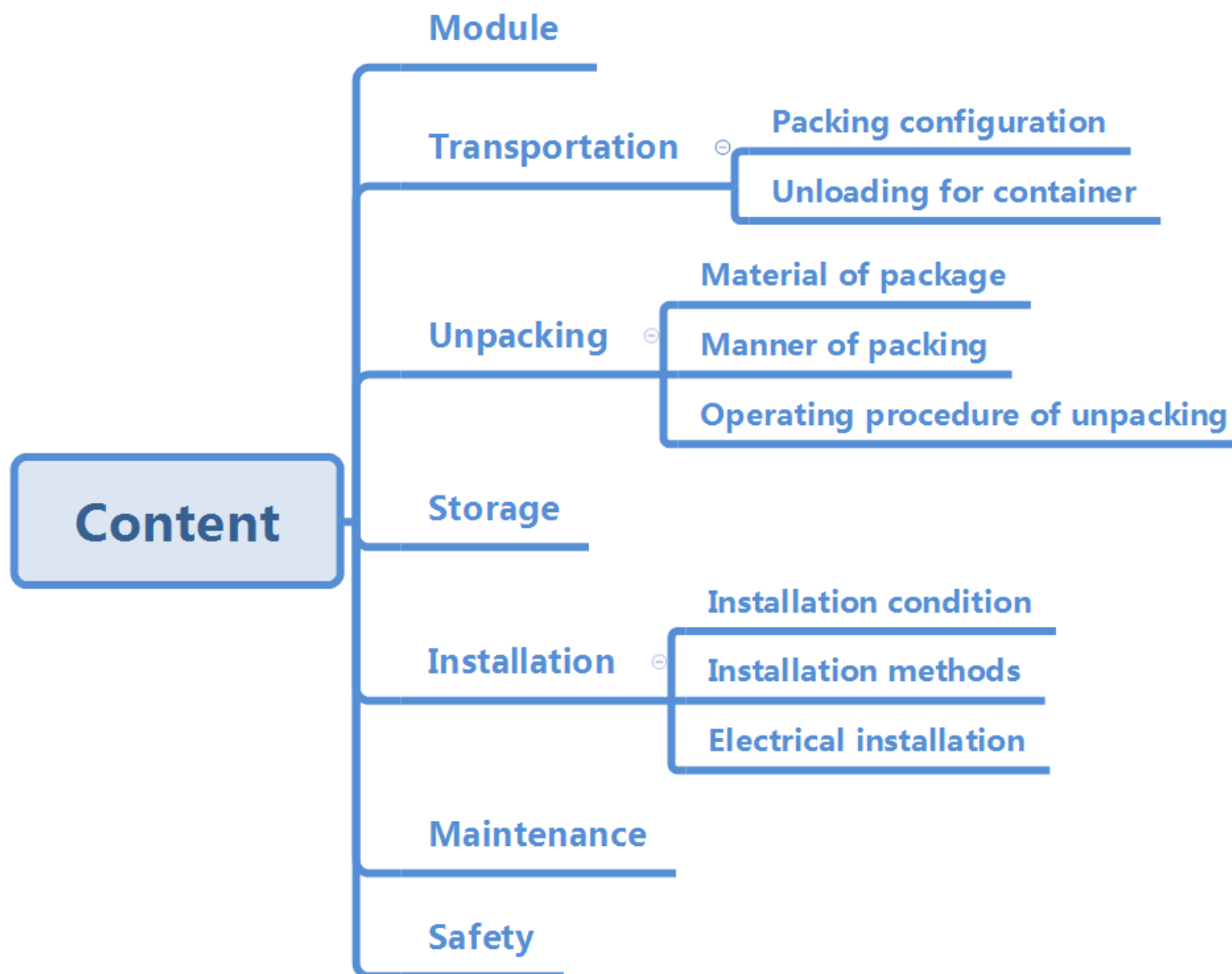
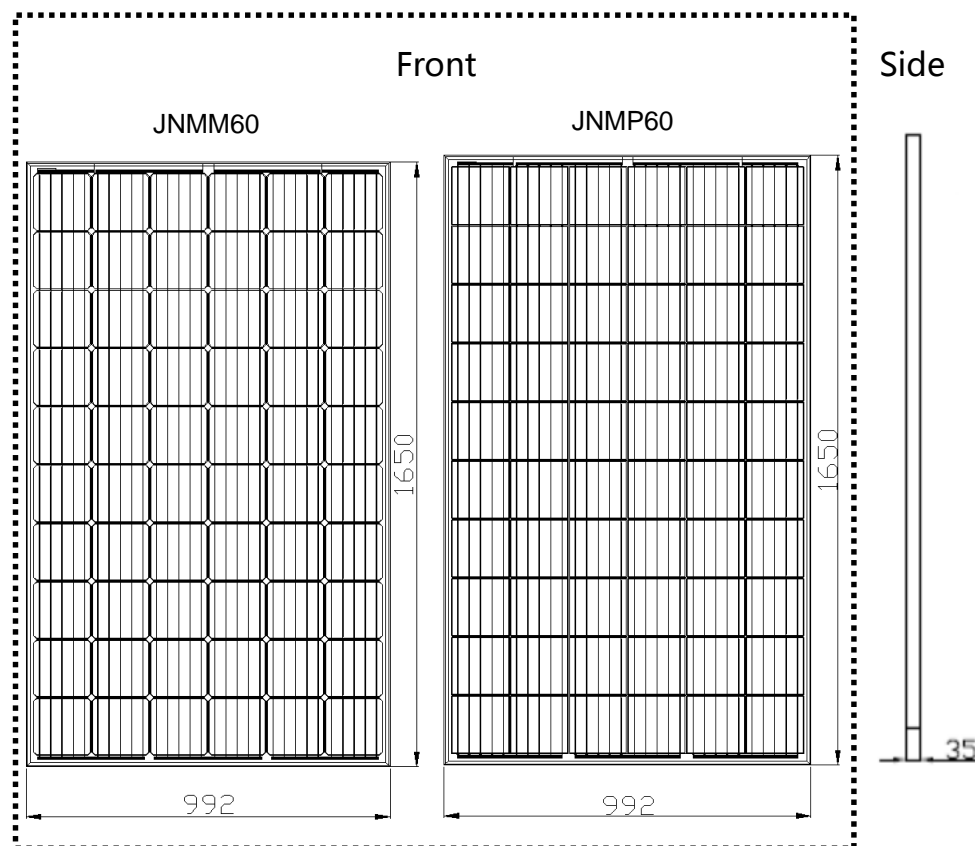


Installation and Maintenance Manual for Jinergy Photovoltaic Module JNMP60 / JNMM60

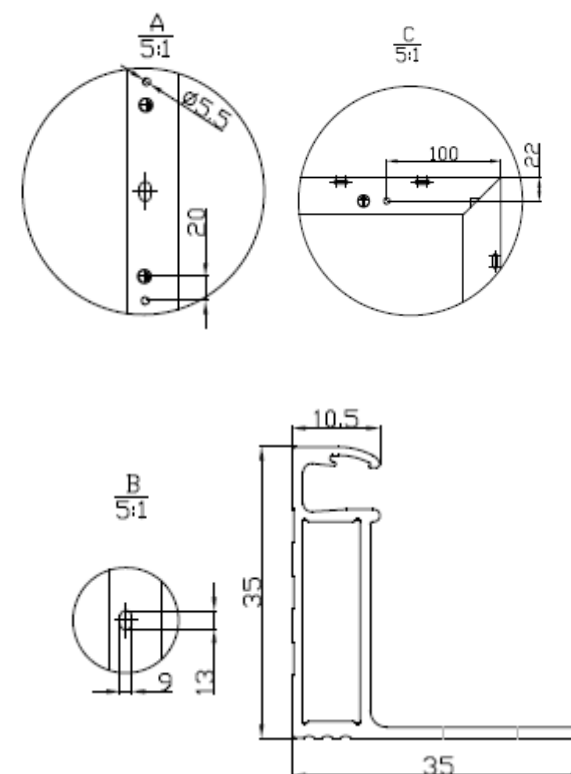
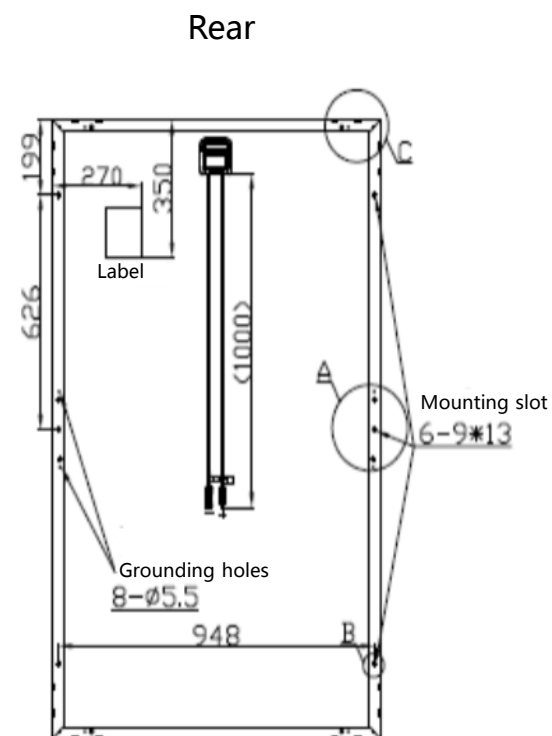
2018/12/25



Assembly Drawing

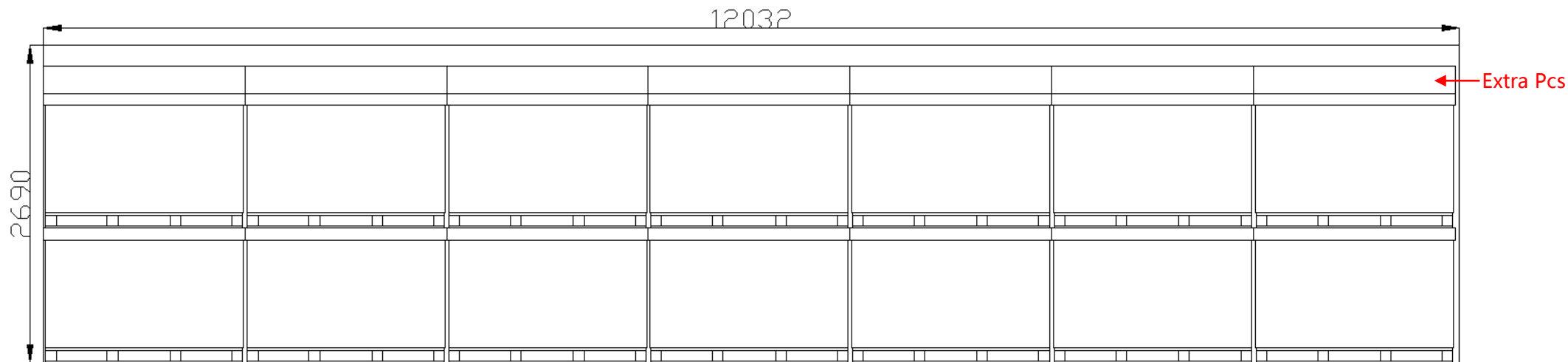


Unit: mm







Packing configuration

Unit : mm



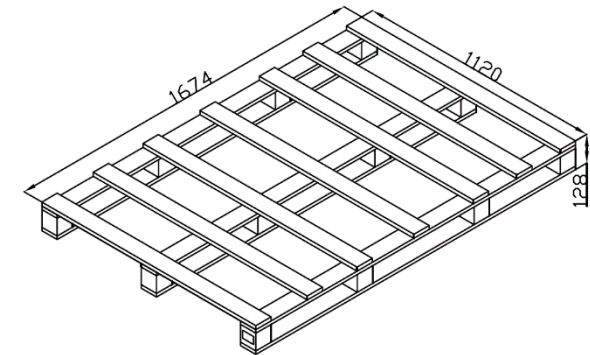
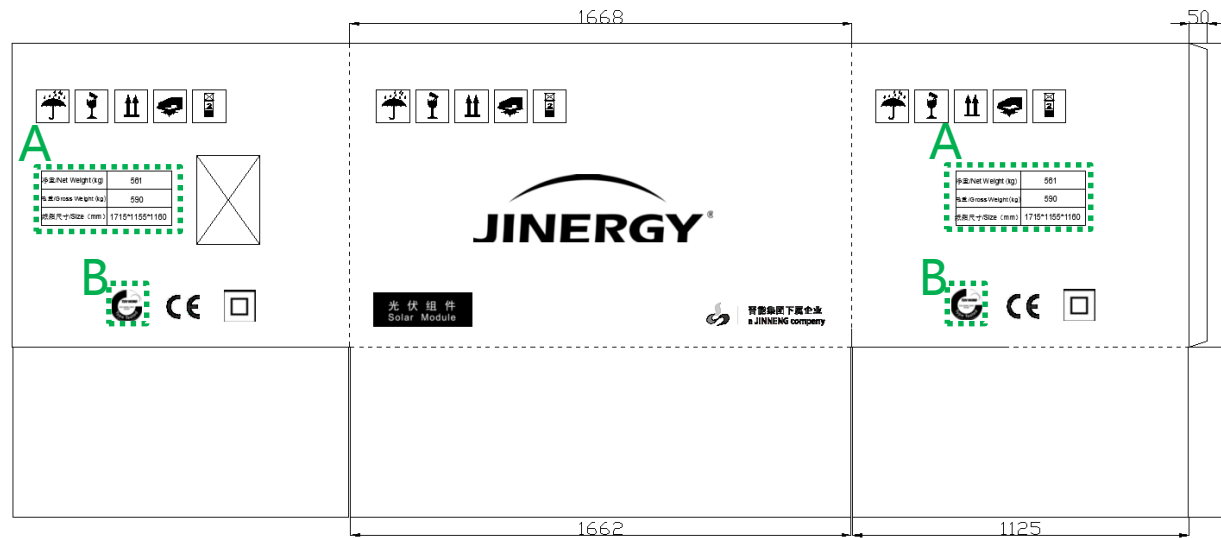
Dimension Of Module	40-foot High Container	
1650*992*35	Pcs/Pallet	31
	Pallet/Stack	2
	Extra Pcs/Stack	4
	Stacks/Container	14
	Pcs/Container	924

Unloading for container

S/N	Operating procedure	Photo	Control Point
1	If the container is on the ground, the module can be unloading directly		<p>If the container is not full , the people need to cut the bandage when unloading (If the container is full , the bandage is none)</p> 
2	If the container is on the flatbed trailer, the module need a landing platform when unloading		<ol style="list-style-type: none"> 1. If the forklift hold up from the long side, forklift arm need to beyond the box width 2. Box transportation needs to keep horizontal or tilted to the direction of forklift 3. Box short edge surface requires to smooth and there is no sharply extrude
3	The forklift can loading 2T or more, raising the module smoothly pull out and keep slow speed when holding the module		<ol style="list-style-type: none"> 1. If the forklift hold up from the short side, forklift arm length of about 1520 mm or more 2. Box transportation needs to keep horizontal or tilted to the direction of forklift 3. Box short edge surface requires to smooth and there is no sharply extrude

Unpacking

Material of package

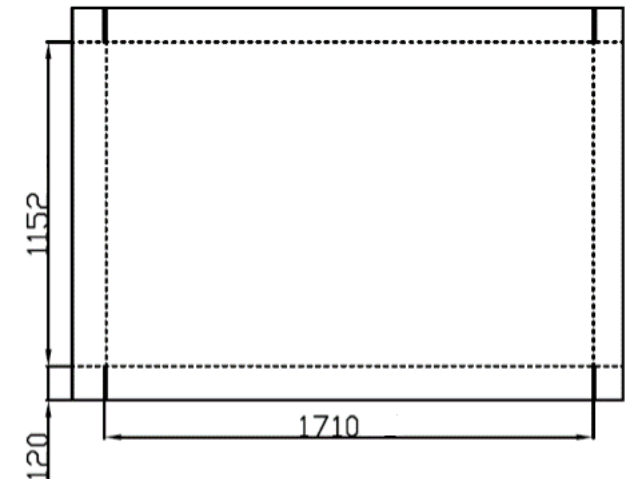


A
5:1

净重/Net Weight (kg)	561
毛重/Gross Weight (kg)	590
纸箱尺寸/Size (mm)	1715*1155*1160

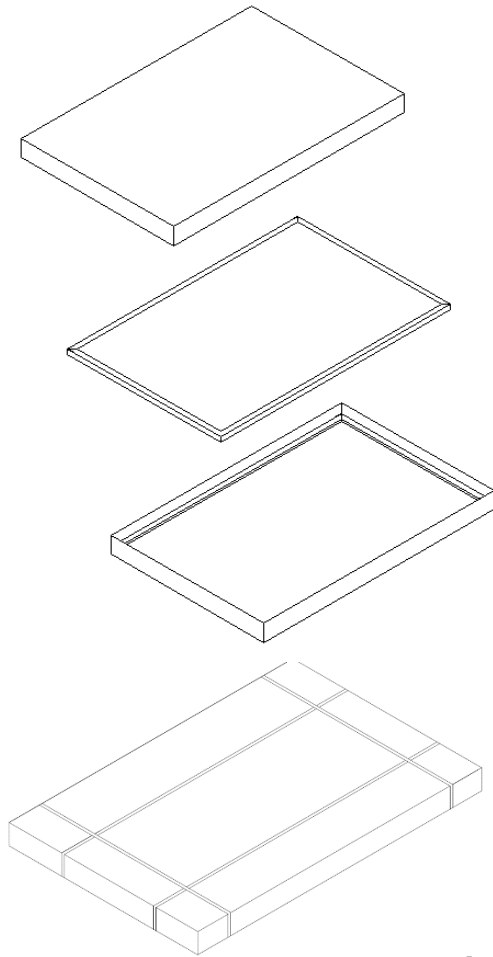
Unit: mm

B
5:1



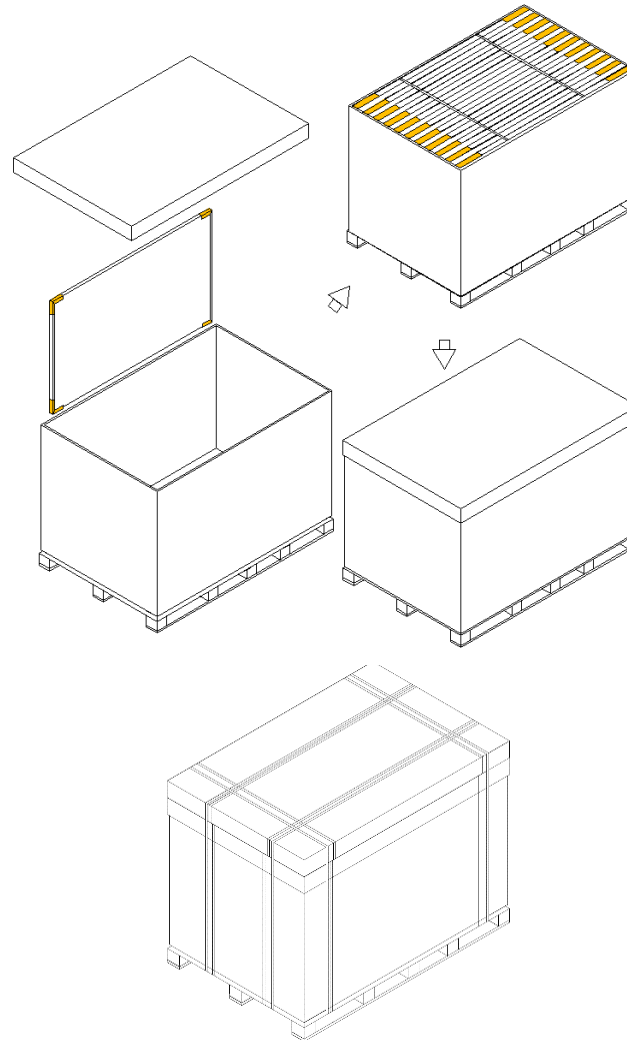
Unpacking

Manner of packing

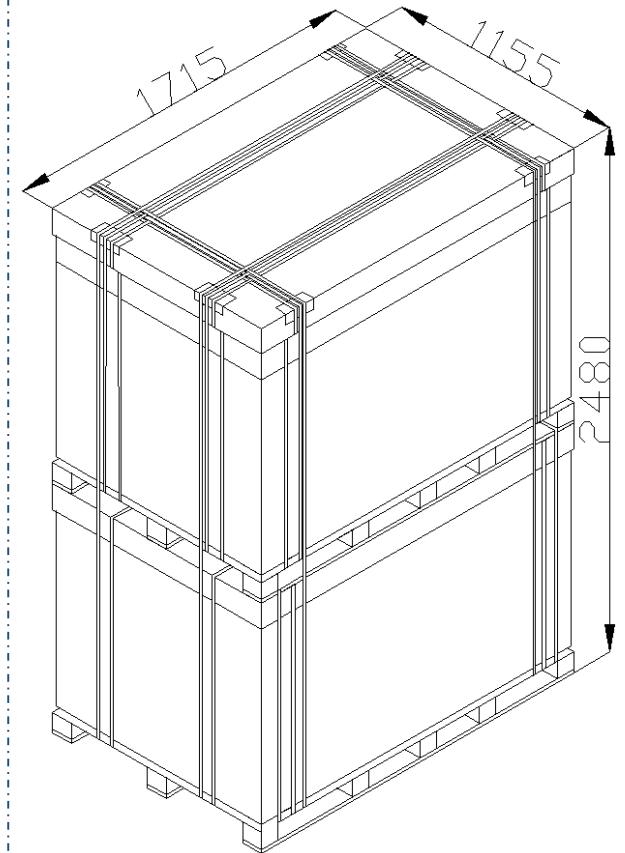


Unit: mm

Top Package







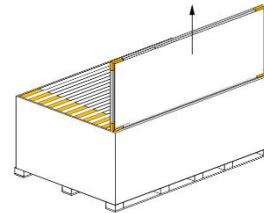
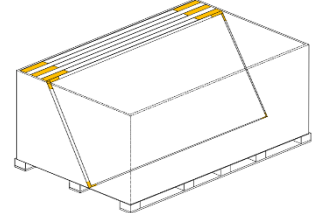


Single Package


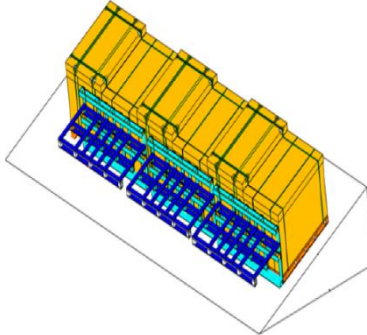




Stacked Package

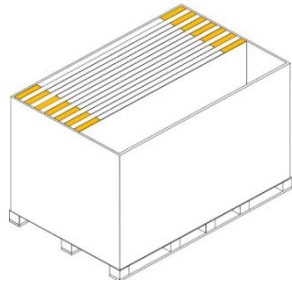
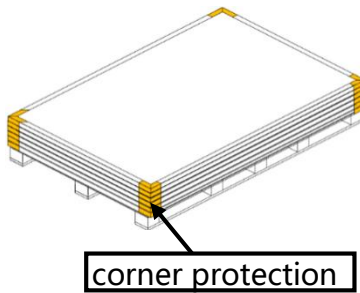
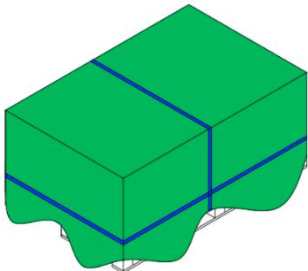
Operating procedure of unpacking

S/N	Operating procedure	Photo	Control Point
1	Cut off the packing tape, remove the top package down and hold on flat floor		 
2	Cut off the packing tape and remove the box cover		Operators must wear gloves to prevent scratching of their hands by frame and keep the glass surfaces clear
3	Cut off the inner packing tape		
4	1. Two professional people unpacking the module together from back side 2. When take off the last eight modules, the outermost module must be slanted to lean on the other modules		 

Storage for modules

S/N	Operating Procedure	Photo	Control Point
1	The module would be best set on the flat floor, stand side by side and place neatly		
2	If there are not flat floor , the stacked package must be break down, the short part of carton is facing down, stand side by side and place neatly		The pallet should be pulled firmly as following 
3	The module should be protect when raining or wet, which wrapped by waterproof		It should be protected by waterproof whether above two methods

Storage for scattered modules

S/N	Operating procedure	Photo	Control Point
1	If unpacked modules do not installed completely		It can not remain in the box for long time, if it is necessary to storage the unpacked modules, we suggest the following method
2	Place the modules on the pallet		<ol style="list-style-type: none"> 1. The pallet need to put on the flat ground 2. The glass of first module need to face upward, it need to face down from second module 3. It can not more than 20 Pcs/pallet totally 4. It is forbidden that carry module by cable of junction box 5. The modules should be stacked neatly, avoid the glass blasting because of dislocation 6. People can not move the modules with this method 7. It is not allowed two or more adjacent modules which have no corner protection
3	Modules should be wrapped by waterproof		

Installation

Installation condition

State :

1. The modules which installed at one series should be same power、 same color、 same current

Power : ③ of dexter picture

Color : ⑤ of dexter picture

Current : ⑦ of dexter picture

2. If the modules must be gathered together, we suggest that the first mix colors, secondly mix current, mixed power is not recommended
3. Only high current modules can mixed into low current modules series
4. The strapping tape of cable need to use scissors to cut open, can't catch the connector pull off

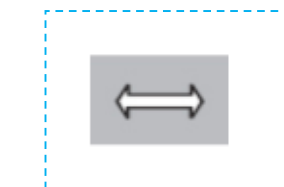
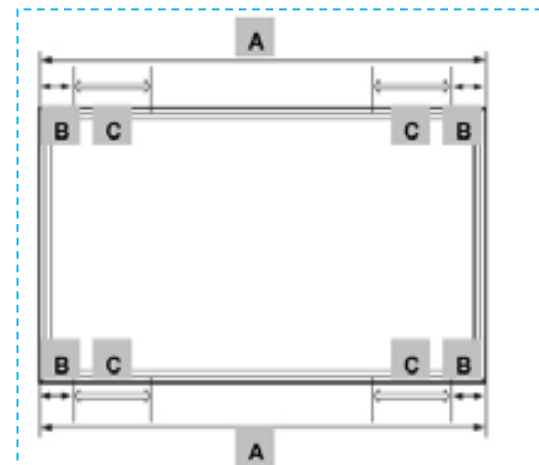
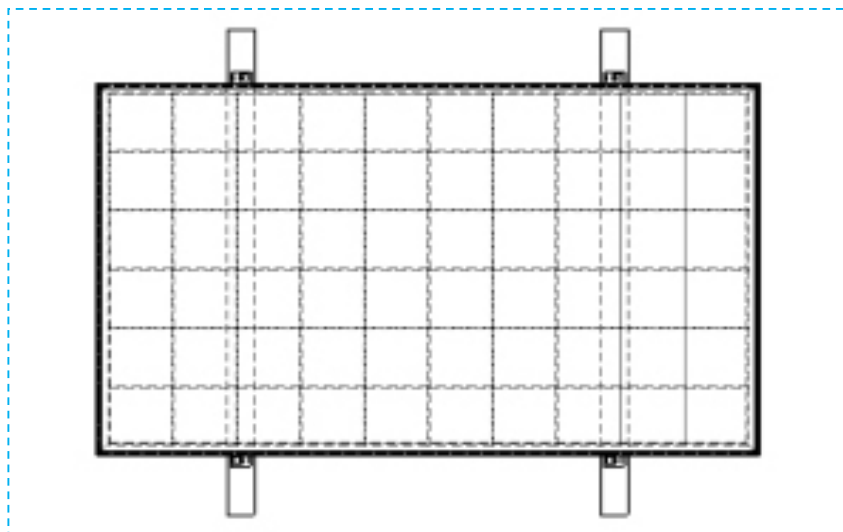


JINERGY			
①	Type: NNM60-285	② Size: 1650*992*35*35	③ Rated Power: 285W
	S/N:		④ Colour: Dark Blue/深蓝
1	1261113116281	2	1261114116425
3	1261114116338	4	1261112116502
5	1261111117784	6	1261111117790
7	1261111117794	8	1261111117808
9	1261113116790	10	1261113116753
11	1261113116769	12	1261114116088
13	1261113118051	14	1261113117966
15	1261114116141	16	1261114116235
17		18	
19		20	
21		22	
23		24	
25		26	
27		28	
29		30	
31		32	
Pallet NO: 261103050236		Material Code: 1201020040	
⑨		⑧	
		⑦	

- ① Module type and Power/组件型号及功率
- ② Module size/组件尺寸
- ③ Rated Power/组件功率
- ④ Company LOGO/公司LOGO
- ⑤ Cell Colour/电池片颜色
- ⑥ Module serial number/组件序列号
- ⑦ Current/电流分档标识
- ⑧ Material Code/组件成品编码
- ⑨ Pallet NO./组件托号

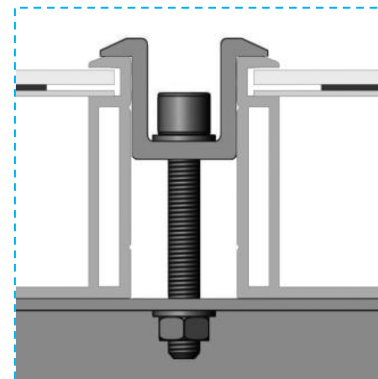
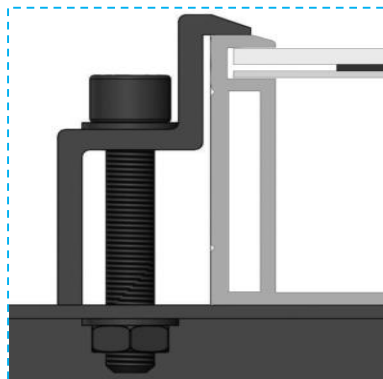
Installation method

Clamping

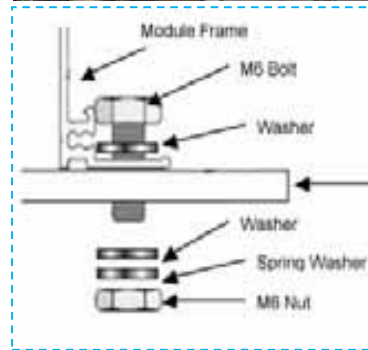
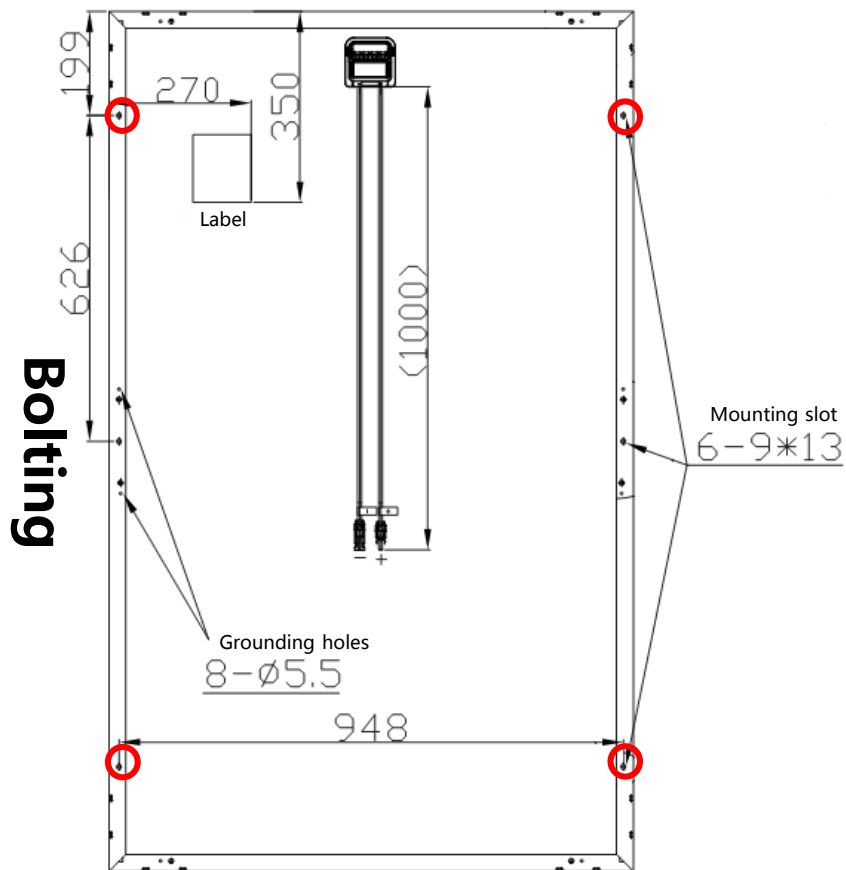


Clamp Location

Dimension(mm)	A(mm)	B(mm)	C(mm)
1650*992*35	1650	200	210



Installation method

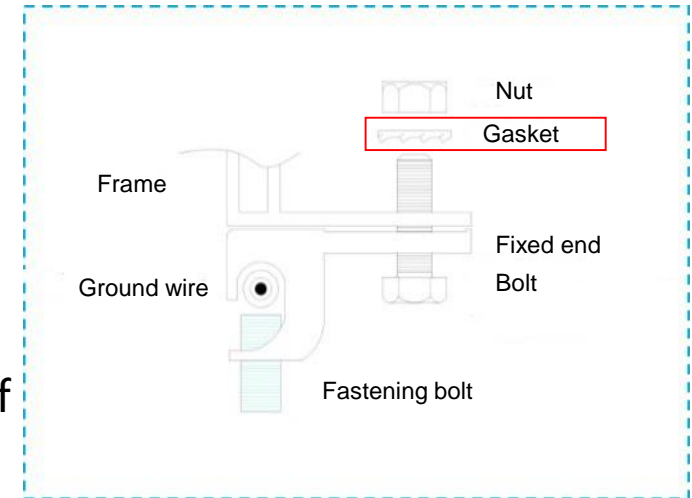


- 1.The specific way of installation is on the base of EPC
- 2.The four mounting slots are matched with M8 bolts
- 3.Put two washer into the bolt on both side of the frame

Electrical installation

Ground

1. The module must ground by Grounding hole
2. The surface of frame is anodization coating , it is necessary for tooth gasket or self-tapping screw in order to be well grounded
3. Every module must ground individually only when all modules of series connect well
4. Bracket must be checked before the thunderstorm season , it is necessary to carry out spot check on underground component if it is ok
5. Jinneng recommend to use the ground cable which radius is 6 mm



Recommended grounding way



Tooth Gasket



Ground

Anti-thunder

Anti-thundered measure should be taken to module series

Photovoltaic grounding and lightning protection should implement by regulation of DL/T1364

Electrical installation

Operate

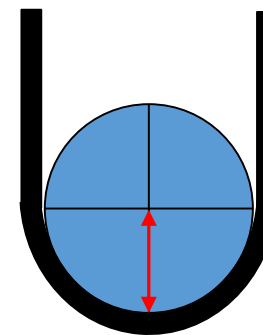
1. The maximum system voltage is 1000V/1500V
2. The series quantity of module must be matched with electrical characteristics of inverter
3. It is possible to heat or burn up except for hearing “ka” when people plug the connector
4. The minimum bended radius is 43mm and prohibit to excessively bend



Fail



Pass



Cable Bending



Fail



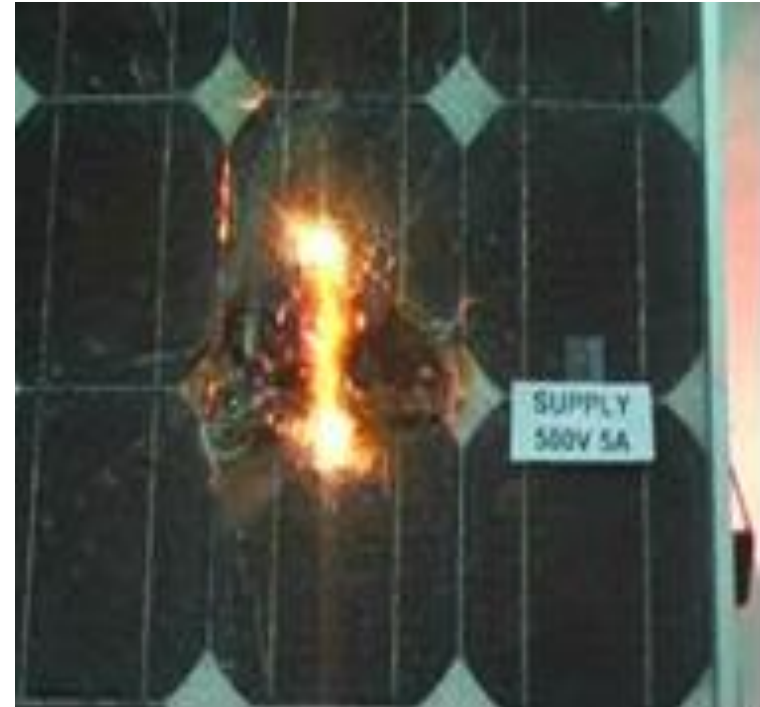
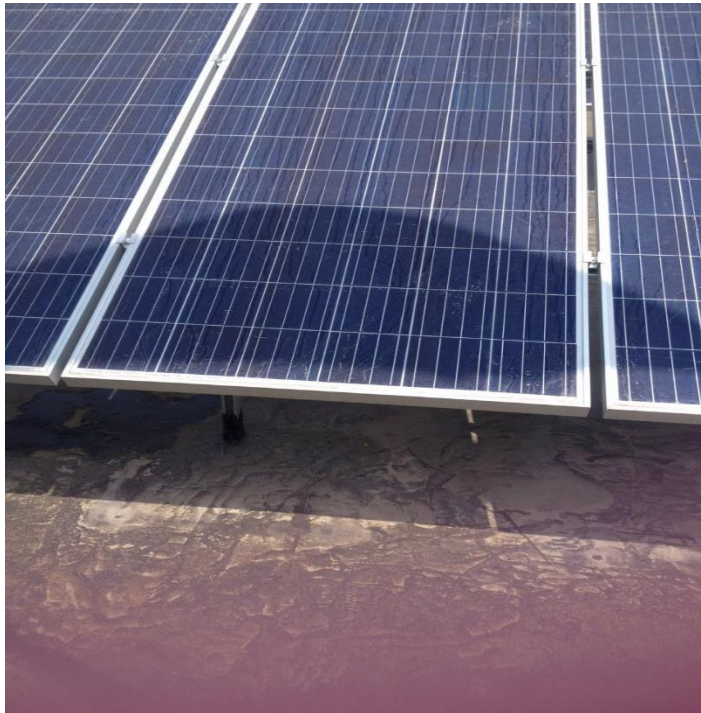
Pass

Clean

1. The module should clean which the irradiance is lower than 200 w/m^2 , suggested module cleaning time: the summer before 6 o'clock in the morning, after 7 PM ; the winter before 7 o'clock in the morning, after 6 PM
2. You can use all kinds of soft sponge、 foam、 duster to clean module rather than Knife、 steel wool in case of scratching the glass
3. It is not recommended to clean with higher mineral water because there are remaining minerals after dry up
4. It is forbidden to clean with water which temperature is different largely with module , otherwise the glass is impossible to broken
5. Clean the water pressure cannot be more than 690 Kpa
6. Do not touch the surface of module with bare hands
7. People can clear it with soft items if there is thick snow on the glass , be careful to not scratch glass. It is not recommended to clean when the snow wait to be too thick , to avoid the module surface freeze

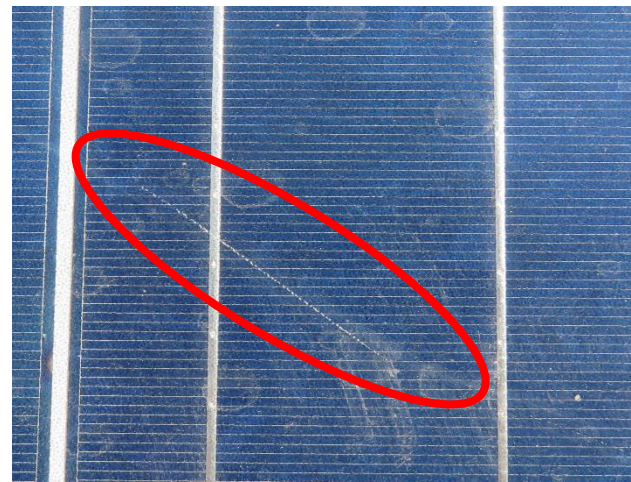
Others

- The module is forbid to shield by grass、droppings and other sundry, Otherwise it will cause power decreases, serious will cause hot spots, combustion



Others

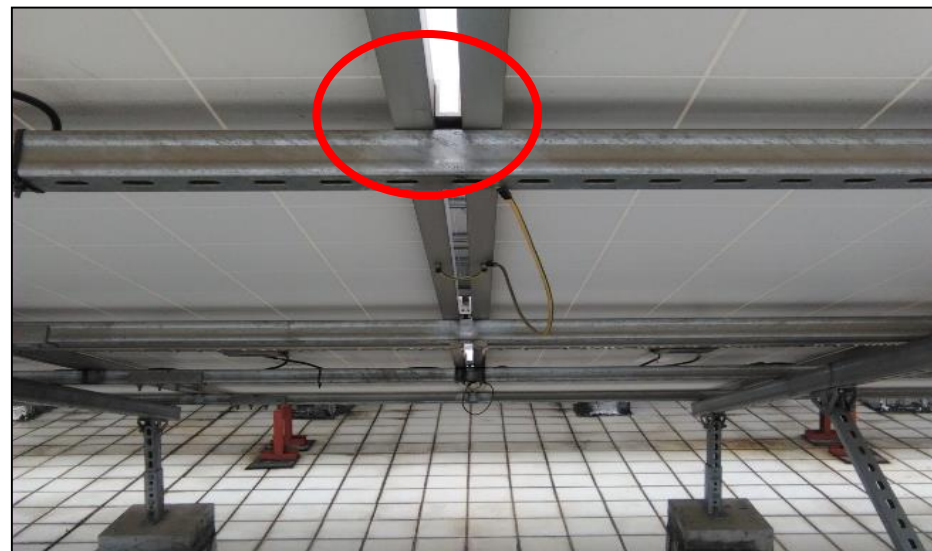
- Prohibit impact or use of sharp objects to wipe、touch the glass surface, Otherwise it may cause the surface scratches or glass blowout, if glass burst, need immediate replacement of module



- Modules shall not be piled up around flammable items, surrounding environment should be good ventilation and heat dissipation
- In order to keep the system security and work under maximum efficiency, electrical and mechanical failure needs to be tested by authorized personnel






Others

- Check the module and the bracket is fixed firmly, if not may cause module is overturned by wind
- Check the grounding line and modules are in good condition


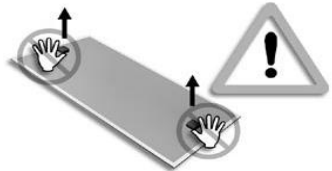





- Check whether there is cable or other components impact module, this phenomenon may cause cell cracked、power decreased, serious may cause hot spot or burning

Safety

	It can produce more than 30V voltage when module is in the sun. Sparks、 electric shock, and even cause fire if there is improper operation to electrical connection. Do not directly touch module no matter it under any circumstances.
	The module can be installed on roof、 vehicle and so on which be matched to special bracket. Do not pull down anything such as glass、 label、 frame and which belong to module .
	Do not paint or paste anything on the surface of module.
	Do not focus the suns ray on the module with burning glass or mirror and so on.
	Please let the child away from module and PV system in the process of transportation and installation.

Safety

	<p>Do not take the module in which combustible gas easily generate or congregate.</p>
	<p>People should contact the module frame rather than grab connector and cable when transfer module.</p>
	<p>Do not tread module in any case.</p>
	<p>To protect the glass is not damaged, please do not place heavy objects on the module or throw something which have damage to module.</p>
	<p>Do not clean the module which glass is cracked or cable is damaged</p>

Safety



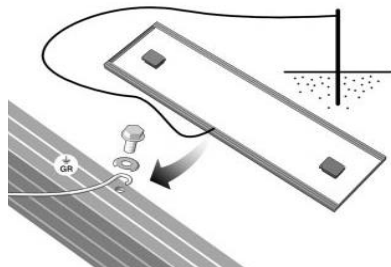
To prevent the generation of high voltage and current , people can use a piece of opaque material cover module completely. It is unnecessary when take appropriate protection in the process of operation and it is according to local safety regulations.



Do not wear metal jewelry in process of installation.

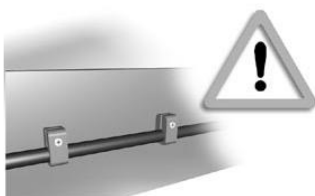


Please use the insulation of the licensed tools.



Grounding cables should be properly connected to the the specified location of module frame because there are risk of being struck by lightning . To ensure that the grounding resistance must be less than 10Ω

Safety



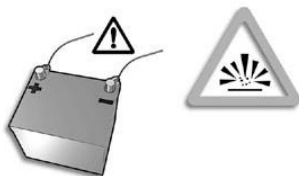
Please fixed the connecting cable to the bracket which avoid loose cable waggle.



It is forbidden to cable placed on the sharp edges.



The corresponding protection measures should be made for cable to prevent direct contact with animals.



Excess gas that battery produced could cause explosion.



晋能集团

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谢谢观看！
THANKS!