

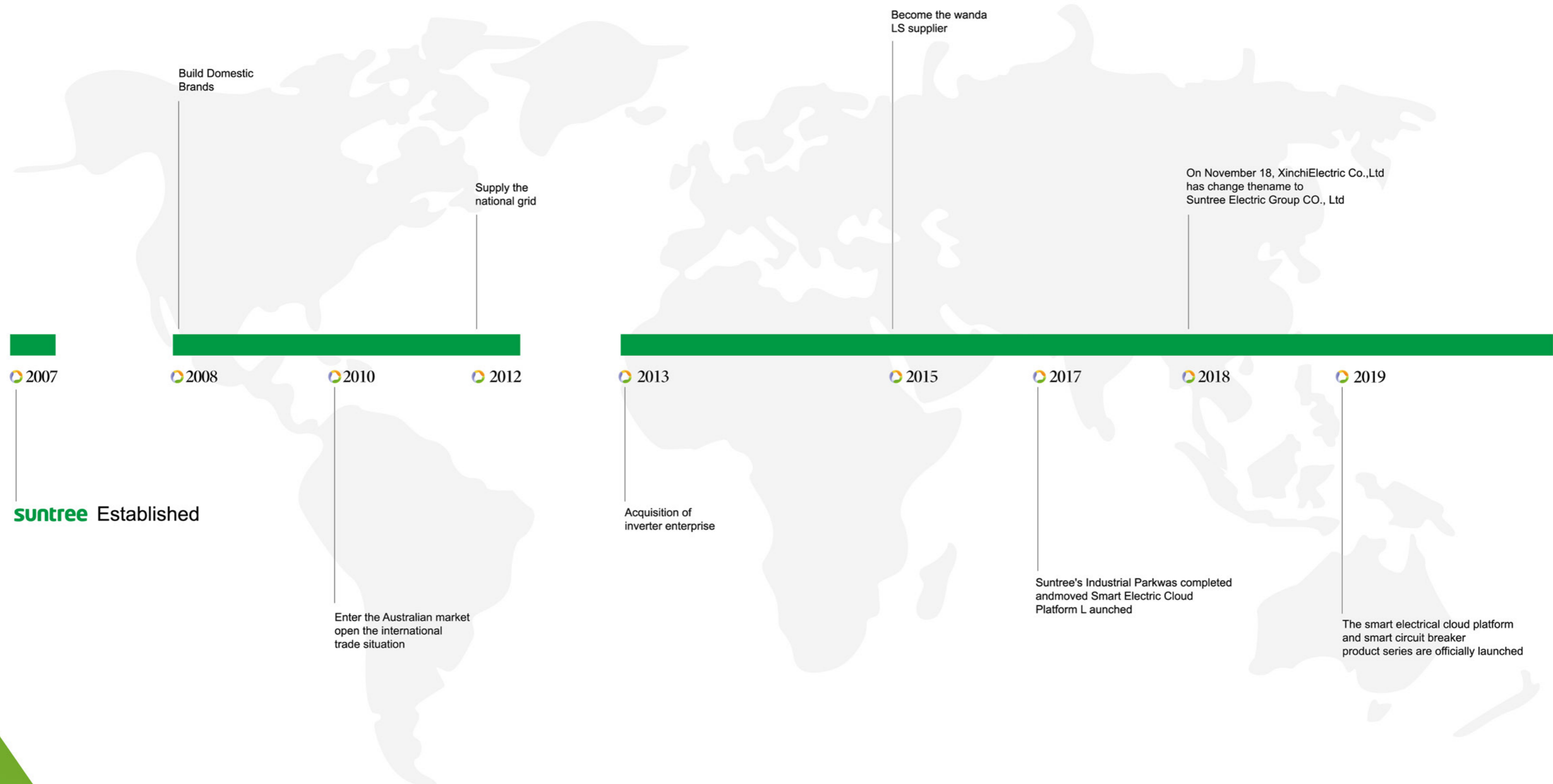
SOLAR ACCESSORIES MANUAL

DC
1500V

BRING THE SAFE ELECTRICITY TO
THE ONES YOU LOVED



Development path



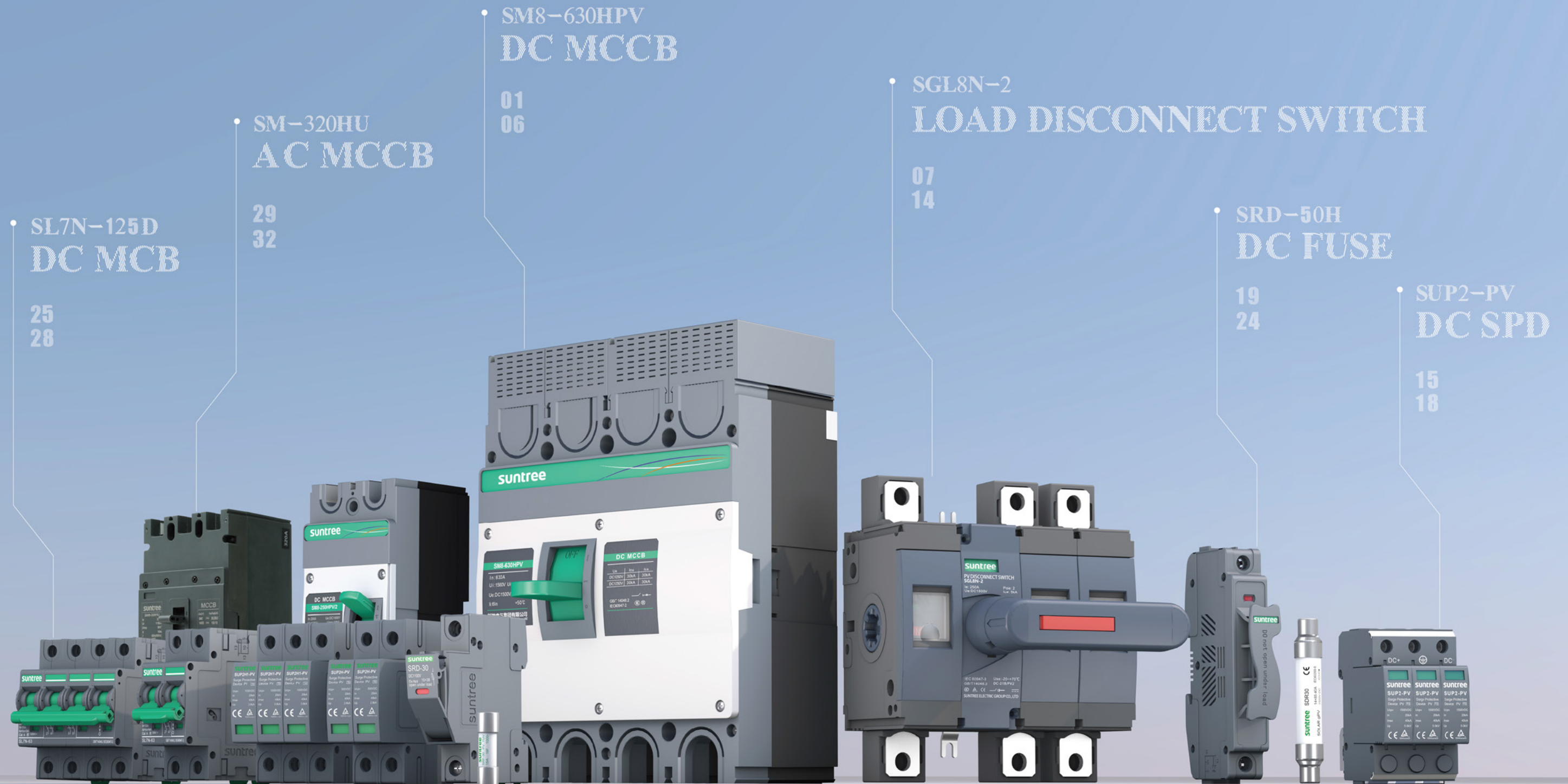
International Certificate





suntree  Suntree 上海新驰 Lit





SL7N-125D
DC MCB

25
28

SM-320HU
AC MCCB

29
32

SM8-630HPV
DC MCCB

01
06

SGL8N-2
LOAD DISCONNECT SWITCH

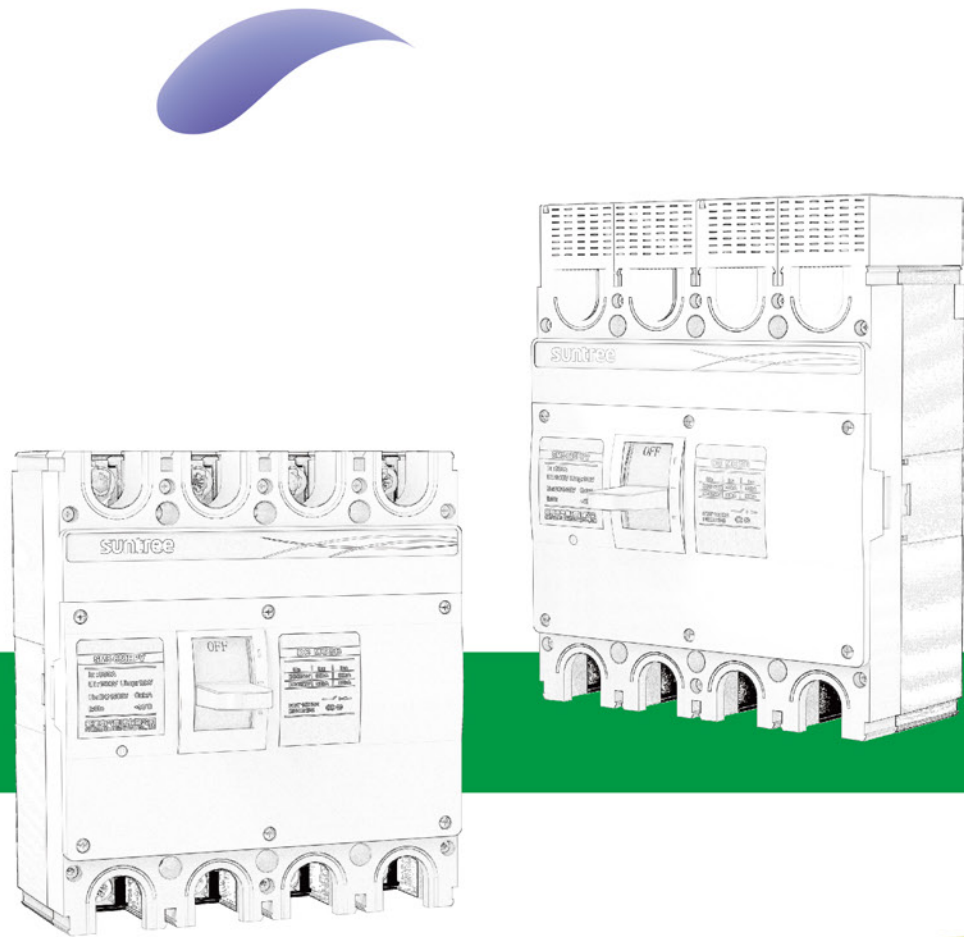
07
14

SRD-50H
DC FUSE

19
24

SUP2-PV
DC SPD

15
18



DC MCCB 1500V



Main function

With overload delay protection, short circuit instantaneous protection, used to distribute electric energy, protect circuit and the power supply equipment from the danger of overload, short circuit etc.

Application

Suitable for circuits below 1500VDC
cabinet/combiner box/photovoltaic system

Model and significance

SM8 - 630 H / PV DC1500V 630
 Product code M C C B case grade:630 Breaking capacity: H(15kA) PV code: DC dedicated Rated working voltage: DC1500V Rated working current: 100/125/160/200/225/250/400/500/630A

Auxiliary contact specifications

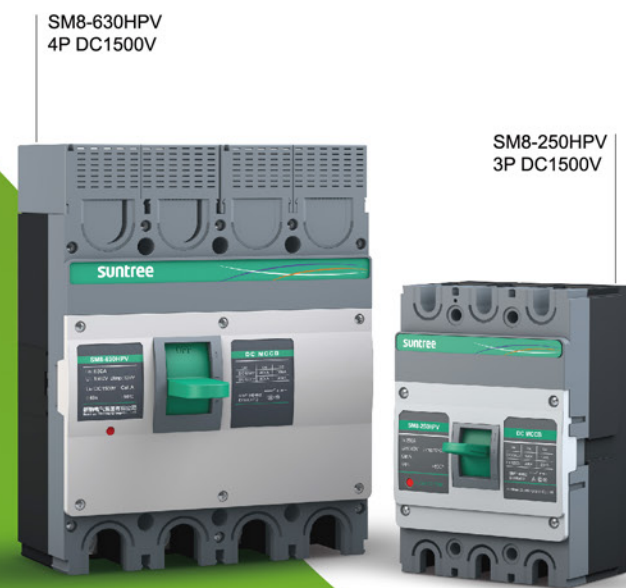
AX - 630PV
 Attachment code Case grade code

Alarm contact specifications:L630PV

AX - 630PV
 Attachment code Case grade code

Shunt release specification

SHT - 630HPV R AC230V
 Attachment code Case grade code Accessory installation location: installation right Control voltage: DC24V/AC230V/AC400V

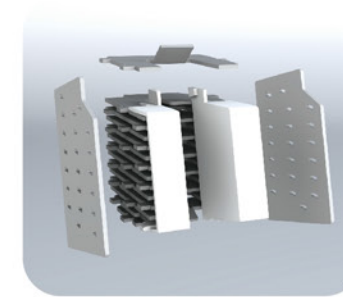


DC MCCB

S M 8 - 6 3 0 H P V

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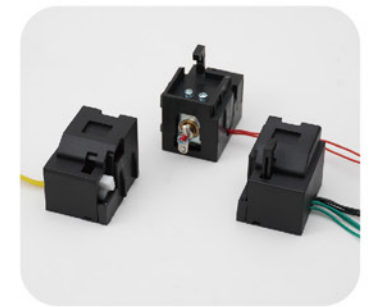
Advantages and certification



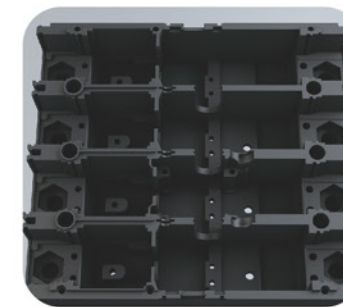
Labyrinth arc extinguisher
Prevent the spread of arcs in current surges



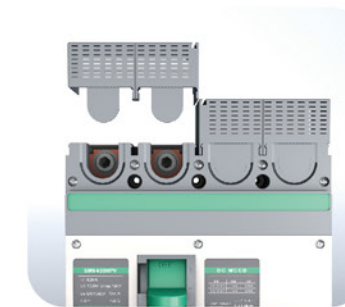
Built-in double row moving contacts
Increase the arc voltage



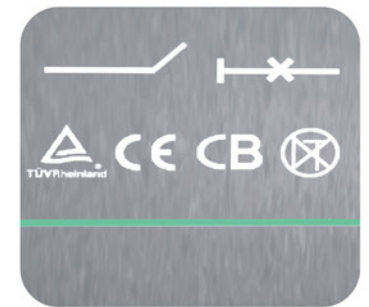
Easy to install accessories
Realize multiple protections (excitation, auxiliary, alarm etc.)



Base is made of DMC material
V0 flame retardant



630A frame size with arc shield
Effectively isolate the external arc



International Certification
TUV, CE, CB

The role of installation accessories



Shunt release installation position (place B)
Communicate the working status information of the circuit breaker



Auxiliary (place A)
Communicate the working status information of the circuit breaker



Alarm (place A)
while problem comes to the line, then the alarm signal will be issued after the trip



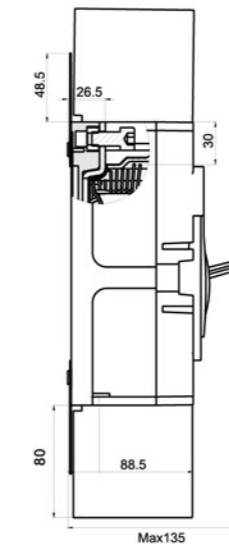
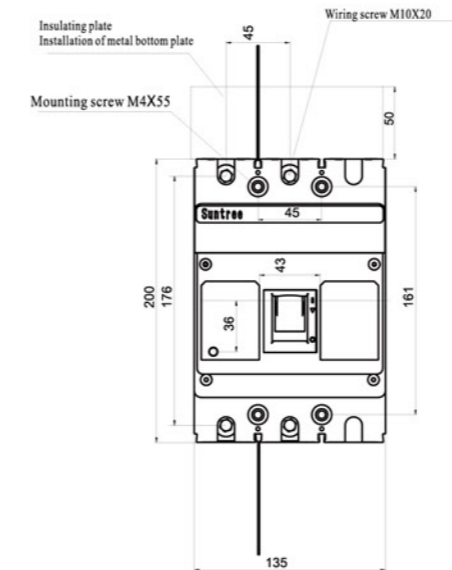
Specifications

Model	SM8-250HPV /3 1500V	SM8-630HPV /4 1500V
Product name	PV DC MCCB	PV DC MCCB
Rated operational voltage	DC1500V	DC1500V
Nominal insulation voltage	1500V	1500V
Rated impulse voltage	12kV	12kV
Pole	3	4
Type of release	Thermal magnetic type (thermal magnetic not adjustable)	
Executive standard	GB14048.2, IEC/EN 60947-2	
Use category	A(PV-1)	
Case grade current	250A	630A
Rated operational current	100/125/160/200/225/250A	400/500/630A
Breaking capacity	H	
Rated ultimate short-circuit breaking capacity	Ue1500v 15kA	Ue1500v 30kA Ue1500v 30kA
Operation breaking capacity	Ue1500v 15kA	Ue1500v 30kA Ue1500v 30kA
Long delay protection	1In	
Instantaneous protection	6In (Min1000A)	
Mechanical life	10000times	
Electrical life	2000times	
Dimensions	135×200 × 86mm	Type H:310×240×155mm Type G:350×240×155mm
Installation method	Fixed	Fixed
Protection level	Wiring port: IP20/all sides: IP40	
Relative humidity	+50°C not more than 95%	
Whether there are wiring polarity requirements	No	
Pollution level	Level 3	
Operating temperature	-40°C -+75°C	
Operation instructions	With ON/OFF indication	
Whether the release is adjustable	No	
Electrical accessories	Optional: shunt/auxiliary/alarm (note: only one set can be installed on the left and right sides of auxiliary, alarm and shunt) 2P only on the left	
Isolation function	yes	

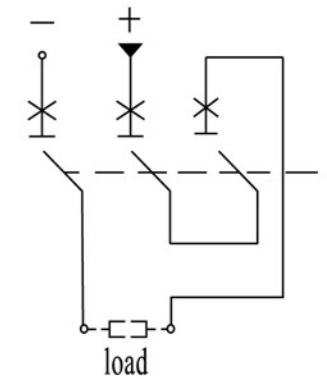
Dimensions and wiring

Shape and installation dimensions

3P Dimension:

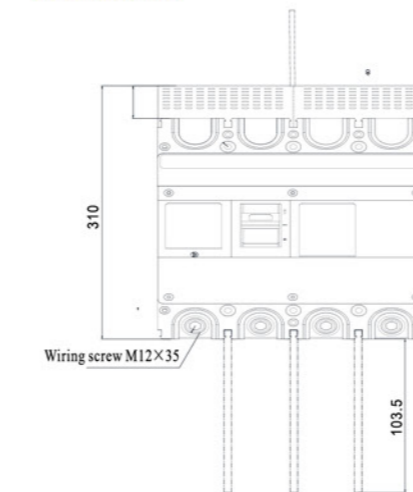


3P Connection mode

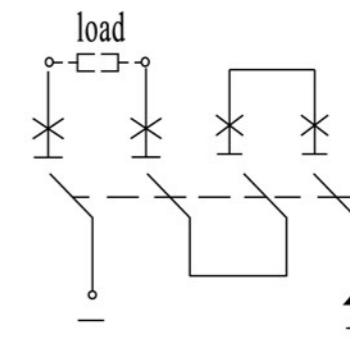


power/load wiring manner

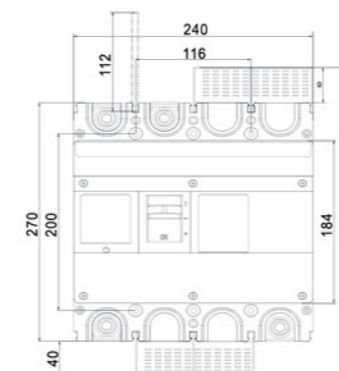
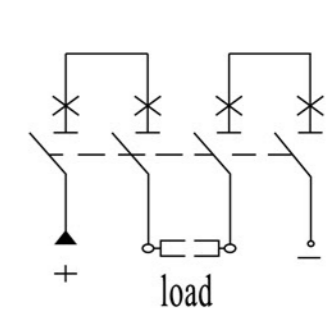
4P Dimension:

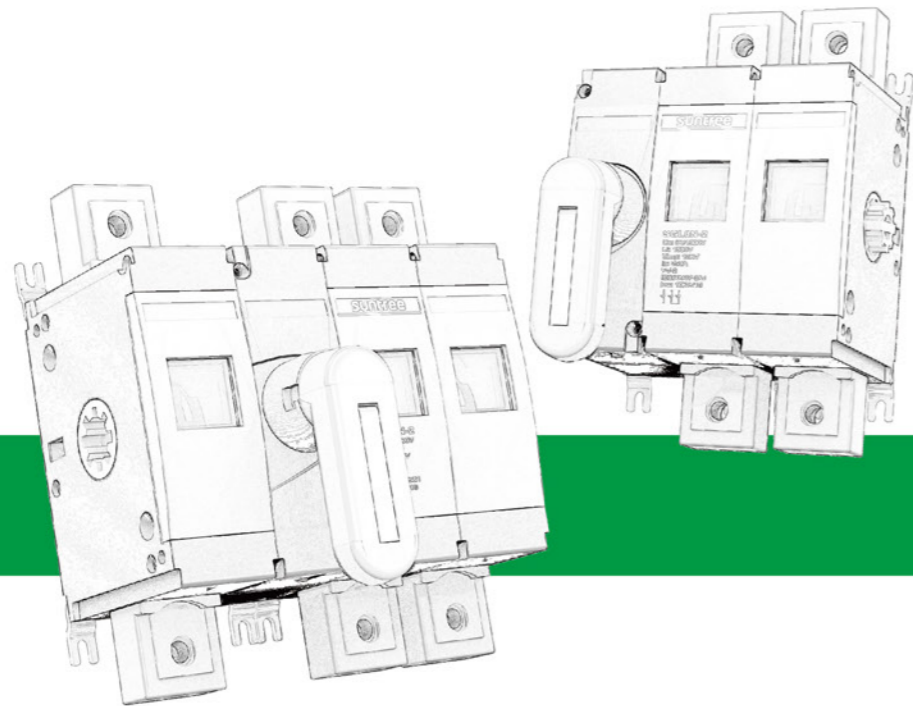


G-type connection mode



H-type connection mode





SGL8N-2 LOAD ISOLATOR SWITCH

1500V



CE

CB

Main function

Mainly for isolation in the circuit

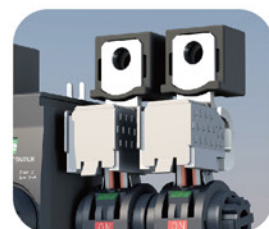
Application

Suitable for circuits below 1500VDC
cabinet/combiner box/photovoltaic system

Model and significance

S Enterprise code	GL Isolating switch serial number	8N Design Number	2 case grade rated current code320A
□ Maximum accommodating flow capacity 40kA	OF1 Auxiliary code None: Without assistance OF1、2、3、4: OF1, 2, 3, 4 groups of auxiliary	DO Handle operation None: inside operation DO:outside operationA/B	

Advantage



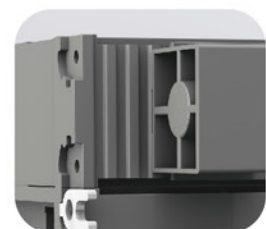
Double magnetic and arc extinguishing chamber

let Power be disconnected in a compact space



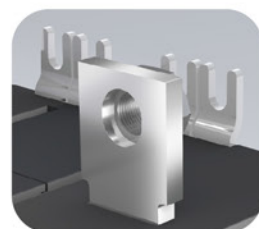
Save installation space and cost

From 4P to 2P
Wiring nuts are provided for the full series



Groove structure

Increase creepage distance
Reduce the risk of current leakage

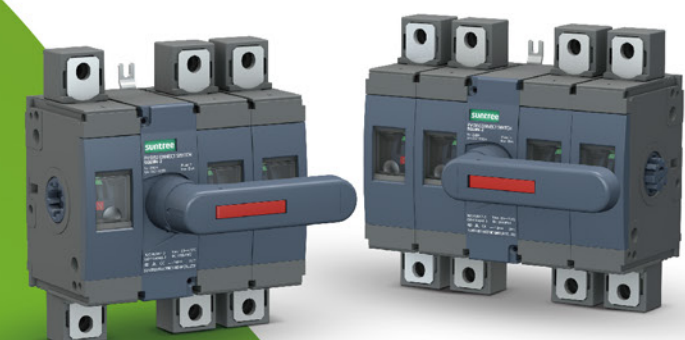


Oversized terminal block

standard with 4*20mm copper silver-plated material

Installation requirements

- The normal range of ambient air temperature is not higher than +40°C, not lower than -25°C, and the relative humidity is not more than 95%
- The altitude of the installation site does not exceed 2000 meters
- Pollution level 3
- please institution in a non-explosive medium, and there is no gas and dust (including conductive dust) that can corrode metals and damage insulation in the medium



LOAD ISOLATOR SWITCH

S G L 8 N - 2

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Specifications

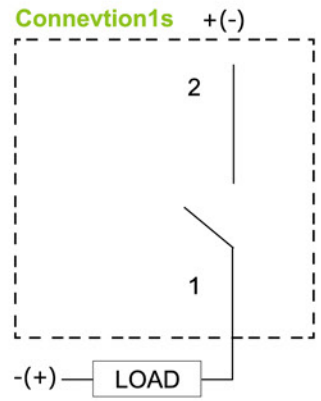
Model		SGL8N-2				
Phase (Pole)		2	3	4(1set)	4(2set)	6
Type		Manual	Manual	Manual	Manual	Manual
Operation handler		Left/middle	Left/middle	Middle	Middle	Middle
Ue		1500VDC	1500VDC	1500VDC	1500VDC	1500VDC
Wiring		2a, 2b	3a, 3b	4c, 4d	4a, 4b	6a, 6b
Standard	IEC	IEC 60947-3	IEC 60947-3	IEC 60947-3	IEC 60947-3	IEC 60947-3
In(A)/Category	2P/3P 32-100A	PV-1/PV-2	-	-	PV-1/PV-2	PV-1/PV-2
	2P/3P 125-250A	PV-1/PV-2	-	-	PV-1/PV-2	PV-1/PV-2
	2P/3P 320A	PV-1	PV-2	-	-	-
	4P/6P 400A	-	-	PV-1	-	-
	4P/6P 500A	-	-	PV-1	-	-
Ui		1600VDC	1600VDC	1600VDC	1600VDC	1600VDC
Uimp		12KV	12KV	12KV	12KV	12KV
Icw 1s/1500Vdc,1s,RMS		8kA	8kA	8kA	8kA	8kA
Mechanical		8000	8000	8000	8000	5000
Endurance (times)		1000	1000	1000	1000	500
Acce	Aux Contact	o	o	o	o	o
	Tripping Coil (SHT)	X	X	X	X	X
	Power Supply	X	X	X	X	X
	Terminal Cover	Standard configuration ✓	✓	✓	✓	✓
	Phase Barriers	o	o	o	o	o
	Selectortype handle	X	X	X	X	X
	Direct handle	Standard configuration ✓	✓	✓	✓	✓
	ExtentionHandle	o	o	o	o	o
KeyLock	o	o	o	o	o	

High temperature derating factor

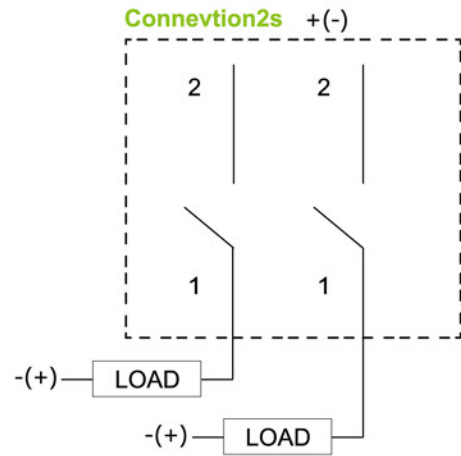
Current specifications	Wiring	40	50	60	65
Below250A	/	1	1	1	1
250A	2a, 2b	1	1	1	1
250A	4a, 4b	1	1	0.95	0.88
250A	6a, 6b	1	0.95	0.9	0.85
320A	2a, 2b	1	1	0.95	0.9
320A	3a, 3b	1	0.95	0.9	0.85
400A	4c, 4d	1	1	1	1
500A	4c, 4d	1	0.95	0.9	0.85

Above data is measured in the laboratory under the standard conditions of GB/T 14048.3

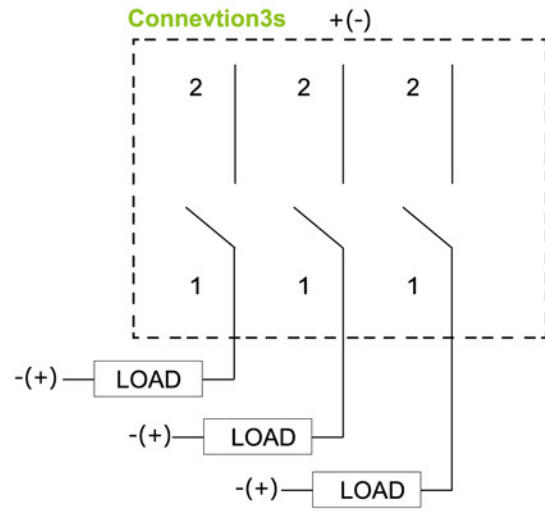
Wiring diagram



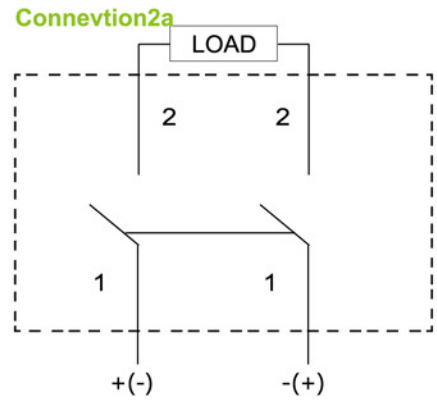
1P 1-pole 1-circuit



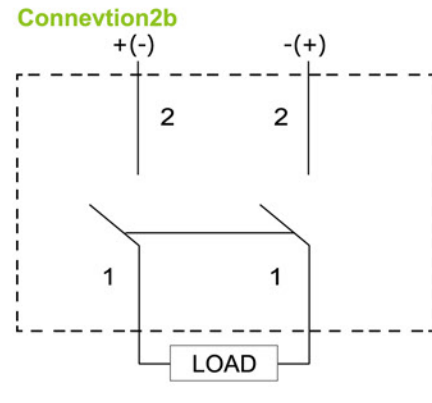
2P 2-pole 2-circuit



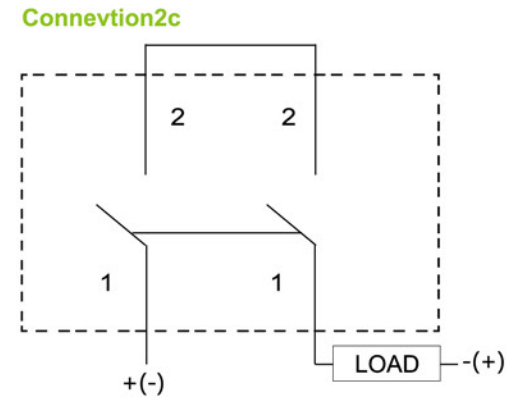
3P 3-pole 3-circuit



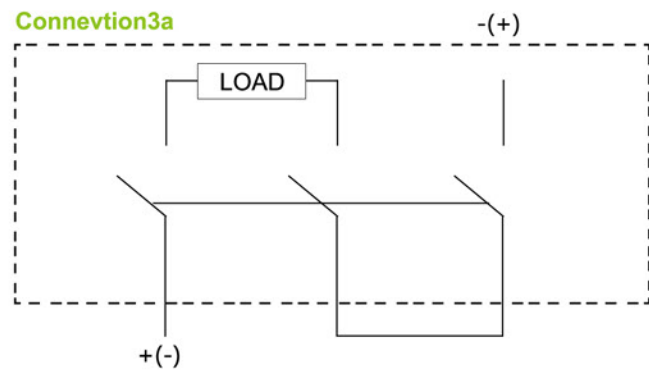
2P 2-pole 1-circuit



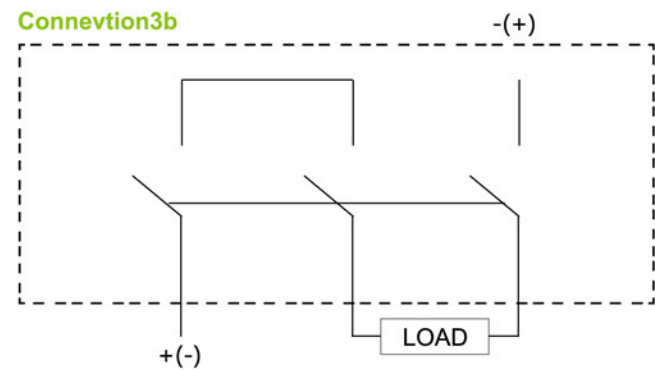
2P 2-pole 1-circuit



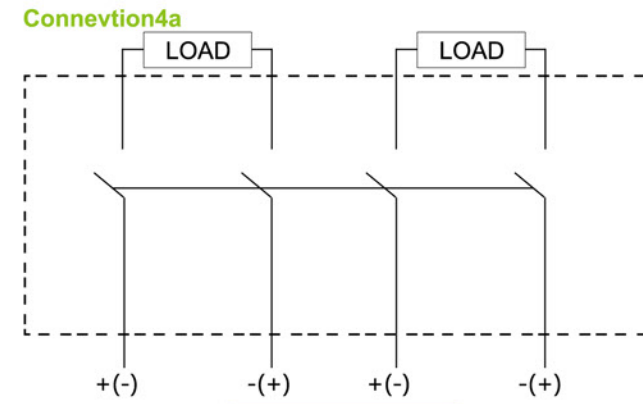
2P 2-pole 1-circuit



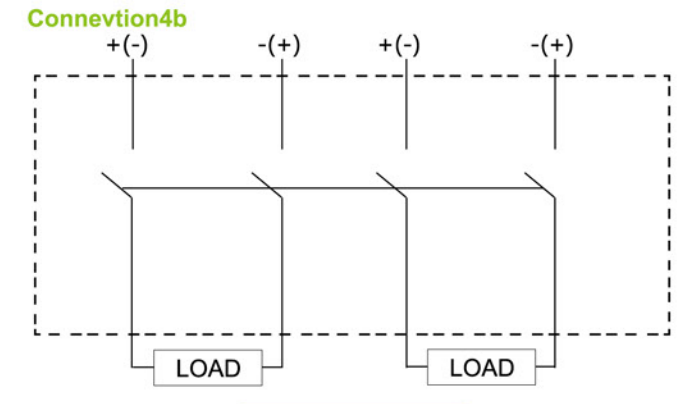
3P 3-pole 1-circuit



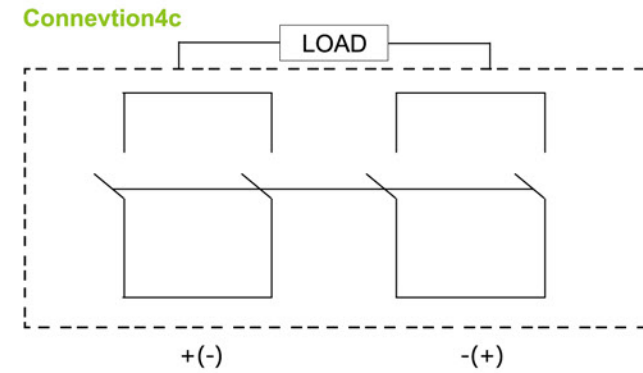
3P 3-pole 1-circuit



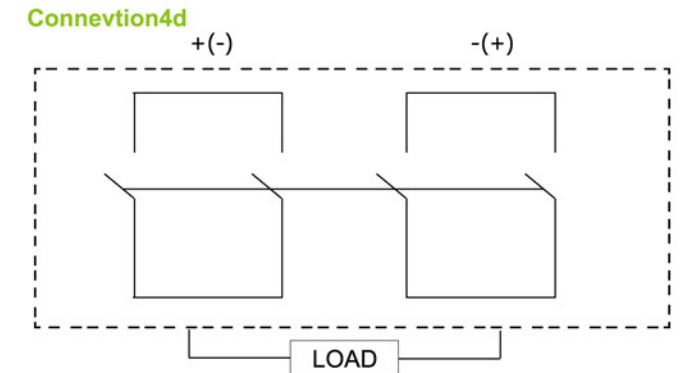
4P 4-pole 2-circuit



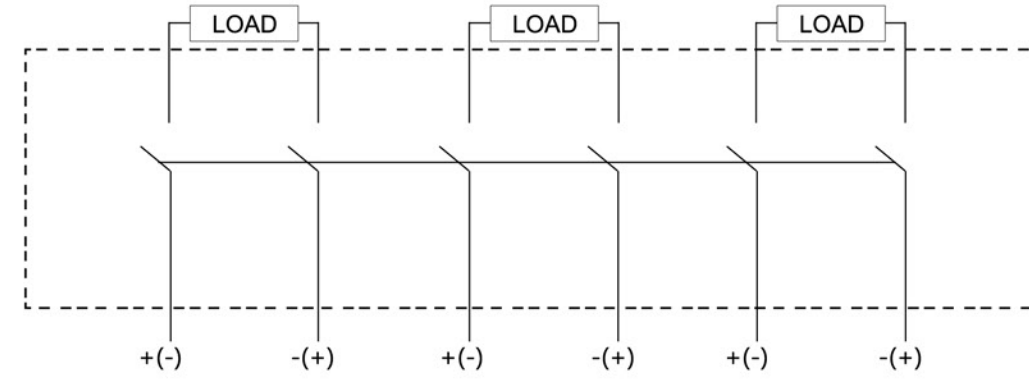
4P 4-pole 2-circuit



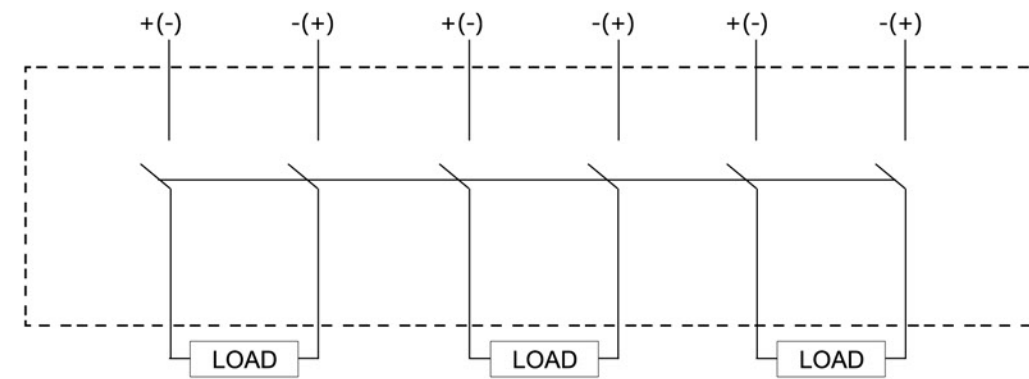
4P 4-pole 1-circuit



4P 4-pole 1-circuit

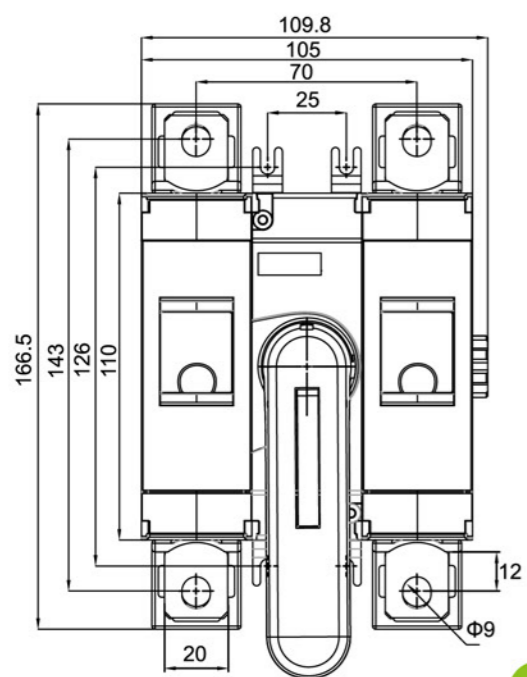


6P 6-pole 3-circuit
Connevtion6a

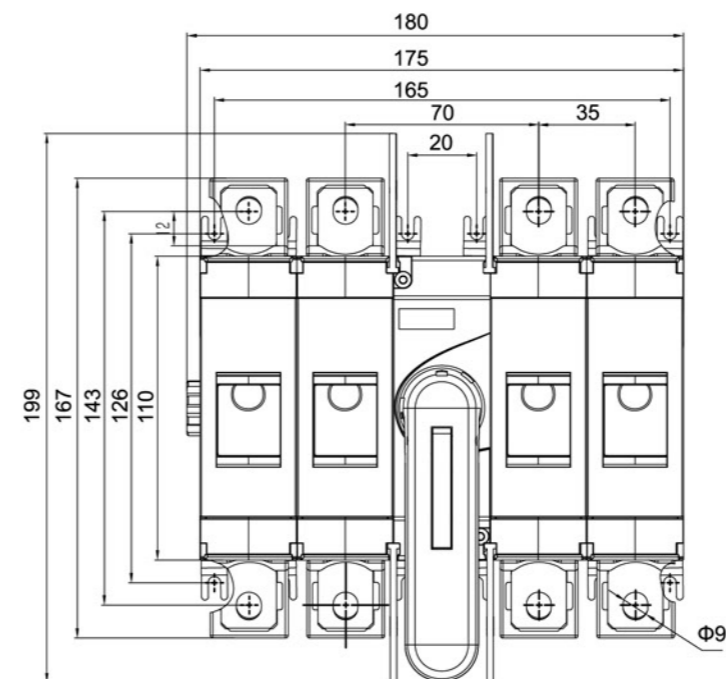
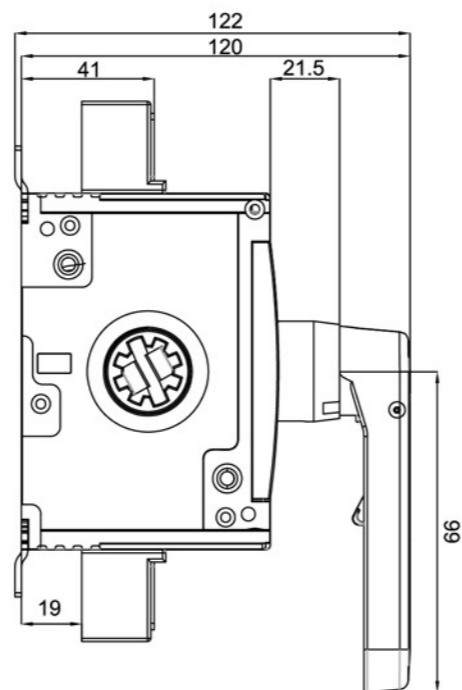


6P 6-pole 3-circuit
Connevtion6b

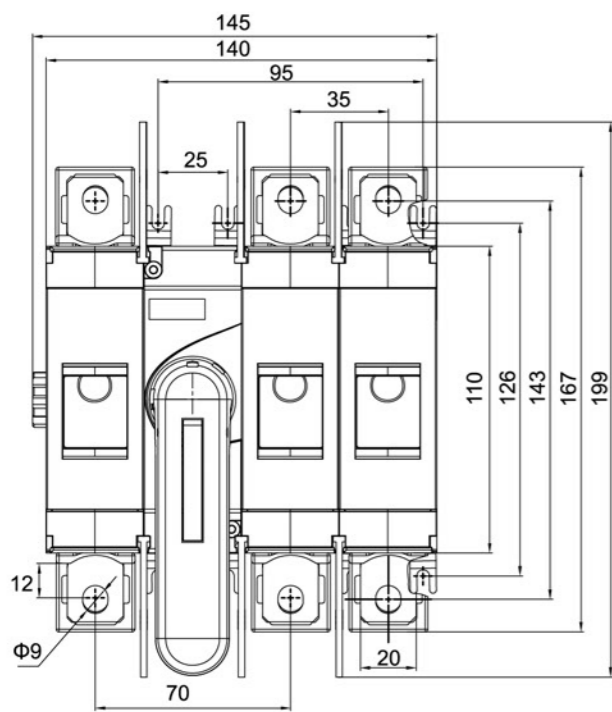
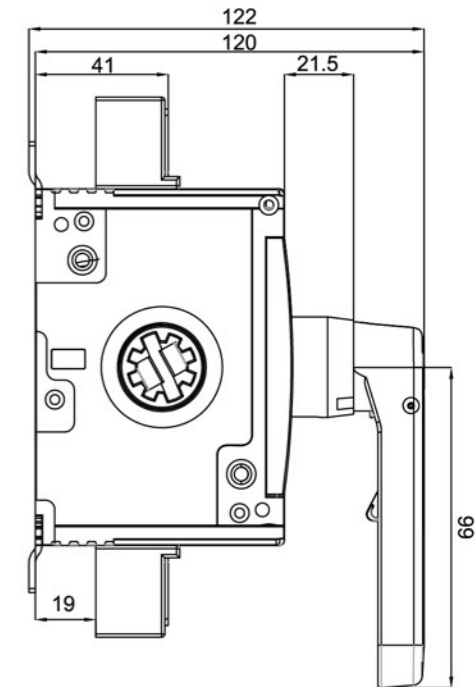
Dimensions(mm)



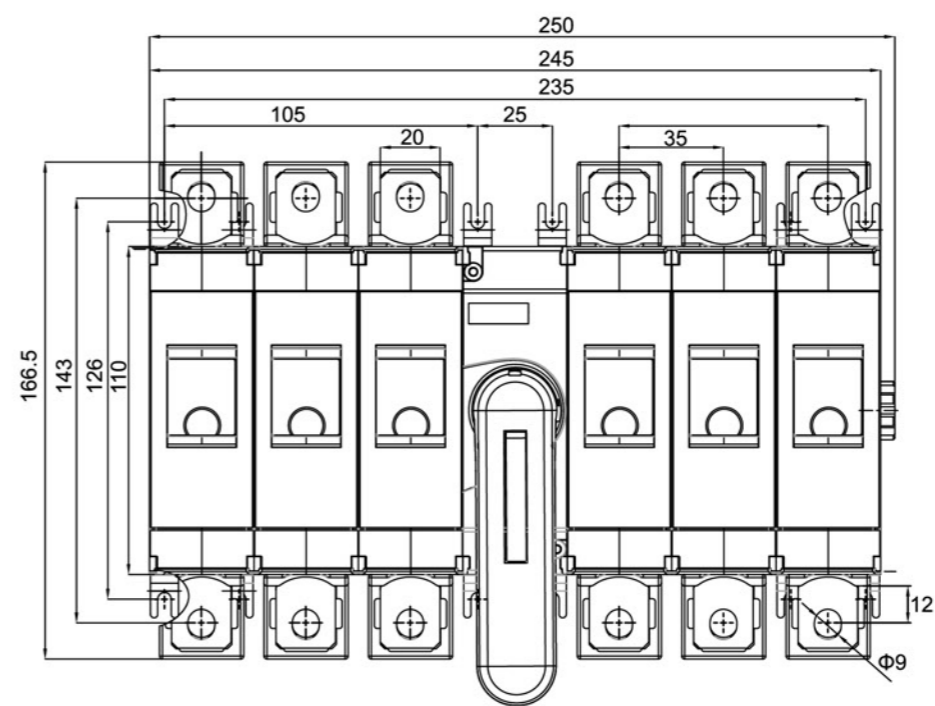
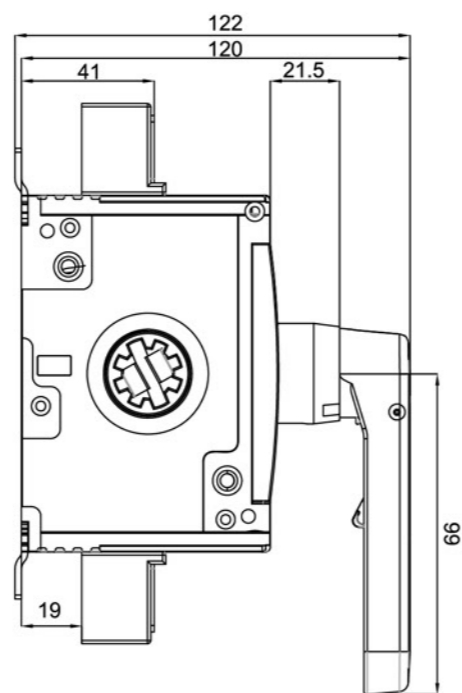
2P



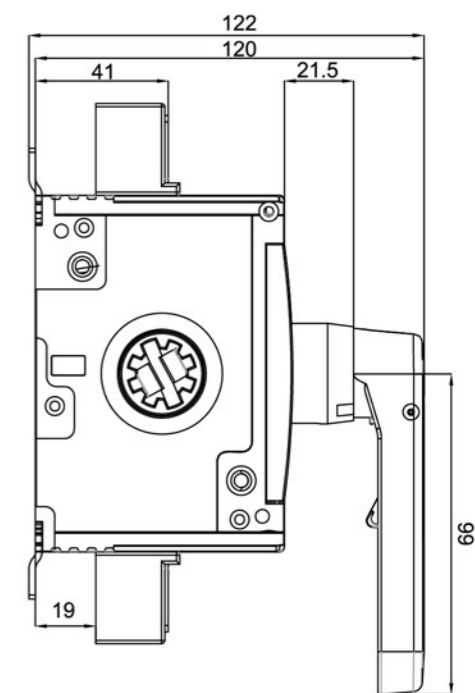
4P

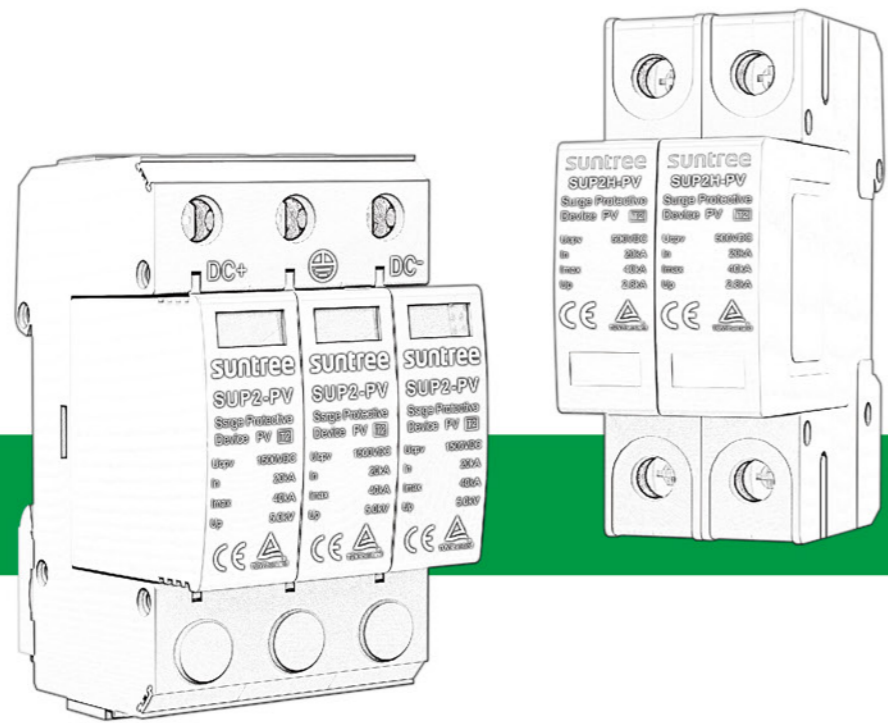


3P



6P





DC SPD

1500V



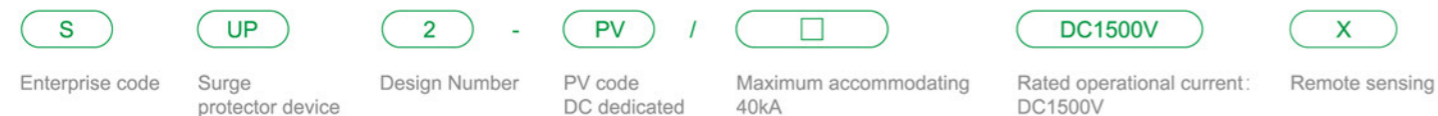
Main function

When a surge overvoltage occurs in the circuit due to a lightning strike or other reasons, the protector will be turned on immediately within nanoseconds, and the surge overvoltage will be introduced into the ground to protect the electrical equipment on the grid

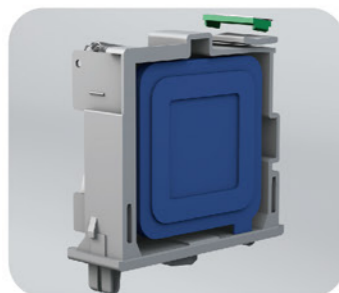
Application

Suitable for circuits below 1500VDC
cabinet/combiner box/photovoltaic system

Model and significance

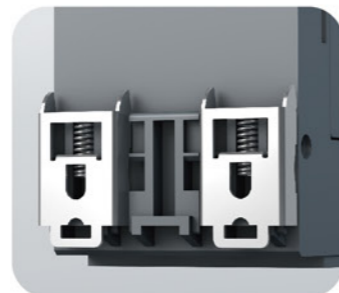


Advantage and certificate



Chip internal protection mechanism

Temperature control capability protection circuit, built-in thermal protection mechanism



Metal buckle

Easy to install and disassemble



PBT flame retardant shell

Flame retardant rating of V-0



International certificate

CE, TUV



DC SPD

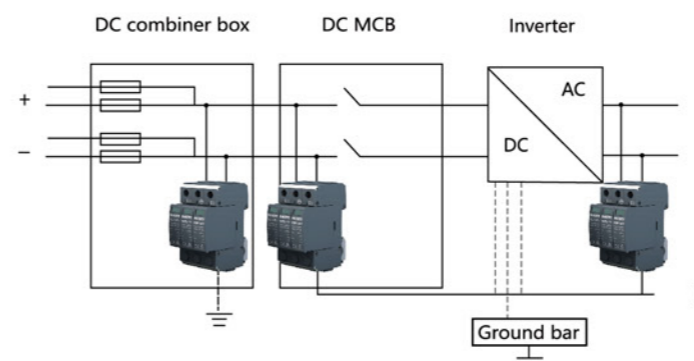
S U P 2 - P V

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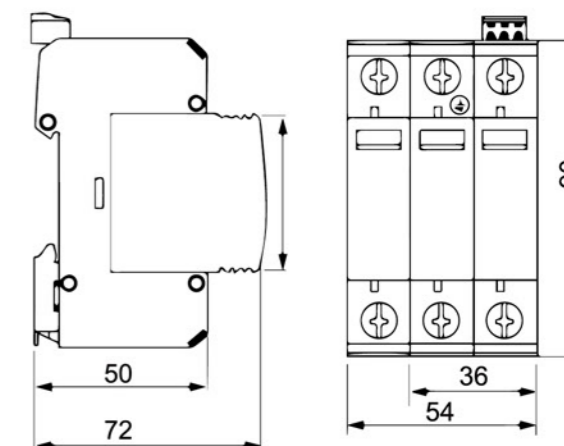
Specifications

Model	SUP2-PV
Maximum continuous operating voltage(Uc)	1500VDC
Maximum discharge current(I _{max})(8/20u s)	40KA
Protection level(In)Up	5.0kV
Working temperature	-40°C~+70°C
Relative humidity	≤95%(25°C)
Installation method	35mm standard rail
Window indication	Normal time: green; failure time: red
Protection level	IP20
Poles	3P
Leakage 0.75u ImA(uA)	≤20

Installation mode

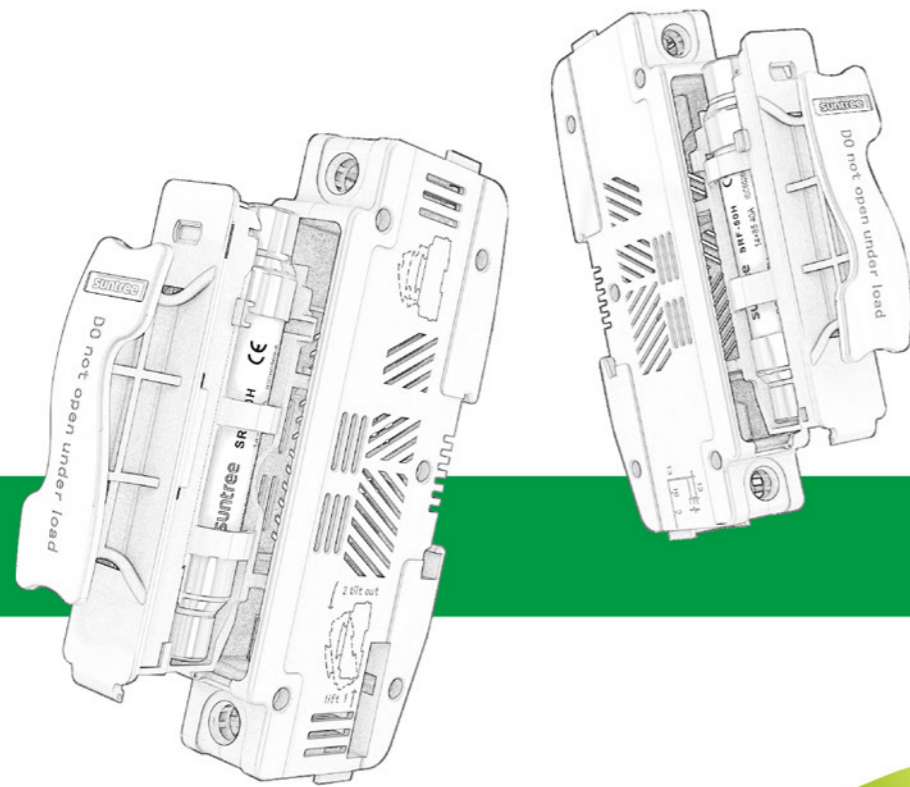


Installation dimensions



Installation Precautions

- The normal range of ambient air humidity is not higher than +40°C, not lower than -25°C, and the relative humidity is not higher than 95%
- The altitude of the installation site does not exceed 2000 meters
- Pollution level 3
- In a non-explosive medium, and there is no gas and dust (including conductive dust) that can corrode metals and damage insulation in the medium
- Wiring resistance
- Grounding copper bar



DC FUSE

1500V



Main function

from Break the overload and short-circuit current generated by the current feedback, to protect solar photovoltaic device

Application

Suitable for photovoltaic systems below 1500VDC

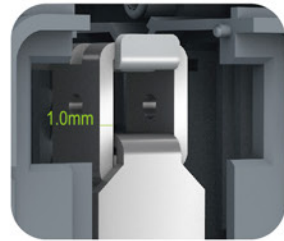
Model and significance

S Enterprise code
 RD DC fuse isolating switch Design Number
 -
 50 Case grade rated current
 H High voltage

Advantages and certification



Ventilation slot
with strong heat dissipation performance



Red copper terminal block
thickness up to 1.0mm



International Certification
CE, TUV



PA6 flame retardant material
Flame retardant rating of V-0



Indicate window design
whether the fuse core is fused model
(light on means be fused, other means normal state)



DC FUSE

S R D - 5 0 H

www.chinasuntree.com

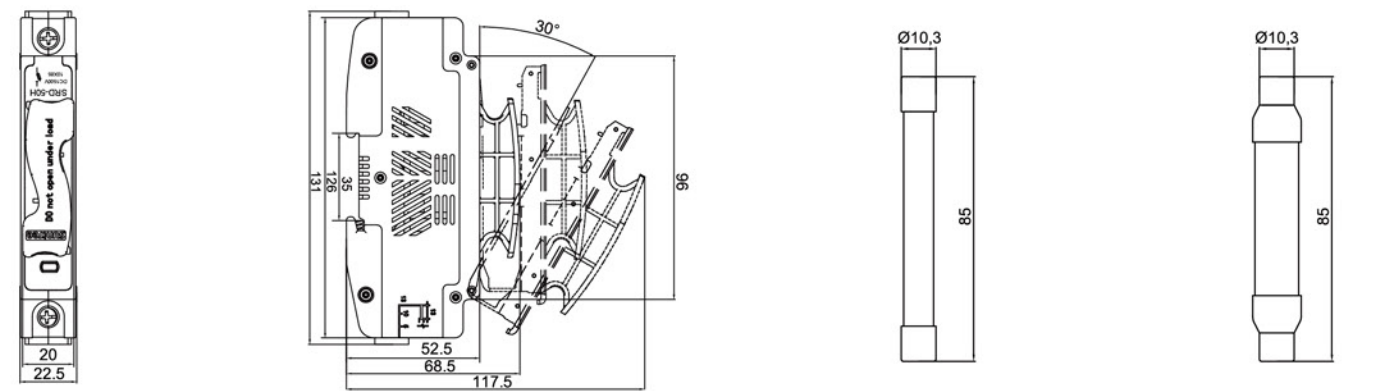
Specifications	
Model	CH-50H SRD-50H DC fuse isolating switch
Reference Standard	IEC/EN60947-1 IEC/EN 60947-3
Rated insulation voltage	1600V
Rated operational voltage	DC1500V
Rated operational current	2/3/4/5/6/8/10/12/15 16/20/25/30/32/35/40/45/50A
Rated ultimate short circuit breaking capacity	8kV
Rated accepted power dissipation	≤12W
Pole	1P
Rated limit short-circuit current	50kA
Products size	10mm×85mm 14mm×85mm
Protection level	IP20
Use category	PV-0

SRD-35/50 Derating factor		
Pole	Cabinet temperature (reference volume)	Derating factor
1~4	20	1
1~4	30	0.96
1~4	40	0.93
1~4	50	0.9
1~4	60	0.85
1~4	65	0.8
1~4	70	0.75
1~4	75	0.7
5~24	20	0.96
5~24	30	0.9
5~24	40	0.85
5~24	50	0.75
5~24	60	0.6
5~24	65	0.5
5~24	70	0.45
5~24	75	0.4

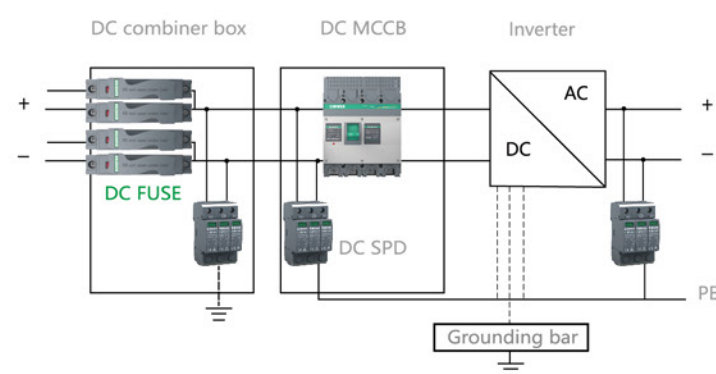
>5P is the data measured when 24P is powered on at the same time

Installation and wiring

Unit: mm



- The normal range of ambient air humidity is not higher than +40°C, not lower than -25°C, and the relative humidity is not higher than 95%
- The altitude of the installation site does not exceed 2000 meters
- Pollution level 3
- In a non-explosive medium, and there is no gas and dust (including conductive dust) that can corrode metals and damage insulation in the medium



Model and significance

S

Enterprise code

RF

DC fuse isolating switch
Design Number

□

Case grade rated current

H

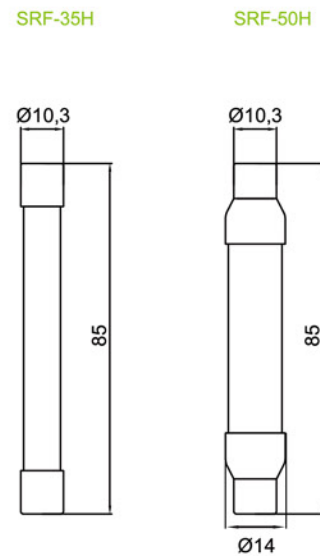
High voltage

Installation diagram



Dimensions

Unit: mm



DC fuse link

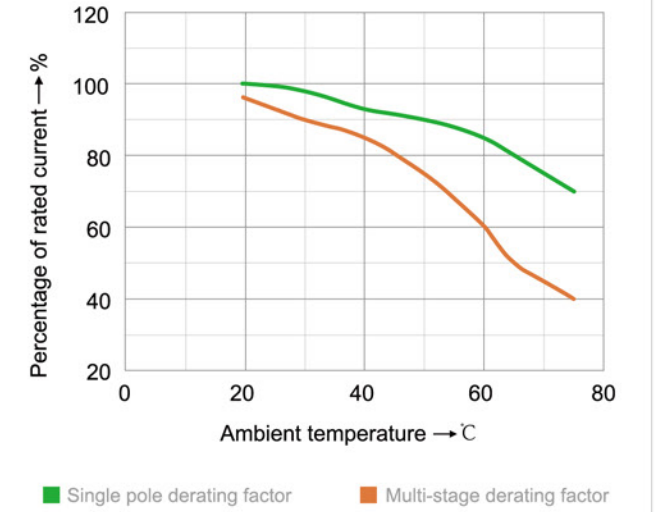
SRF35H/SRF-50H

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Specifications

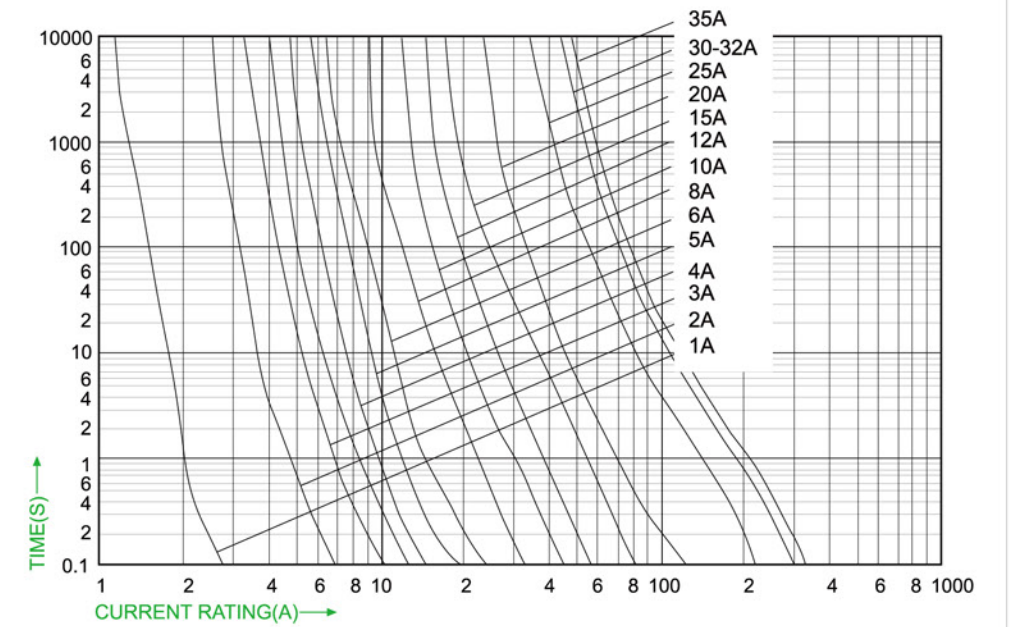
Model	SRF-35H	SRF-50H
Rated voltage	1500VDC	1500VDC
Rated working current	1/2/3/4/5/6/8/10/12/15/20/25/30/32/35A	15/20/25/30/32/35/40/45/50A
Rated accepted power dissipation	6W	12W
Size	10mm×85mm	14mm×85mm
Rated ultimate short circuit breaking capacity	20kA	20kA
Reference Standard	EN 60269-1 EN 60269-6	EN 60269-1 EN 60269-6
Protection level	IP20	IP20
Use category	PV-0	PV-0

Photovoltaic fuse link curve



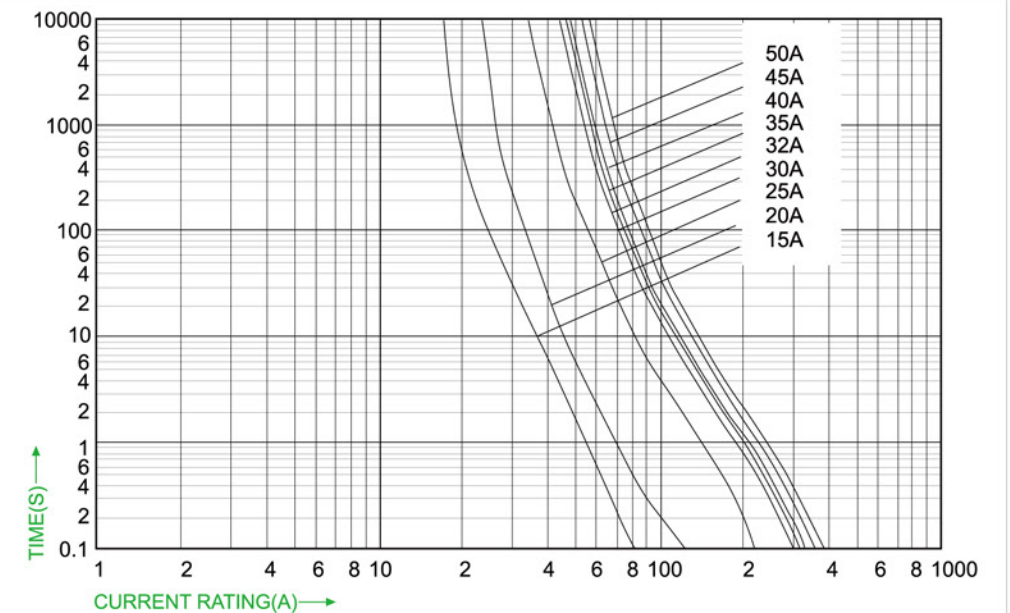
TIME CURRENT CURVE

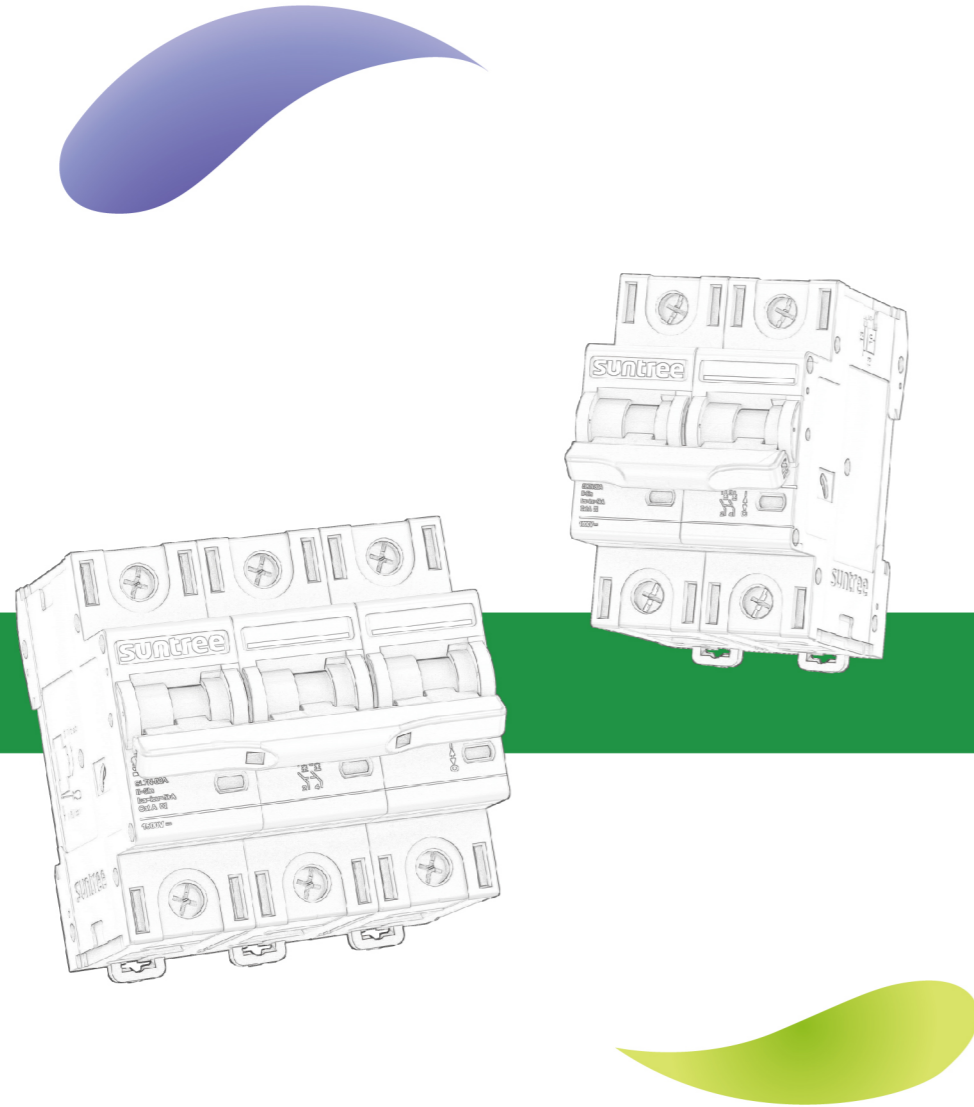
SRF-35H(10×85)



TIME CURRENT CURVE

SRF-50H(14×85)





DC MCB 1500V



Main function

SL7N-125D with overload delay protection, short circuit instantaneous protection, provide short-circuit protection, overload protection from the 1500VDC

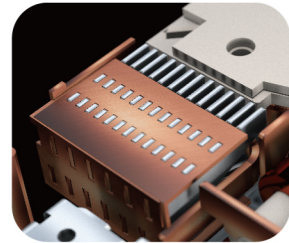
Application

Widely used in DC panel, DC distribution cabinet, DC combiner box, energy storage, photovoltaic, wind power station distribution box system, communication distribution box protection system, and can also be used for infrequent on-off conversion of lines under normal conditions

MODEL AND SIGNIFICANCE

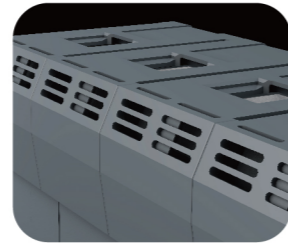
S Enterprise code
 L7N Design Number
 - Case grade
 125 Case grade rated current
 D High voltage

ADVANTAGE



Multi-gate interrupter

The arc extinguishing chamber adopts a multi-grid arc extinguishing chamber, and each pole is equipped with 2 arc extinguishing chambers to enhance the arc extinguishing capacity



Vent design

New design of vent holes, arc out of gas more smoothly



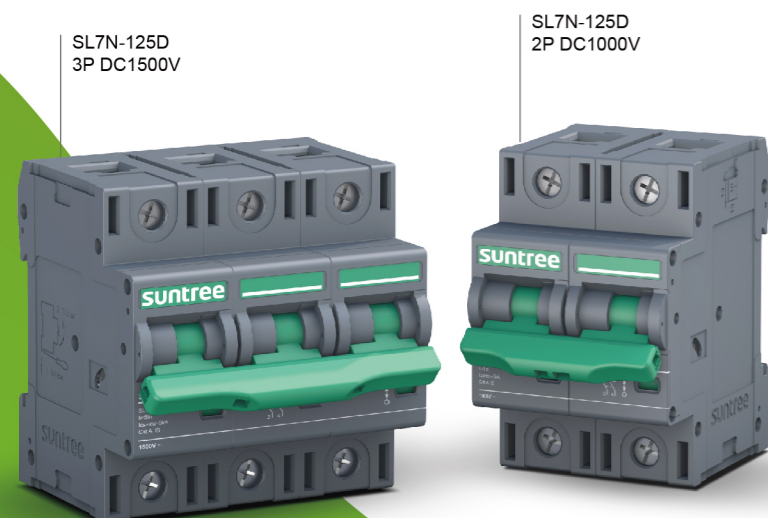
Static contact

The static contact arc ignition design is more conducive to the arc entering the arc extinguishing chamber



PA66 flame retardant material

flame retardant rating of V-0



DC MCB

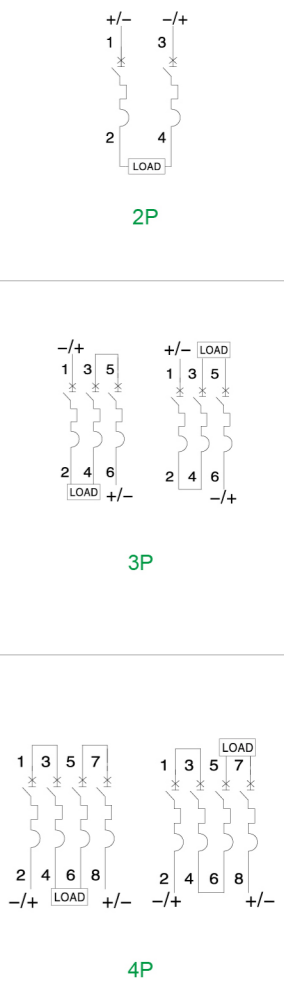
S L 7 N - 1 2 5 D

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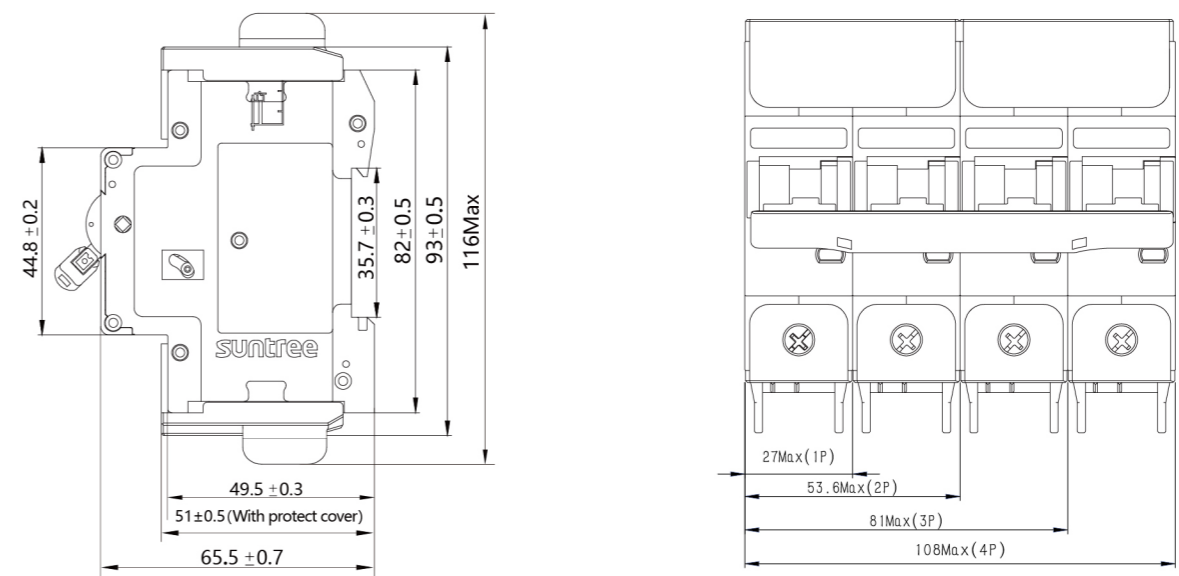
SPECIFICATIONS

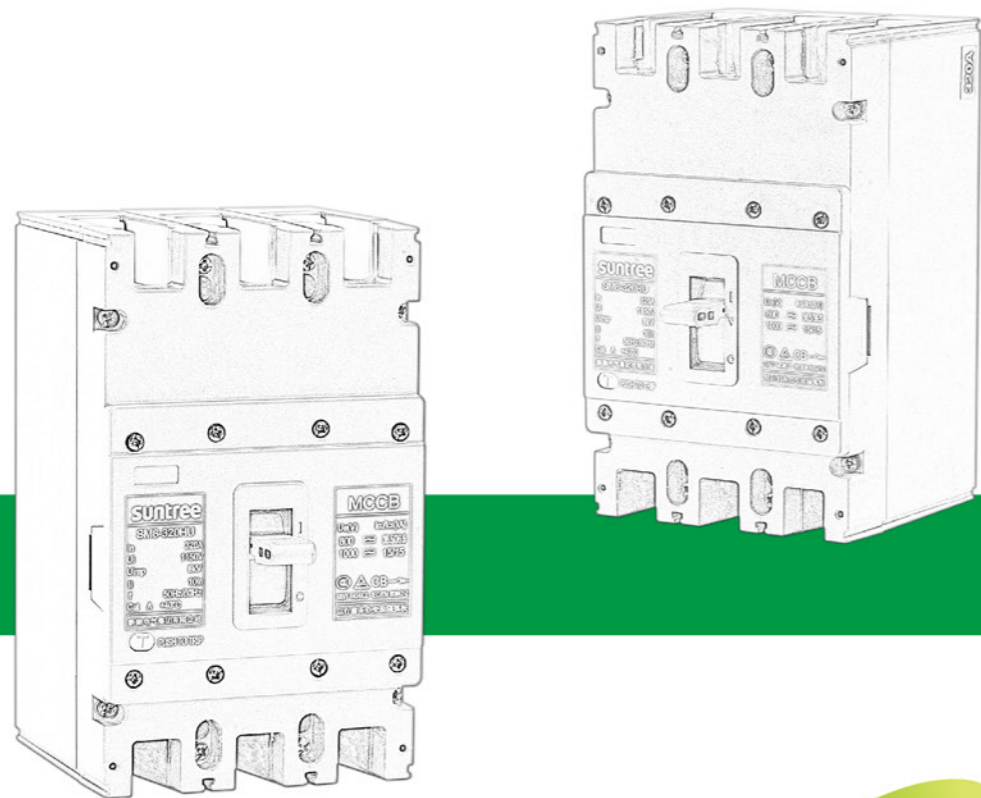
MODEL	SL7N-125D	
Products name	PV DC MCB	
Pole	1P、2P、3P、4P	
Rated operational voltage(Ue)	1P:DC48~250V;DC375V;440V;DC600V 2P:DC750V;DC800V;DC1000V 3P:DC1200V;DC1500V 4P:DC1500V	
Rated insulation voltage(Ui)	690V(1P);1000V(2P);1500V(3P/4P)	
Rated impulse withstand voltage(Uimp)	4KV(1P);6KV(2P);8KV(3P/4P)	
Case grade rated current(In)	125A	
Rated operational current(I _n)	16A;10A;16A;20A 25A;32A;40A;63A;80A	1P:DC48~250V;DC375V;440V;DC600V 2P:DC750V;DC800V;DC1000V 3P:1200V/1500V; 4P:DC1500V
	100A;125A	1P:DC48V~250V 2P:DC375V;440V;DC600V 3P:DC750V;DC800V 4P:DC1000V;DC1200V
Rated ultimate short circuit breaking capacity(I _{cu})	2kA Type H: 6kA	
Running breaking capacity(I _{cs})	2kA Type H: 6kA	
Mechanical life	10000	
Electrical life	2000	
Installation	Din	
Relative humidity	+50°C not more than 95%	
Wiring polarity requirements	NO	
Working temperature	-40°C ~+75°C	

WIRING DIAGRAM



DIMENSION





AC MCCB

800V



CB

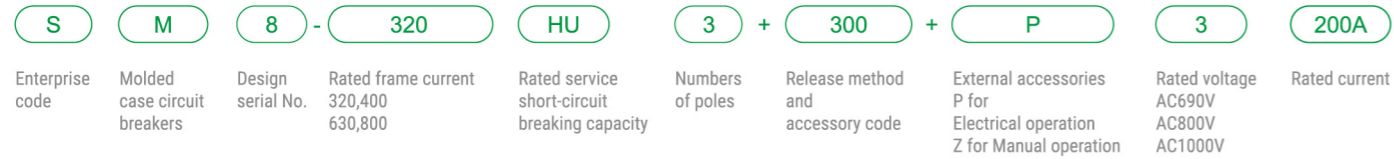
Main function

SM8HU series molded case circuit breaker has a breaking capacity of up to 30KA under 800VAC voltage, which can realize system short-circuit protection

Application

Suitable for photovoltaic grid-connected boxes

Molded Case Circuit Breakers-Model Number Meaning



Product characteristics

SM8HU series of molded case circuit breakers with rated voltages up to AC1000V and currents up to 400A. SM8HU series molded case circuit breakers have an interrupting capacity of up to 30kA at AC800V, enabling reliable system short circuit protection.

Applicable Environments

- Installed at altitude 2000m or lower
- Resistant to humid air (triple-proof)
- Resistant to salt spray and oil mist (triple-proof)
- Resistant to mould (triple-proof)
- Installed in a medium free of explosion risk and free of gases and conductive dusts sufficient to corrode metals and destroy insulation

Classification

By operation mode:

- Direct operation of the body
- Electrically operating mechanisms
- Rotary handle.

By wiring form:

- Front panel wiring
- Back panel wiring
- Plug-in wiring
- Withdrawable wiring (rated frame current>400A)

By form of protection:

- Line protection
- Line isolation



AC MCCB

S M 8 - 3 2 0 H U

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Specifications

Model	SM8-320HU	SM8-400HU	SM8-630HU	SM8-800HU								
Rated frame current Inm (A)	320	400	630	800								
Rated current In (A)	125, 140, 160, 180, 200, 250, 280, 300, 315, 320	225, 250, 315, 350, 400	400, 500, 630	630, 700, 800								
Numbers of poles	3	3	3	3								
Rated service voltage Ue(V)AC	690, 800, 1000											
Rated insulation voltage Ui (V)	1000											
Rated impulse withstand voltage Uimp (kV)	8	12	12	12								
Ultimate short circuit breaking capacity Icu (kA)	30	30	12	30	30	12	30	30	12	30	30	12
Rated service short-circuit breaking capacity Ics (kA)	23	23	12	23	23	12	23	23	12	23	23	12
Wiring method	Top in and bottom out											
Mechanical life (No. Operations)	10000	10000	10000	10000								
Electrical life (No. Operations)	2000	2000	2000	2000								
Availability of isolation characteristics	Yes											
Standards	IEC 60947-2, GB/T 14048.2											
Allowable ambient temperature	-40~+70°C											
Degree of protection	IP20											
Available accessories	Auxiliary contacts, alarm contacts, shunt release, manual operation, electric operation											
Arcing distance (mm)	≤50 (zero arc with arcing cover)											
Instantaneous action value	10In											
Dimensions LxWxH (mm)	180x107x126 (3P)	258x150x107 (3P)	280x210x115.5 (3P)	280x210x115.5 (3P)								
Installation methods	Fixed or withdrawable											

PHOTOVOLTAIC GRID CONNECTION DIAGRAM



1 AC molded case circuit breakers function in photovoltaic systems

- It is mainly used for the AC photovoltaic system to connect and cut off the overload circuit, and it can also cut off the fault circuit to protect the power, make sure the photovoltaic system operation safely



2 Application of DC Molded Case Circuit Breaker in Photovoltaic System

- Short-circuit protection
- Overload protection



3 Application of DC Fuse in Photovoltaic System

- The function of fuses in photovoltaic system includes overload protection and short circuit protection.
- Photovoltaic set of strings all need to be equipped with DC fuse protection circuit to remove faults



4 Application of surge protector device in Photovoltaic System

- Avoid damage to other components caused by lightning strikes



5 Application of Load disconnect switch in Photovoltaic System

- Mainly used for opening and closing the main power supply during maintenance

