



SM8HPV Specializing In PV Solar Moulded Case Circuit Breaker

Type Specifications SM8HPV	
Product Name Specializing PV Solar Moulded Case Circuit Breaker	
Certificate of approval	Factory Date See Product Or Package
	Qualitative Check Member XC002
	The product has been inspected to meet the product standard and approved to the factory.
SUNTREE ELECTRIC GROUP CO., LTD.	

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Operation Manual

SM8H PV

Series Specializing In PV Solar Moulded Case Circuit Breaker



SUNTREE ELECTRIC GROUP CO., LTD.



SM8HPV Specializing In PV Solar Moulded Case Circuit Breaker

1、Application

With the development of solar industry, the large solar power factory are developed better and faster. People have higher request about the capability of the equipment which is applied for controlling and circuit breaker and isolator switch are necessary, especially for the inverter protection. Then, it is a new requirement for the low voltage components. It this case, Suntree researched and developed a new SM8-250HPV series moulded case circuit breaker which is specializing in photovoltaic solar system.

SM8HPV series specializing in PV solar moulded case circuit breaker (referred as circuit breaker as following) are using in DC power grid system ,Ue 1000VDC, 1250VDC, 1500VDC,In 100A-630A.The circuit breaker are with the protection function of instantaneous short circuit and overload for solar PV system, protecting the system and components from the damage of over load and short circuit,etc.

The circuit breaker are comply a standard as following:

IEC 60947-1 《Low Voltage switch component and Control equipment,the first part:General Rule》

IEC 60947-2 《Low Voltage switch component and Control equipment,the second part:Circuit Breaker》

2、Normal Working Conditions

2.1 Installation altitude under 2000meters high

2.2 Working temperature -5℃~ +50℃ (temperature over 50℃, please negotiate with supplier)

1



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2.3 Air Condition: when the temperature is 40℃, the humidity of air should not over 50%, the lower temperature, higher humidity allowed,such as 20℃, 90% humidity allowed but do no forget the water on the surface of product.

2.4 Pollution Level: Level 4

2.5 Installation Type:III

2.6 Magnetic field of installation must be within 5 times of the earth magnetic in any direction.

2.7 Installation in the medium without any explosion risk, without the air that can corrode the metal inside or cause damage to the insulation

2.8 Without the erode for the wind and snow

2.9 Installation Condition:

A.Install in the horizontal and vertical direction

B.The product should in the place where without obviously shock and assault

3、Model Explain:

S M8 - 250 H PV / 2 +

Company	Design	AF:250	H:high voltage	Specializing	Pole:
Code	Number	AF:320		for Solar PV	2:2P
		AF:400			Blank :3P
		AF:630			Blank:4P

00 + 250A + DC1000V

Accessories code	Rated current	Rated working voltage
See table 3	(100-630)	2P:DC1000V
		3P:DC1250V/DC1500V
		4P:DC1000V/1250V/1500V

2



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Accessories code	Type / specification	SM8-250HPV		SM8-320HPV		SM8-400HPV		SM8-630HPV	
	Appendix name Pole Number	2	3	2	3	4	4	4	4
08	Alarm contact	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]
10	Shunt release	—	[C]	—	[C]	—	[C]	—	[C]
20	Auxiliary contact	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]
40	Shunt release and auxiliary contacts	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]
60	Two sets of auxiliary contacts	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]
18	Shunt release and alarm contacts	—	[C]	—	[C]	—	[C]	—	[C]
28	Auxiliary contacts and alarm contacts	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]	-[C]
48	Shunt release, auxiliary contacts and alarm contacts	—	[C]	—	[C]	—	[C]	—	[C]
68	Two sets of auxiliary contacts and alarm contacts	—	[C]	—	[C]	—	[C]	—	[C]

Shunt release control voltage : DC24V/AC230V/AC400V

4、Specifications and main technical parameters are shown in table.

Model	SM8-250HPV/2	SM8-250HPV	SM8-320HPV
Rated current In(A)	100,125,140 160,180,200 225,250	100,125,140 160,180,200 225,250	100,125,140 160,180,200 225,250,320
Pole	2	3	2/3
Rated insulation voltage Ui(V)	DC1500V		
Rated working voltage Ue(V)	DC1000V	DC1250V;DC1500V	DC1000V
Airing distance (mm)	80	80	80
Rated limit short	DC1000V	20kA (Ics=75%Icu)	20kA (Ics=75%Icu)
Road breaking capacity Icu kA	DC1250V	•	20kA (Ics=100%Icu)
	DC1500V	•	15kA (Ics=100%Icu)
Short circuit instantaneous tripping Actuator current value	6In (Note: below 160A tripping current is 1000A)		
Service life (Times)	8000	8000	8000

If there are any special requirements, please consult with the manufacturer.

3

Model	SM8-400HPV	SM8-630HPV
Rated current In(A)	320、350、400	320、350、400 500、630
Pole	4	4
Rated insulation voltage Ui(V)	DC1500V	
Rated working voltage Ue(V)	DC1000V ~ DC1500V	DC1000V ~ DC1500V
Airing distance (mm)	100	100
Rated limit short Road breaking capacity Icu kA	DC1000V	20kA(Ics=100%Icu)
	DC1250V	15kA(Ics=100%Icu)
	DC1500V	
Short circuit instantaneous tripping Actuator current value	6In (Note: below 160A tripping current is 1000A)	
Service life (Times)	5000	5000

5、Ordering instructions:

When ordering, please specify the moulded case circuit breaker number, name and rated current value, indicating quantity.
Example: SM8-250HPV 200A 50PCS

It means the order is 50pcs of DC 1500V 200A MCCB.

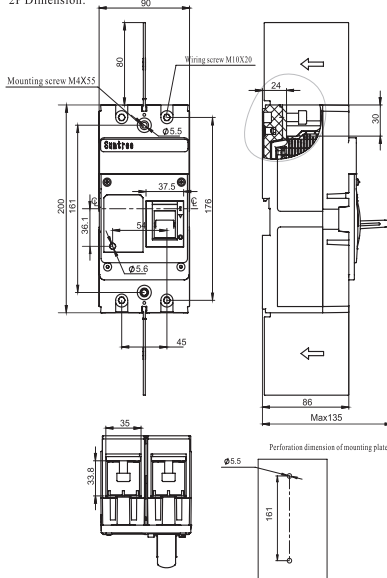
6、Company commitment

The user will observe the use, storage conditions and seal of the product. Under good conditions, within eighteen months from the date of production. If the product is damaged due to manufacturing quality problems, it may not be able to make it normal. The company is responsible for repairing or replacing it without compensation. Surpass warranty, the period is subject to paid repair. However, the damage caused by the following circumstances, even paid repairs during the warranty period:

- (1) improper use, maintenance and storage;
- (2) self refitting and improper maintenance;

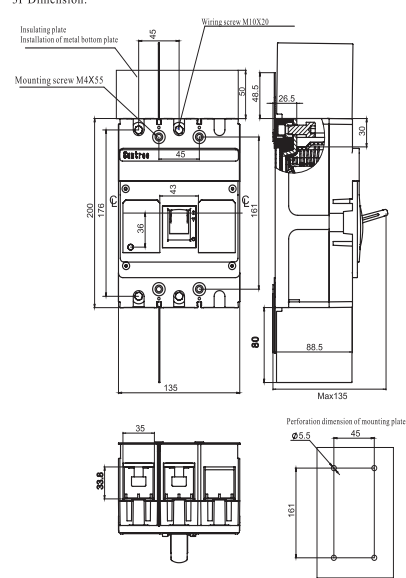
Shape and installation dimensions

2P Dimension:

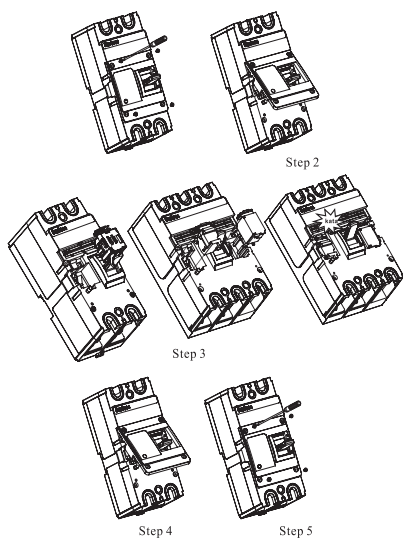


Shape and installation dimensions

3P Dimension:

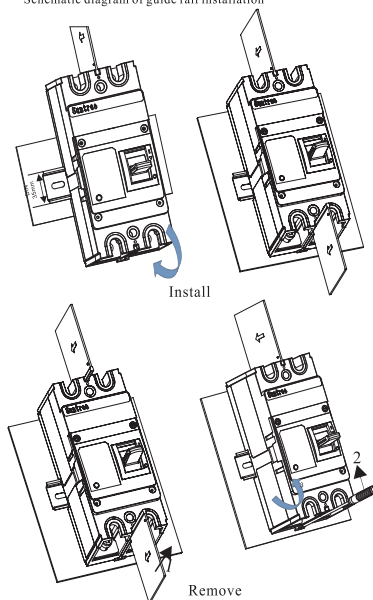


Accessories Installing



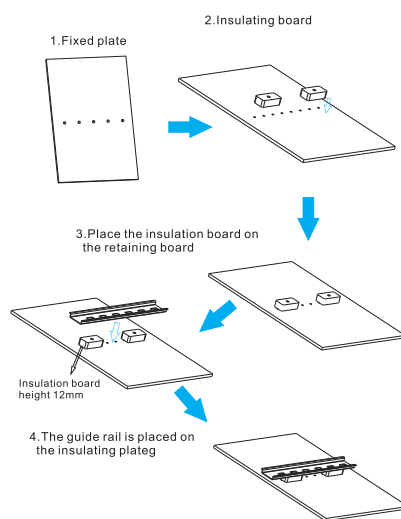
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Schematic diagram of guide rail installation



8

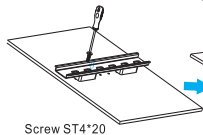
Schematic diagram of guide rail installation



9

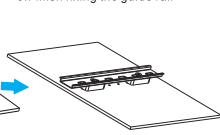
Schematic diagram of guide rail installation

5. Screw tightening

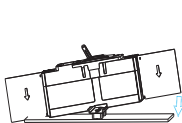


Screw ST4*20

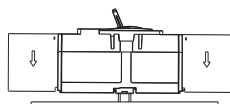
6. Finish fixing the guide rail



7. Clip the MCCB onto the guide rail

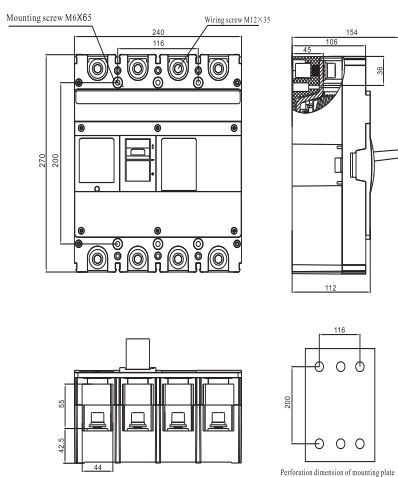


Press down to lock the guide rail



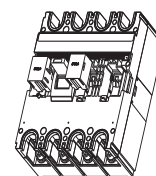
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Shape and installation dimensions 4P Dimension:

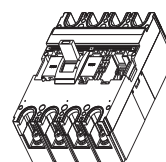


11

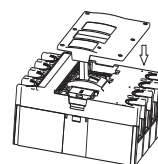
Accessories Installing



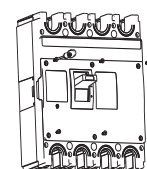
Step 1



Step 2



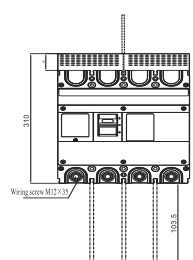
Step 3



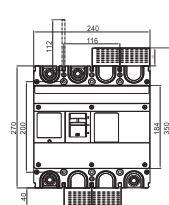
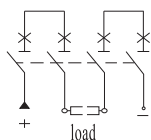
Step 4

12

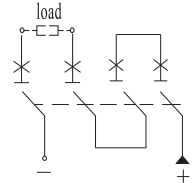
power/load wiring manner
4P Dimension:



H-type connection mode

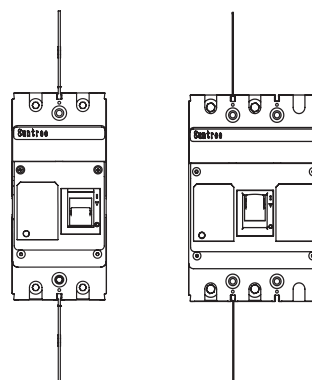


G-type connection mode

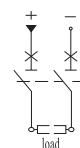


13

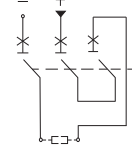
power/load wiring manner



2P Connection Mode



3P Connection mode



14