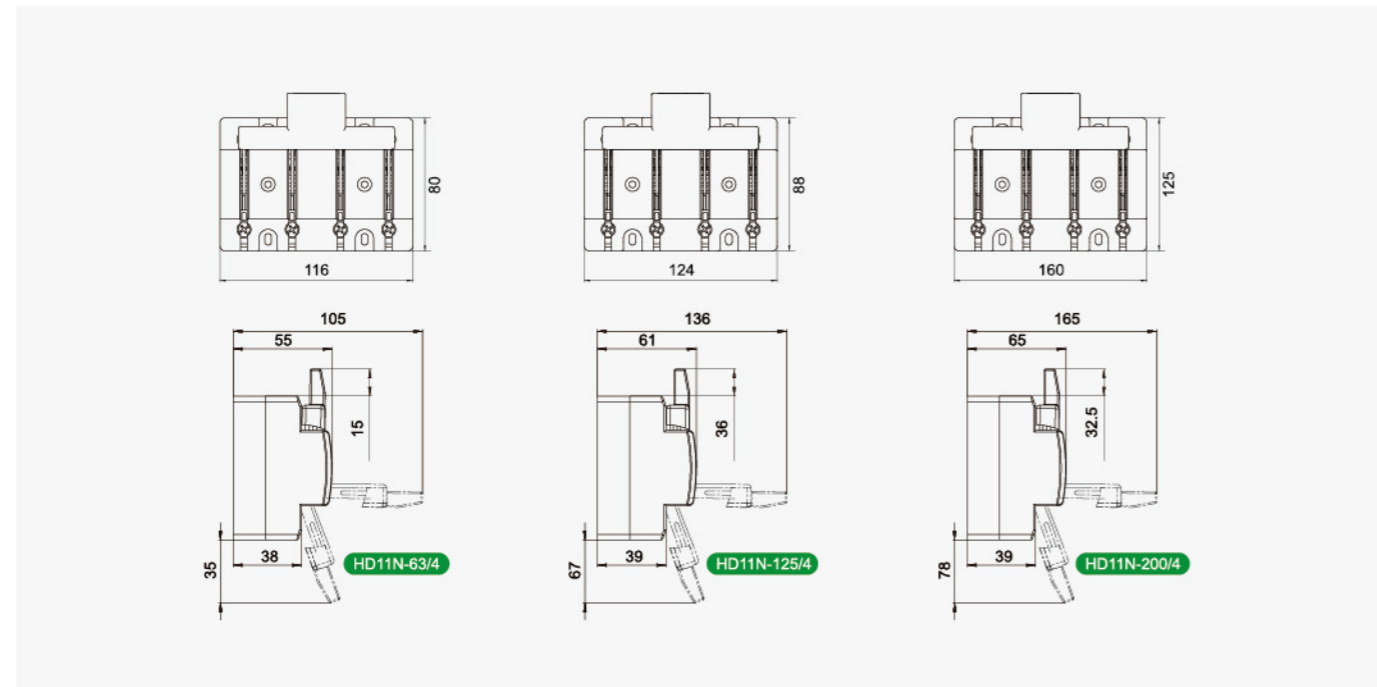


HD11N-63/4P

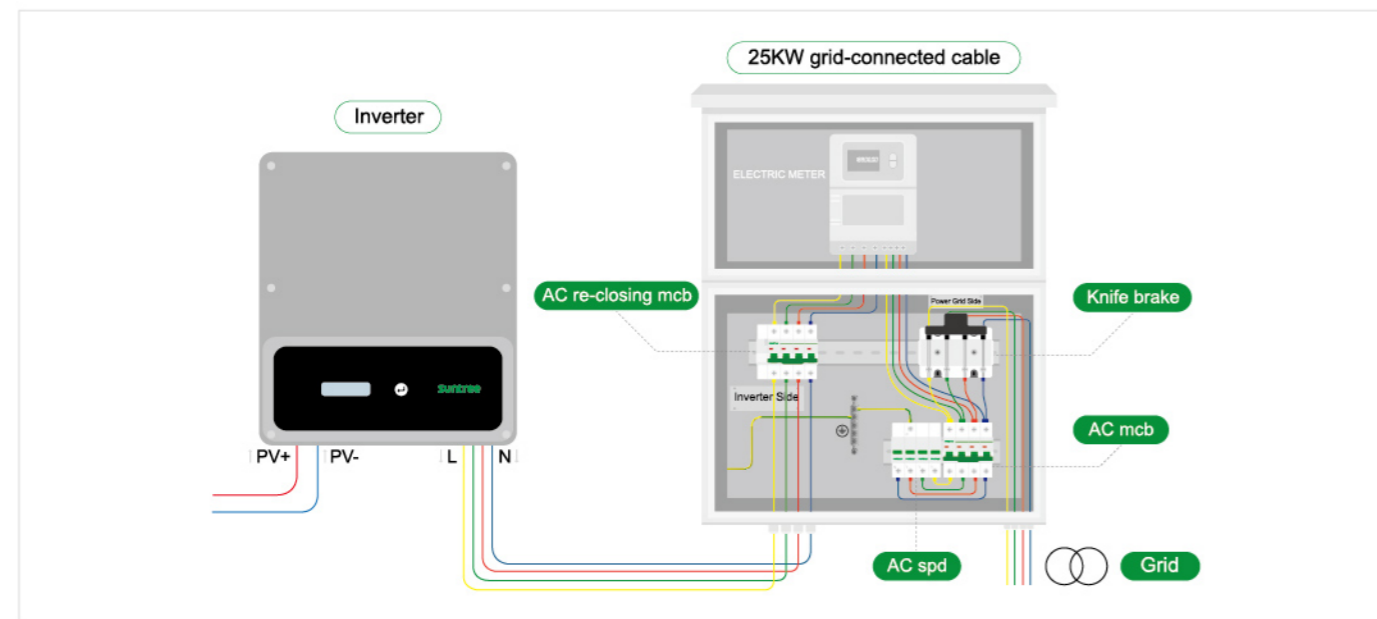
MODEL AND SIGNIFICANCE

HD	11	N	200	
Class group code: "HD" knife switch	Design code: Central handle type	Derivation code: New type	Rated frame current: 63/125/200	Number of poles: 3 and 4 are used to indicate 3P and 4P

DIMENSIONS (MM)



WIRING REFERENCE



ELECTRICAL TECHNICAL REFERENCE

Conventional thermal current Ith(A)	63	125	200
Rated service current (Ie) (A)	16A, 20A, 25A, 32A, 40A, 50A, 63A	16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A, 125A	80A, 100A, 125A, 160A, 200A
Rated service voltage Ue(V)	400V/500V/690V	400V/500V/690V	400V/500V/690V
Rated insulation voltage Ui (V)	800	1000	1000
Rated impulse withstand voltage (KV)	6	8	8
1S short time withstand current (KA)	1.26	3	5
Utilization category	AC-20A	AC-20B	AC-20B
Rated duty	Long term service	Long term service	Long term service

TEMPERATURE RISES OF TERMINAL

Rated current	2m wire cross-sectional area mm ²	Temperature rises of terminals
50	10	<35
63	16	<45

Rated current	2m wire cross-sectional area mm ²	Temperature rises of terminals
100	35	<35
125	50	<45

Rated current	2m wire cross-sectional area mm ²	Temperature rises of terminals
160	70	<35
200	95	<45





This product passed EC authorized Lab IP66 waterproof testing. Also our company will take simulation tests irregularly, similar to customer's using environment, to make sure this product completely conforms to IP66 protection grade

SCOPE OF APPLICATION

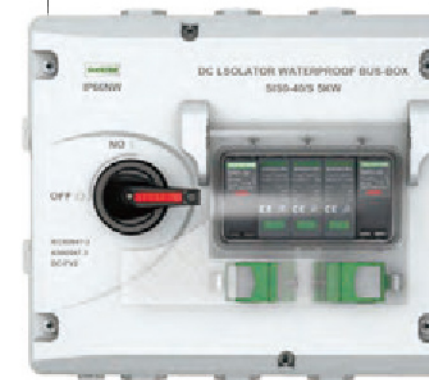
When closed, the handle is just placed on the upper end of the transparent cover, which limits the flip of the transparent cover, and the padlock hole is designed on the handle to add a padlock, so as to ensure the personal safety of users (Only break off the load first, and then slit the switch effectively cut off" the DC isolator to open the transparent open cover and the components and switches in the transparent cover). Clear marks are provided at the opening and closing locations for easy operator

- IP Rating: IP66
- Rated short-time withstand current: $I_{cw}=1.0kA(1S)$
- Waterproof box resistance strength grade: IK10
- Rated short circuit capacity: $I_{cm}=1.7kA$
- Rated Voltage: $U_e=DC1200V$
- Rated short circuit current: $I_{cn}=3kA$
- Rated insulation voltage: $U_i=DC1500V$
- Mechanical life: 10000 times
- Rated current: $I_n=16A$ 、 $I_n=25A$ 、 $I_n=32A$ 、 $I_n=40A$
- Overvoltage Category: III
- Rated working current: $I_e=6A$... $e=55A$
- Utilization Category: DC-PV1/DC-PV2(DC-21B)
- Rated impulse withstand voltage: $U_{imp}=8kV$

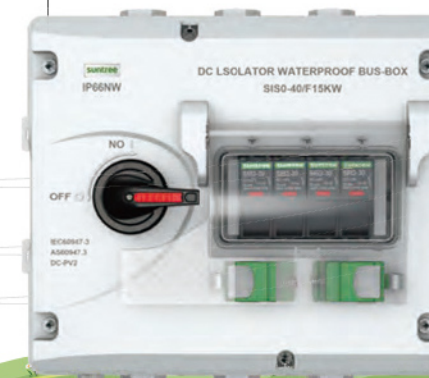
DC ISOLATING SWITCH WATERPROOF BUS-BOX

SISO-40/F, SISO-40/M, SISO-40/MF, SISO-40/S DC isolating switch waterproof bus-box is suitable for photovoltaic system. The rated voltage U_e : DC1500V, The rated current I_e : 40A and below, as the wiring device in the system, it has the function of confluence to ensure the orderly connection of photovoltaic modules. The confluence box can confluence the photovoltaic series electric energy, and then form a complete photovoltaic and wind power generation system through the controller and inverter, so as to realize the grid connection it can also application in off-grid, energy storage system and maintenance function. It can match DC circuit breaker, fuse, surge protector, MC4 connector, M25 waterproof connector and photovoltaic cable connector. (IP66) protection performance, with super waterproof, dustproof, anti-corrosion, anti-ultraviolet and other characteristics, It can perfectly meet the needs of safe electricity consumption in the harsh outdoor environment such as rain, dust, freezing and strong ultraviolet rays. This Product are widely used in smelting, chemical, electric power, electronics, airports, railways, construction sites, mines, quarries, water supply and drainage treatment plants, automobile manufacturing and port, wharf, shopping malls, hotels etc.

SISO-40/S 5KW



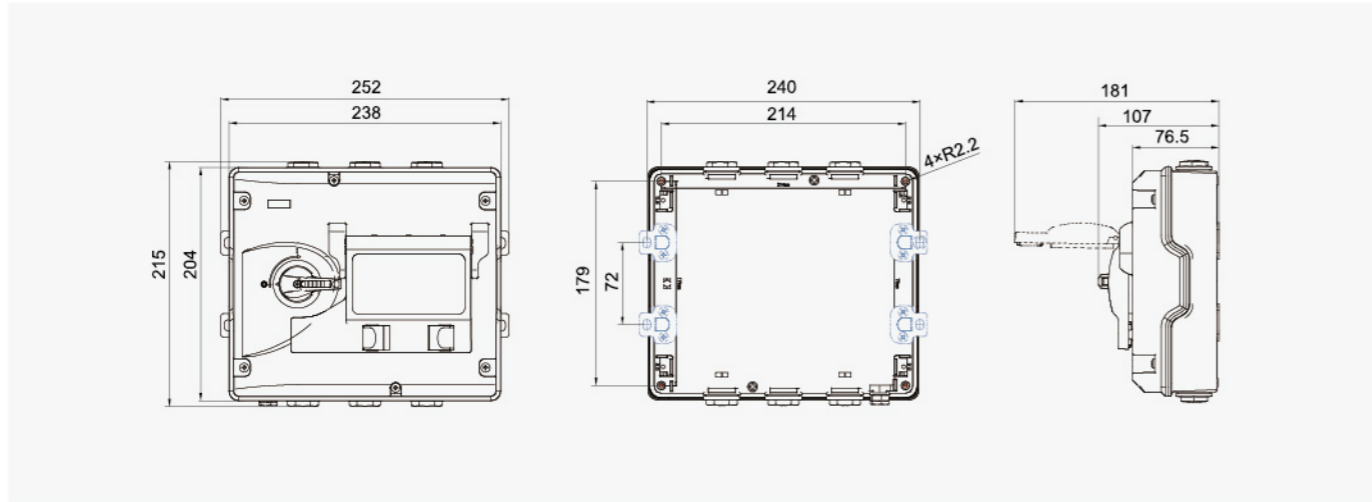
SISO-40/F 15KW



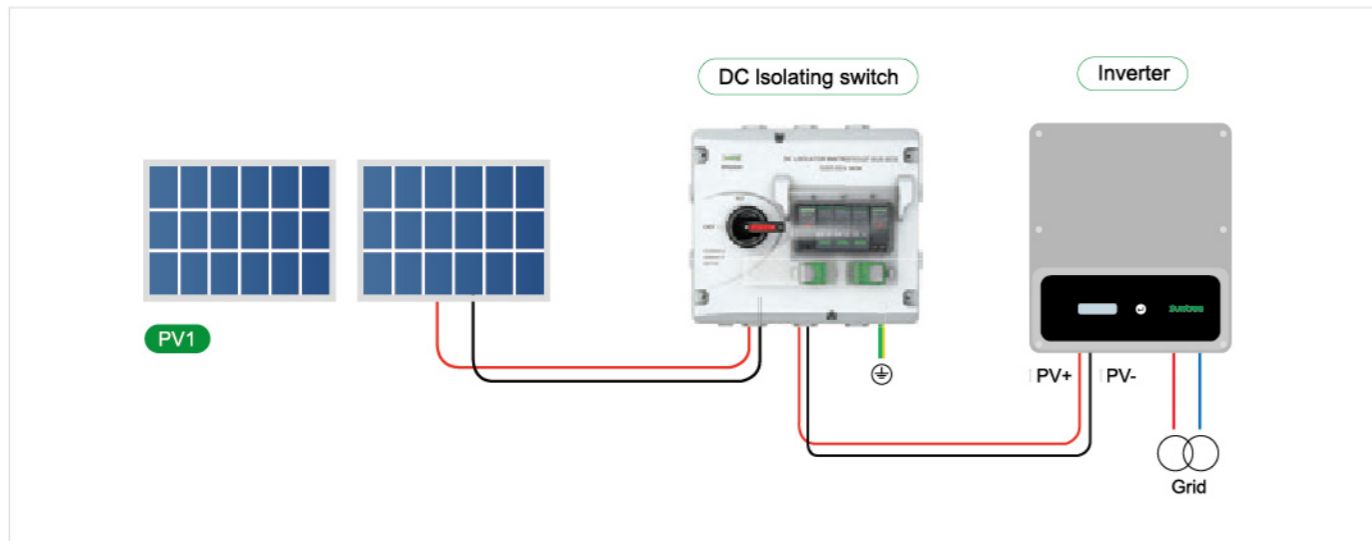
MODEL AND SIGNIFICANCE



DIMENSIONS (MM)



WIRING DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

DC Isolating Switch Waterproof Bus-box Model	SISO-40/F	SISO-40/M	SISO-40/S	SISO-40/MF	Customised
Waterproof Box Material	PC/Polycarbonate				
Waterproof Protection Grade	IP66				
Waterproof Box Resistance Strength Grade	IK10				
Pole/String	5				
Size of Photovoltaic Cable connection	4mm ² -6mm ²				
Match Power Generation System Capacity	2				
Installation	Vertical installation				

DC ISOLATING SWITCH/DC DISCONNECTOR

Voltage	Ue=DC1200v Ue=DC1000v and below
Current	Ie=6A.....Ie=55A
Pole	4P
String	1-2
Certification	CE CB SAA TUV

DC SURGE PROTECTOR

Voltage	Ue=DC1500v Ue=DC1200v Ue=DC1000V and below
Maximum instantaneous discharge current	In=20KA/40KA
Pole	2P 3P
Certification	CE TUV

DC CIRCUIT BREAKER

Voltage	Ue=DC1200v Ue=DC1000V and below
Current	In=6A In=10A In=16A In=20A In=25A In=32A In=40A In=50A In=63A
Pole	1P 2P 3P 4P
Auxiliary	Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF
Certification	CE CB TUV SAA

DC FUSE

Voltage	Ue=DC1100v
Current	In=1A In=3A In=5A In=6A In=10A In=16A In=20A In=25A In=30A
Specification	10*38mm
Certification	CB CE TUV





This product passed EC authorized Lab IP65 waterproof testing. Also our company will take simulation tests regularly, similar to customer's using environment, to make sure this product completely conforms to IP66 protection grade

MODEL AND SIGNIFICANCE



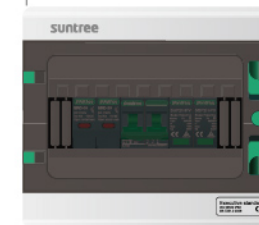
PRODUCT ADVANTAGES

- High reliability With DC FUSE
With DC Surge Protection Device
With DC circuit breaker or DC load isolation switch.
- Strong adaptability
IP65 design, waterproof, anti dust and anti ultraviolet. Strict test for high and low temperature, used widely.
The simple installation, the simplified system wiring, the convenient wiring.
The box body is made of cold rolled steel and other metal materials.
- Flexible configuration
Used for single crystal silicon solar modules, polycrystalline silicon solar modules, thin film solar modules.
Current rating of the photovoltaic fuse, circuit breaker, load isolation switch is modified.

DC COMBINER BOX

SHLX-PV series combiner box is suitable for inverter MAX input voltage DC600VDC1000V, Box body is made of PVC engineering materials, with test for fire retardant, temperature rise, ant impact, anti ultraviolet, and other testing. IP65 protection grade.

SHLX-PV1/1
DC 600V



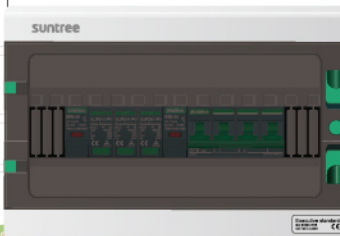
SHLX-PV2/2
DC 600V



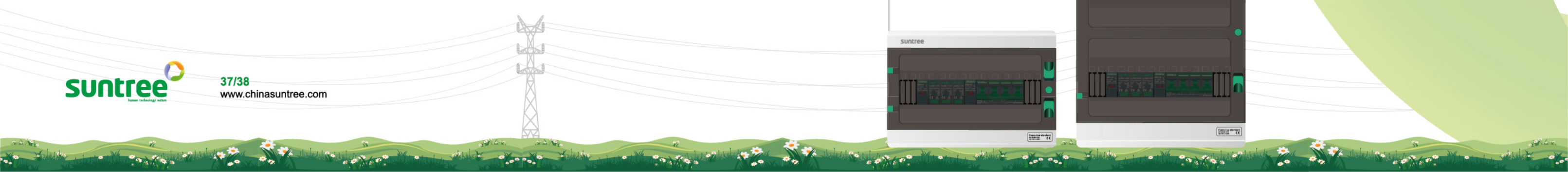
SHLX-PV2/2
DC 1000V



SHLX-PV1/1
DC 1000V



37/38
www.chinasuntree.com



DC COMBINER BOX SHLX-PV1/1

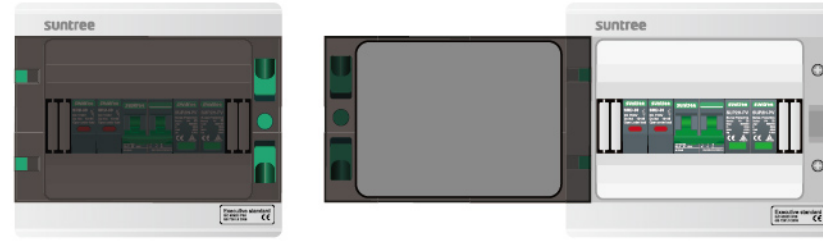
Product configuration in the box

DC 550V

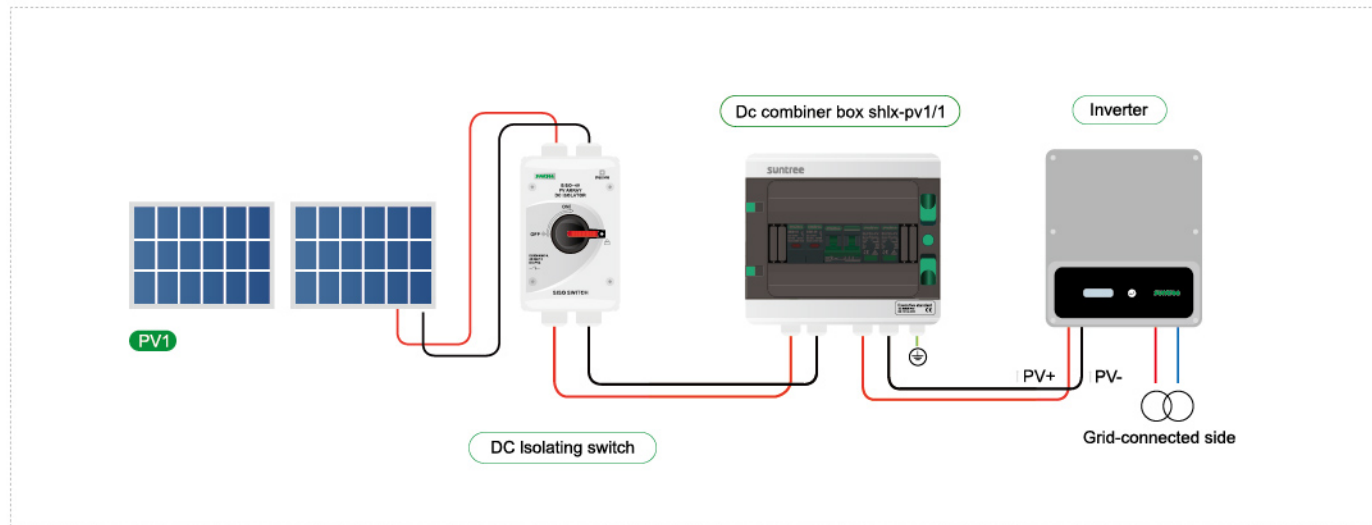
- DC fuse 1100V×2
- DC circuit breaker 550V×1
- DC surge protector 500V×1

DC 1000V

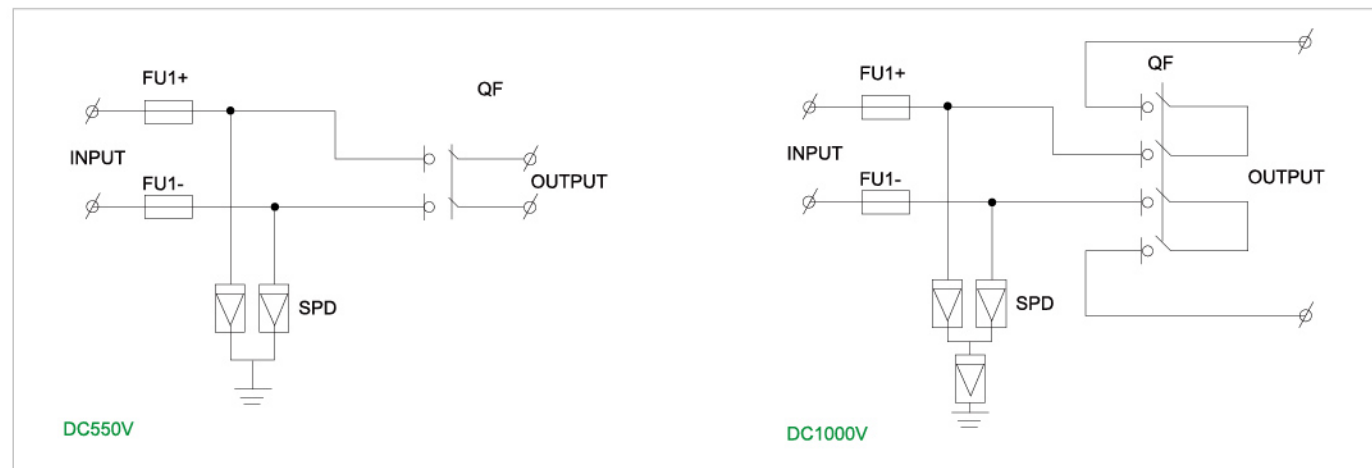
- DC fuse 1100V×2
- DC circuit breaker 1000V×1
- DC surge protector 1000V×1



WIRING DIAGRAM



SCHEMATIC DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

SHLX-PV1/1

System maximum dc voltage	DC 550V	DC 1000V
Maximum input current for each string	20A	
Maximum input strings	1	
Maximum output switch current	16A/20A	
Number of inverter MPPT	1	
Number of Output strings	1	

DC SURGE PROTECTOR

Voltage	DC 500V	DC 1000V
Maximum instantaneous discharge current	In=20KA/40KA	
Pole	2P	3P
Certification	CE TUV	

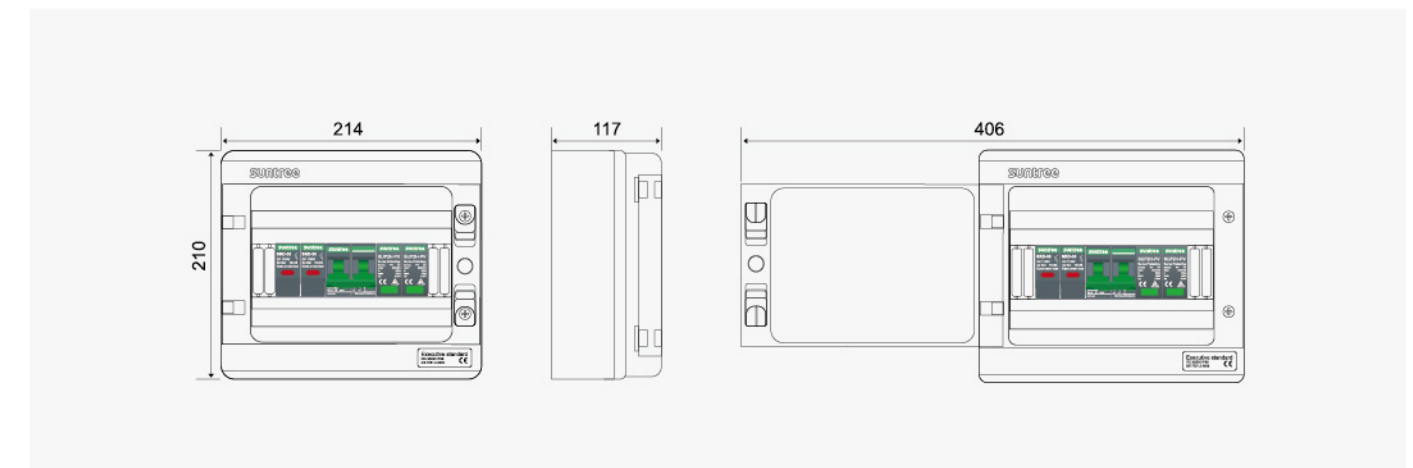
DC CIRCUIT BREAKER

Voltage	DC 550V	DC 1000V
Current	20A	
Pole	2P	4P
Auxiliary(option)	Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF	
Certification	CE CB TUV SAA	

DC FUSE

Voltage	Ue=DC1100v
Current	20A
Specification	10*38mm
Certification	CB CE TUV

DIMENSIONS (MM)



DC COMBINER BOX SHLX-PV2/1

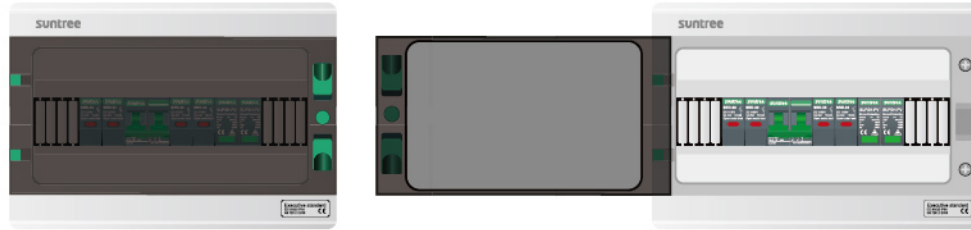
Product configuration in the box

DC 550V

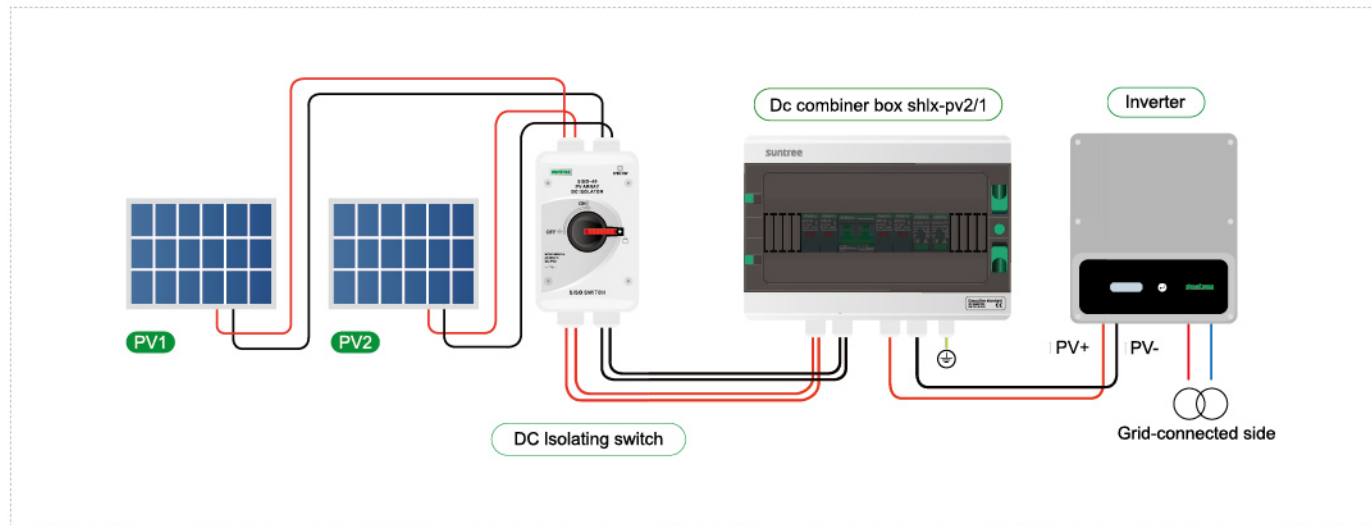
- DC fuse 1100V×4
- DC circuit breaker 550V×1
- DC surge protector 500V×1

DC 1000V

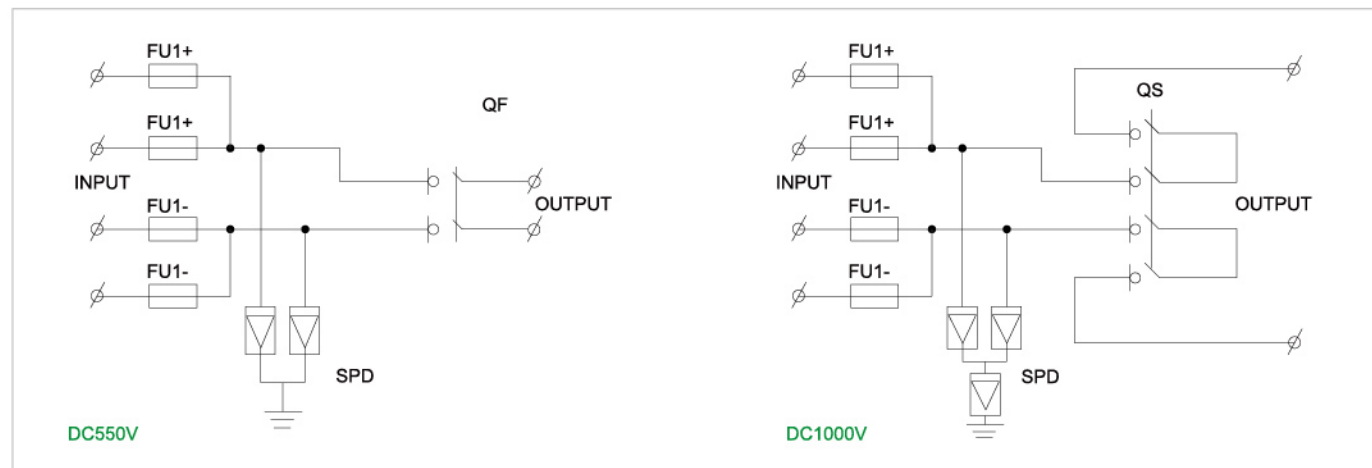
- DC fuse 1100V×4
- DC circuit breaker 1000V×1
- DC surge protector 1000V×1



WIRING DIAGRAM



SCHEMATIC DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

SHLX-PV2/1

System maximum dc voltage	DC 550V	DC 1000V
Maximum input current for each string		20A
Maximum input strings		2
Maximum output switch current		32A
Number of inverter MPPT		1
Number of Output strings		1

DC SURGE PROTECTOR

Voltage	DC 500V	DC 1000V
Maximum instantaneous discharge current		In=20KA/40KA
Pole	2P	3P
Certification		CE TUV

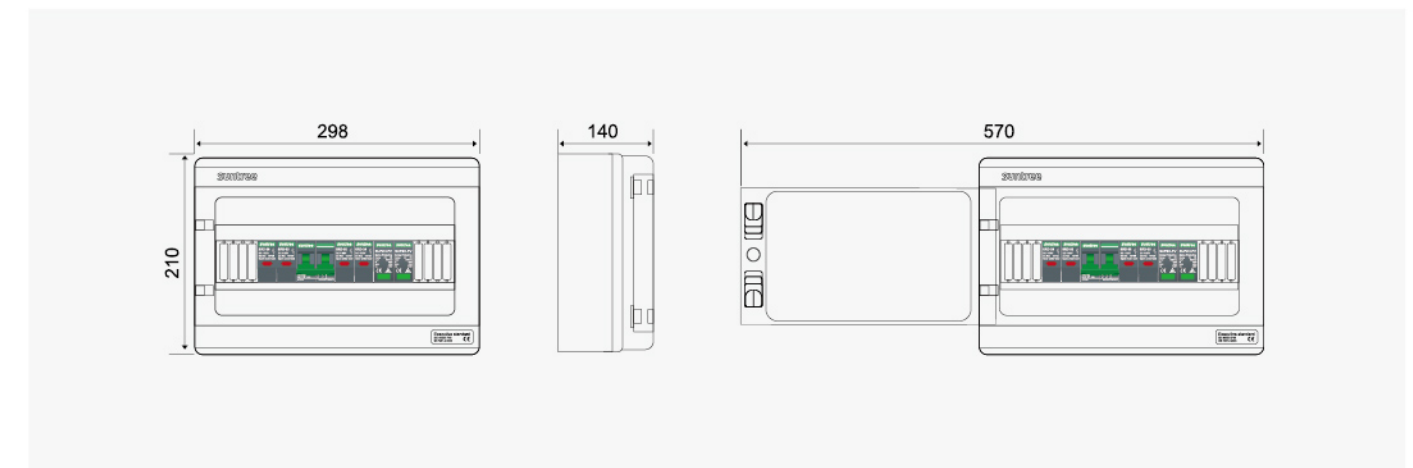
DC CIRCUIT BREAKER

Voltage	DC 550V	DC 1000V
Current		32A
Pole	2P	4P
Auxiliary(option)		Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF
Certification		CE CB TUV SAA

DC FUSE

Voltage	Ue=DC1100v
Current	20A
Specification	10*38mm
Certification	CB CE TUV

DIMENSIONS (MM)



DC COMBINER BOX SHLX-PV2/2

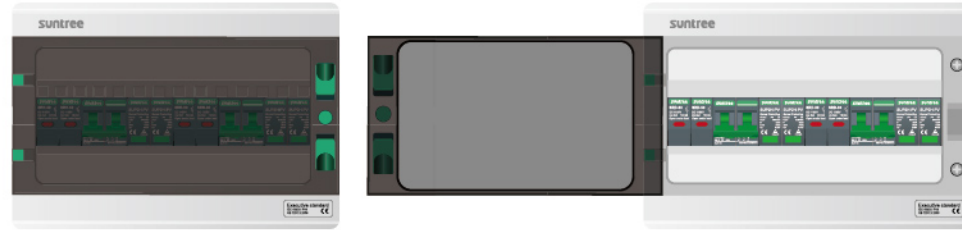
Product configuration in the box

DC 550V

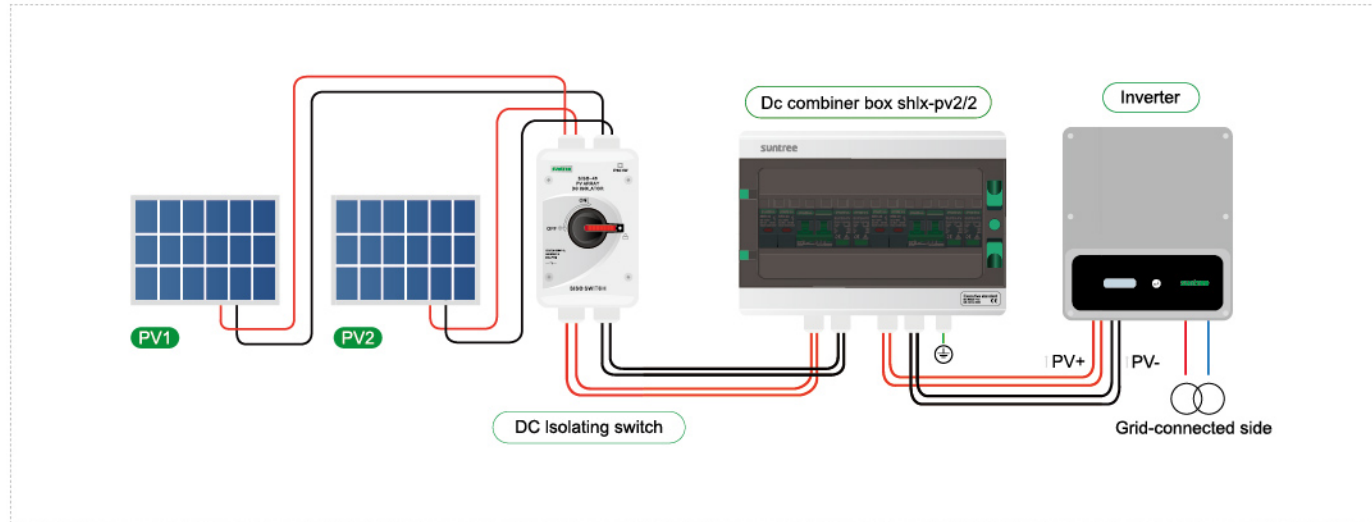
- DC fuse 1100V×4
- DC circuit breaker 550V×2
- DC surge protector 500V×2

DC 1000V

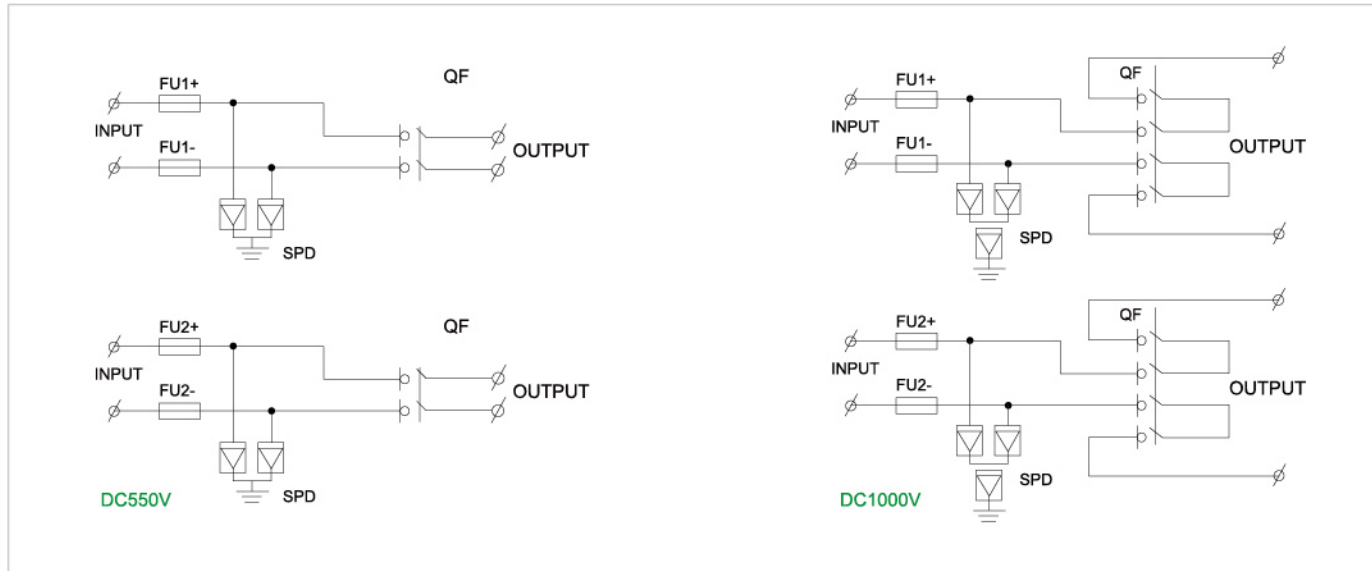
- DC fuse 1100V×4
- DC circuit breaker 1000V×2
- DC surge protector 1000V×2



WIRING DIAGRAM



SCHEMATIC DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

SHLX-PV2/2

System maximum dc voltage	DC 550V	DC 1000V
Maximum input current for each string		20A
Maximum input strings		2
Maximum output switch current		32A
Number of inverter MPPT		1/2
Number of Output strings		2

DC SURGE PROTECTOR

Voltage	DC 500V	DC 1000V
Maximum instantaneous discharge current		In=20KA/40KA
Pole	2P	3P
Certification	CE TUV	

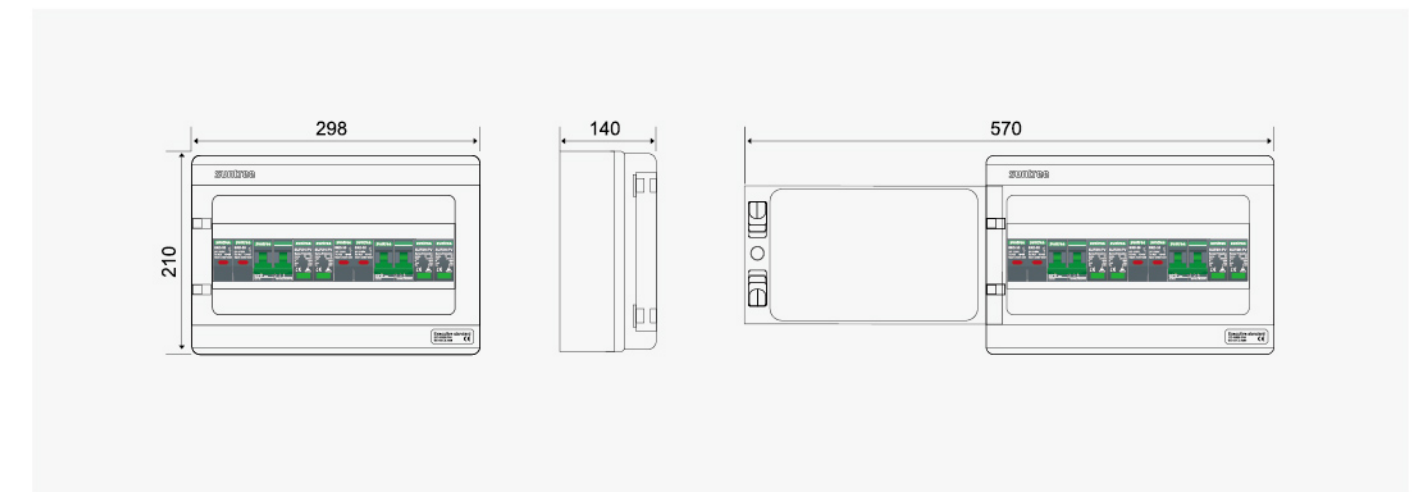
DC CIRCUIT BREAKER

Voltage	DC 550V	DC 1000V
Current		20A
Pole	2P	4P
Auxiliary(option)	Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF	
Certification	CE CB TUV SAA	

DC FUSE

Voltage	Ue=DC1100v
Current	20A
Specification	10*38mm
Certification	CB CE TUV

DIMENSIONS (MM)



DC COMBINER BOX SHLX-PV3/1

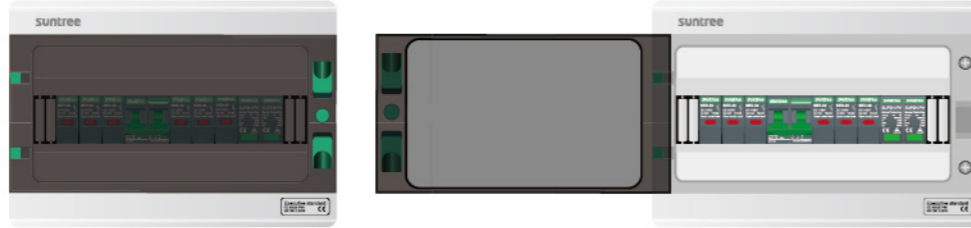
Product configuration in the box

DC 550V

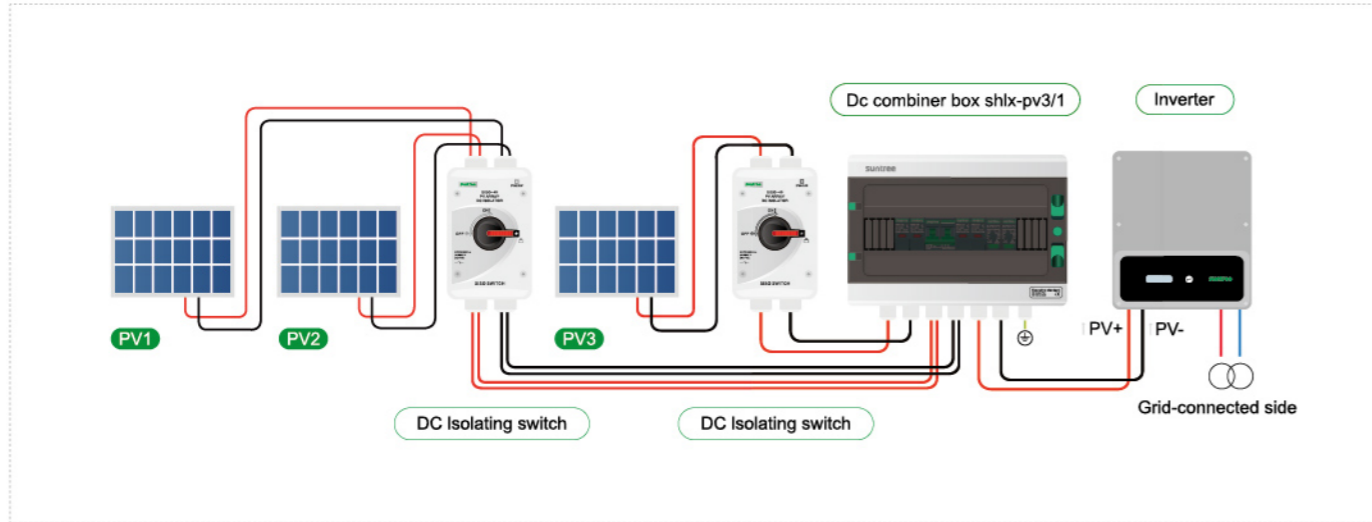
- DC fuse 1100V×6
- DC circuit breaker 550V×1
- DC surge protector 500V×1

DC 1000V

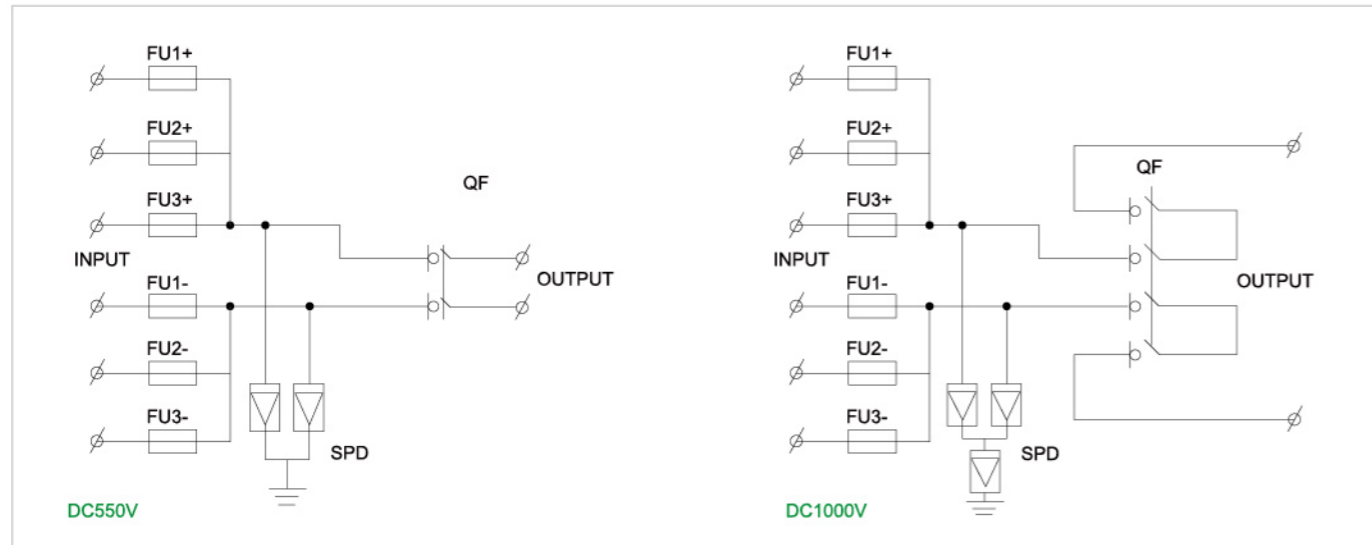
- DC fuse 1100V×6
- DC circuit breaker 1000V×1
- DC surge protector 1000V×1



WIRING DIAGRAM



SCHEMATIC DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

SHLX-PV3/1

System maximum dc voltage	DC 550V	DC 1000V
Maximum input current for each string		20A
Maximum input strings		3
Maximum output switch current		50A
Number of inverter MPPT		1
Number of Output strings		1

DC SURGE PROTECTOR

Voltage	DC 500V	DC 1000V
Maximum instantaneous discharge current		In=20KA/40KA
Pole	2P	3P
Certification	CE TUV	

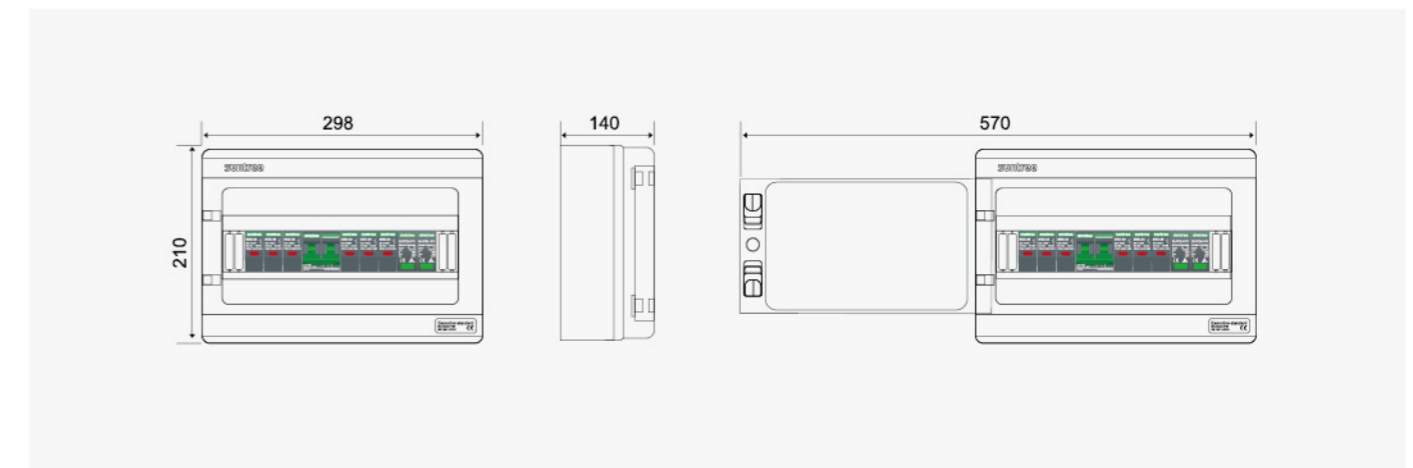
DC CIRCUIT BREAKER

Voltage	DC 550V	DC 1000V
Current		50A
Pole	2P	4P
Auxiliary(option)	Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF	
Certification	CE CB TUV SAA	

DC FUSE

Voltage	Ue=DC1100v
Current	20A
Specification	10*38mm
Certification	CB CE TUV

DIMENSIONS (MM)



DC COMBINER BOX SHLX-PV4/1

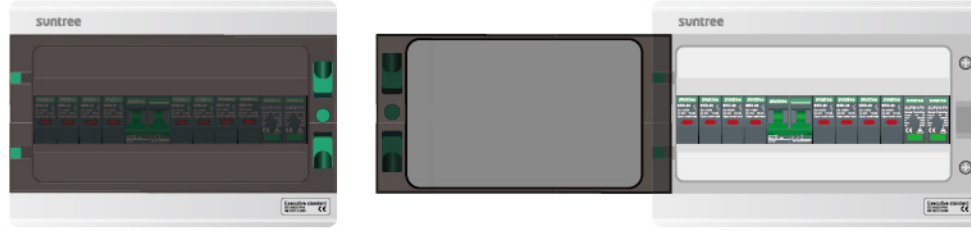
Product configuration in the box

DC 550V

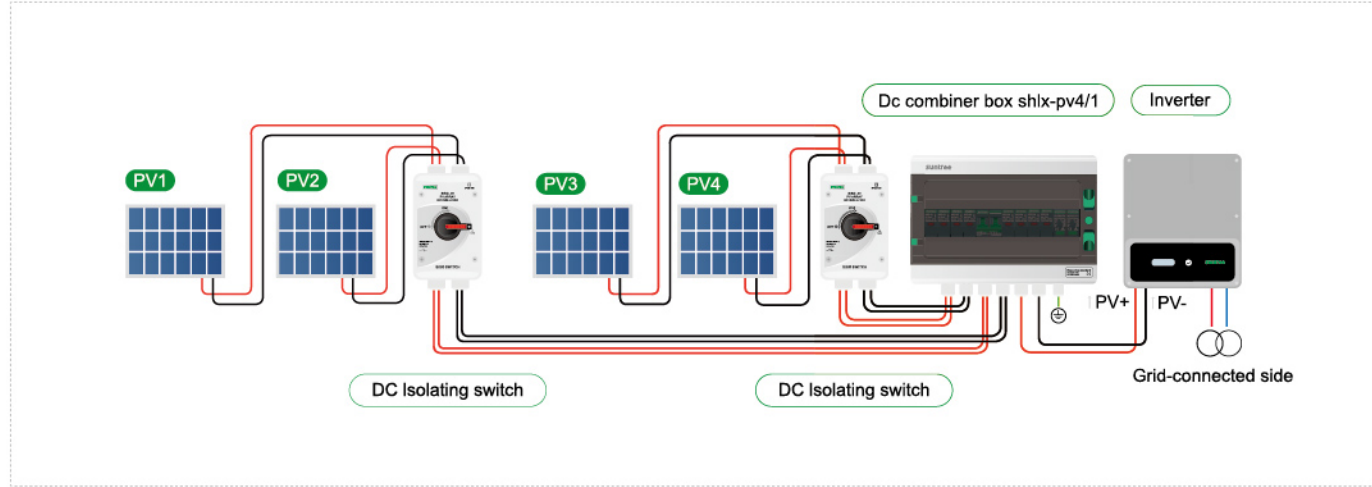
- DC fuse 1100V×8
- DC circuit breaker 550V×1
- DC surge protector 500V×1

DC 1000V

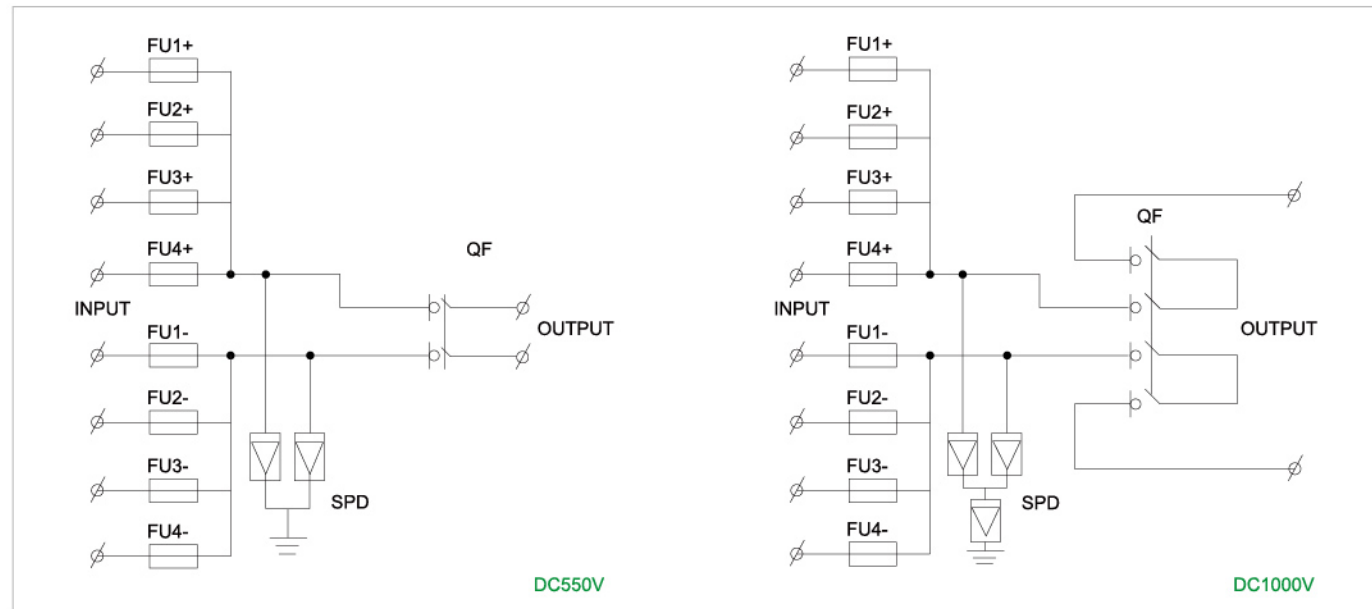
- DC fuse 1100V×8
- DC circuit breaker 1000V×1
- DC surge protector 1000V×1



WIRING DIAGRAM



SCHEMATIC DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

SHLX-PV4/1

System maximum dc voltage	DC 550V	DC 1000V
Maximum input current for each string		20A
Maximum input strings		4
Maximum output switch current		63A
Number of inverter MPPT		1
Number of Output strings		1

DC SURGE PROTECTOR

Voltage	DC 500V	DC 1000V
Maximum instantaneous discharge current		In=20KA/40KA
Pole	2P	3P
Certification	CE TUV	

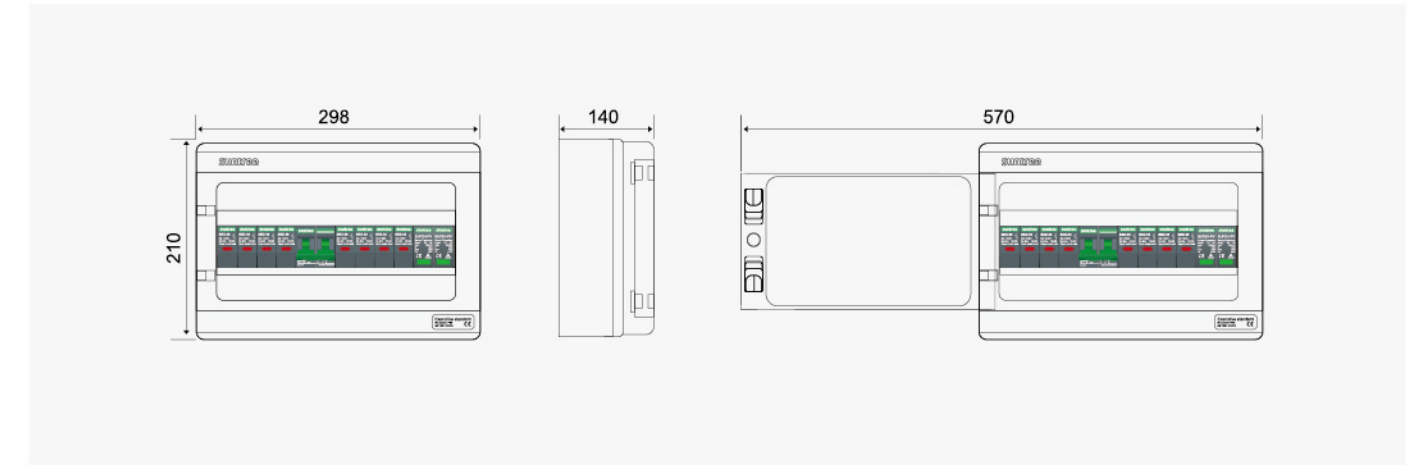
DC CIRCUIT BREAKER

Voltage	DC 550V	DC 1000V
Current		63A
Pole	2P	4P
Auxiliary(option)	Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF	
Certification	CE CB TUV SAA	

DC FUSE

Voltage	Ue=DC1100v
Current	20A
Specification	10*38mm
Certification	CB CE TUV

DIMENSIONS (MM)



DC COMBINER BOX SHLX-PV4/2

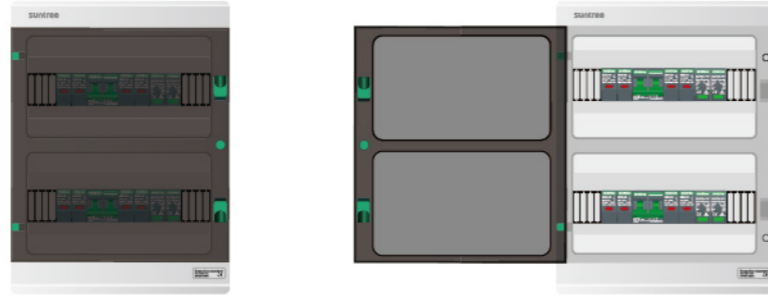
Product configuration in the box

DC 550V

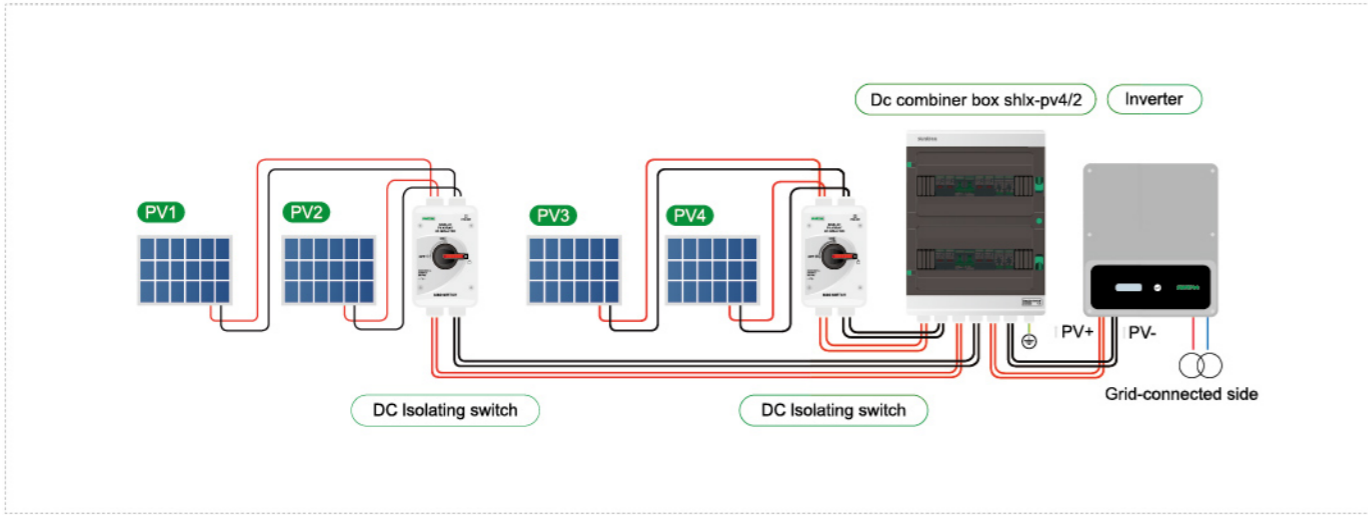
- DC fuse 1100V×8
- DC circuit breaker 550V×2
- DC surge protector 500V×2

DC 1000V

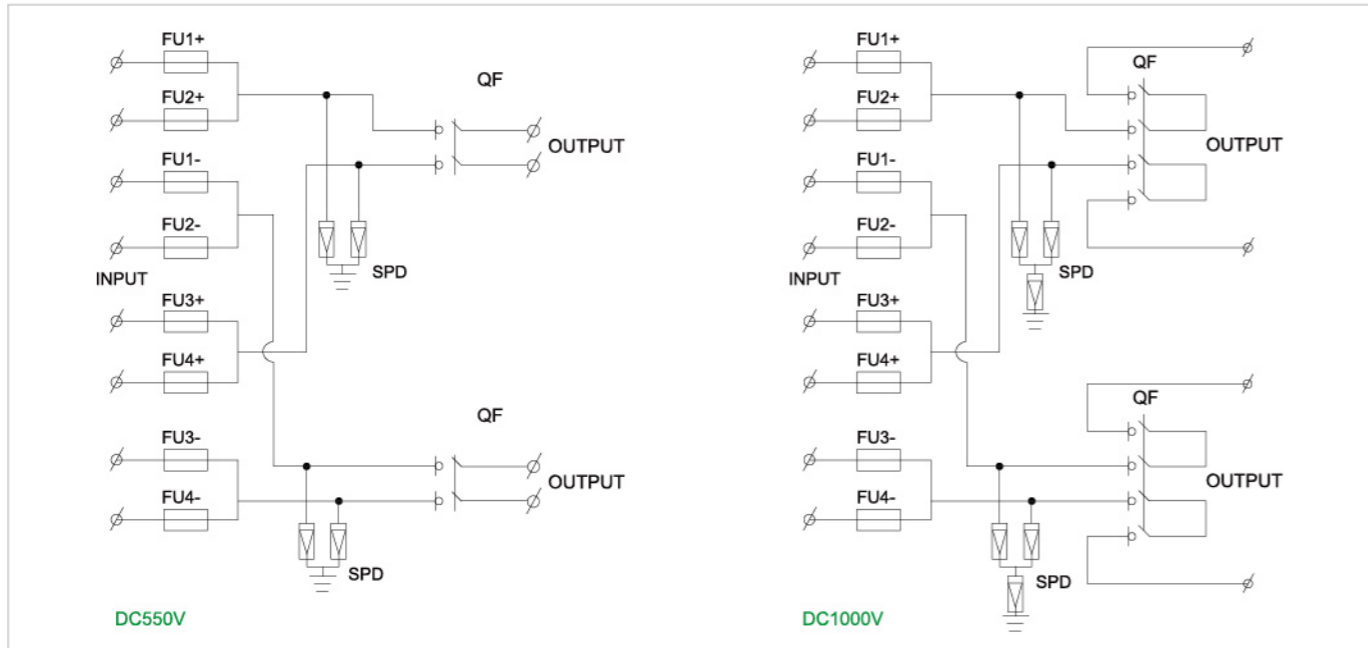
- DC fuse 1100V×8
- DC circuit breaker 1000V×2
- DC surge protector 1000V×2



WIRING DIAGRAM



SCHEMATIC DIAGRAM



ELECTRICAL TECHNICAL REFERENCE

SHLX-PV4/2

System maximum dc voltage	DC 550V	DC 1000V
Maximum input current for each string		20A
Maximum input strings		4
Maximum output switch current		32A
Number of inverter MPPT		2
Number of Output strings		2

DC SURGE PROTECTOR

Voltage	DC 500V	DC 1000V
Maximum instantaneous discharge current		In=20KA/40KA
Pole	2P	3P
Certification	CE TUV	

DC CIRCUIT BREAKER

Voltage	DC 550V	DC 1000V
Current		32A
Pole	2P	4P
Auxiliary(option)	Us:DC12V DC24V DC48V AC230V/415V 1A-2A MX+OF	
Certification	CE CB TUV SAA	

DC FUSE

Voltage	Ue=DC1100v
Current	20A
Specification	10*38mm
Certification	CB CE TUV

DIMENSIONS (MM)

