CNBM | JETION SOLAR
Visionary Green Energy

Dual Glass Modules
Installation Manual

JX-PI-RD-003 C0 2025_05

Please read this manual carefully before installation and retain it for future reference.

Contents

Introduction

Jetion solar modules are composed of crystalline silicon solar cells, high-transparency low-iron tempered glass, anti-aging EVA, flame-retardant backsheet, and anodized aluminum alloy frames. Junxin modules comply with international standards IEC 61215 and IEC 61730, certified by authoritative testing centers, and are widely used in rooftop PV systems, power stations, communication stations, marine, meteorological, transportation, and building-integrated PV applications.

We are committed to providing global customers with technical and installation support.

This manual contains critical information on installation, safety operations, and module maintenance.Read and understand all instructions before installation. Installers must adhere to this manual, local standards, building codes, and regulations. All PV system work must be performed by qualified engineers certified in mechanical and electrical requirements.

Disclaimer

- Jetion assumes no liability for losses, damages, injuries, or costs arising from improper installation, operation, use, or maintenance.
- Jetion reserves the right to update products, specifications, or installationguidelines.

1 Certification Requirements

1.1 IEC 61215&61730

Jetion modules are designed to meet IEC 61215 and IEC 61730 standards.

1.2 UL

- Electrical performance (short-circuit current, open-circuit voltage, maximum power) under standard test conditions (100 mW/cm2 irradiance, AM1.5, cell temperature 25°C) is within ±10% of rated values.
- Mounting height must be ≥100 mm (3.94 in), with 115 mm (4.53 in) recommended. Other methods may affect fire ratings.
- UL-certified modules have a maximum load capacity of 50 lb/ft2 (224.17 kg/m2).
- Wiring must comply with NEC standards.
- In Canada, installations must comply with CSA C22.1 and the Canadian Electrical Code.

2 Installation Requirements

2.1 Environmental Requirements

2.1.1 Avoid shaded areas

Even minor shading (e.g., dust) reduces output.

2.1.2 Ventilation

Ensure adequate airflow to prevent overheating.

2.1.3 Prohibited locations


Near flammable gases (gas stations, tanks).


Extreme dust, pollution (chemical fumes, acid rain, heavy metal particles).


Laser radiation sources.


Areas prone to flooding, snow/ice accumulation, or coastal environments (install ≥500m from the ocean).

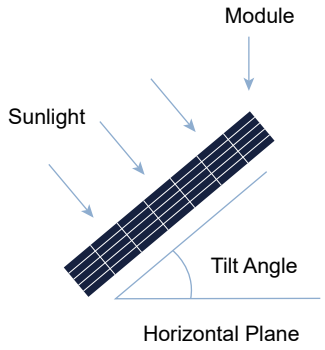
Operating temperature: -20°C ~ 40°C.

2.2 Module Orientation and Tilt Angle

When photovoltaic (PV) modules face the sun directly, their power output is maximized. To ensure the system generates the maximum annual energy yield, the optimal orientation and tilt angle of the PV modules must be calculated. Additionally, to avoid reduced system output, ensure all modules within the same system share identical orientation and tilt angles.

To facilitate rainwater washing away surface dust and minimize cleaning frequency, Jetion Technology recommends an installation tilt angle of ≥10°.In the Southern Hemisphere, modules should generally face north; in the Northern Hemisphere, they should face south.

For off-grid installations, Junxin modules should be connected to permanent structures, with tilt angles set to optimize winter performance. Typically, if the system generates sufficient energy in winter, its performance in other seasons will also be satisfactory. The tilt angle refers to the angle between the PV module and the horizontal plane, while the maximum output tilt angle (relative to the ground) should be determined by system designers based on site-specific factors such as terrain, wind conditions, meteorological data, and mechanical system requirements.



Recommended Fixed Tilt Angle

Latitude Range	Right Side
0°~ 15°	15°
15°~ 25°	Same as latitude angle
25°~ 30°	Latitude angle +5°
30°~ 35°	Latitude angle +10°
35°~ 40°	Latitude angle +15°
＞40°	Latitude angle +20°

Note: Actual angle may be adjusted based on installation design.

2.3 Material Requirements

2.3.1 Support structure

The component support structure must be made of wear-resistant, corrosion-resistant, and UV-resistant materials to meet structural requirements. The design of the support structure and component accessories must meet local wind and snow load-bearing requirements.

2.3.2 Bypass diodes

When a component is partially shaded, the shaded part forms a shadow and generates a reverse voltage internally, forcing the current from unshaded parts to flow through the shaded area. When the diode is connected in parallel with the cell string, the current from the unshaded part will bypass the shaded part through the diode, reducing component temperature and current loss.

2.3.3 Anti-reverse charge diodes

In systems using batteries, anti-reverse charge diodes are typically placed between the battery and component output to prevent battery discharge at night and on rainy days.
Diodes used for anti-reverse charging must meet the following requirements:
The rated average forward current [IF(AV)] at the component's highest operating temperature must exceed the maximum system current.
The rated repetitive peak reverse voltage [VRRM] at the component's lowest operating temperature must exceed the maximum system voltage.
(IEC: Vmax=1000V or 1500V; UL: Vmax=1000V)

2.3.4 Batteries

When charging a battery with photovoltaic components, the battery must be installed in a way that protects system performance and user safety. Batteries should be away from main pedestrian and animal traffic. Battery installation locations should avoid sunlight, rain, snow, and debris, and have good ventilation. Most batteries release hydrogen gas during charging, which is explosive. Do not ignite matches or create sparks near battery banks. If installing batteries outdoors, place them in specially designed insulated and ventilated battery boxes.

2.3.5 Cables and other components

To ensure all components exposed to sunlight meet the requirements for system maximum voltage, current, humidity, temperature, etc., we recommend that all cables and electrical connection devices meet the corresponding national electrical codes. Only cables with one terminal are allowed. The cable area connected to the connector should be 4-6 mm2, with a working temperature of -40°C to 90°C. Component connectors should match the original female or male connectors from the same supplier at the installation site, which have the same system mechanical properties.

Junction Box and Connector Supplier Model Reference Table

Photovoltaic System Connector Supplier	Connector Type	Junction Box Type
Zhejiang Zhonghuan Saite Photovoltaic Technology Co., Ltd.	PV-ZH202B	PV-ZH011C-5
Zhejiang Jiaming Hehe Photovoltaic Technology Co., Ltd.	PV-JM608	JM07w,
Zhejiang Renhe Photovoltaic Technology Co., Ltd.	RHC2xyzu	FT50xy
Staubli Group	PV-KST4-EVO2/XY-UR (male), PV-KBT4-EVO2/XY-UR (female),	
	PV-KST4/xy-UR (male) PV-KBT4/xy-UR (female)	

2.4 Requirements for Different Installation Methods

Under normal circumstances, components can withstand a wind load of 2400Pa on the back and a snow load of 5400Pa on the front (test load), as well as hail impacts with a diameter of 25mm and a speed of 82km/h.

2.4.1 Ground installation

Choose an appropriate system installation height to prevent the lowest edge of the component from being covered by snow for extended periods in high-snowfall areas. Also, ensure the lowest part of the component is high enough to avoid being covered by windblown sand.

2.4.2 Roof installation

When installing components on a roof or building, ensure they are securely fastened to prevent falling due to wind or snow pressure.When components are installed parallel to the building walls or roof surface via supports, the frame and walls or roof surface should be kept clean to avoid line damage and facilitate air circulation behind the component. The height should be at least 100 mm (3.94 inches), with a recommended height of 115 mm (4.53 inches).Fire rating: Class C. When installing components on a roof, the roof must be covered with fire-resistant material matching this rating, and there must be sufficient ventilation between the component back and installation surface. Also, leave a safe working area between the roof edge and the solar array edge. For ground residential installations, follow local regulations.

2.4.3 Column installation

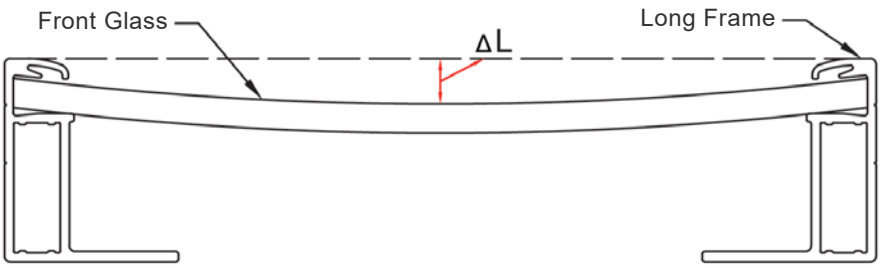
When installing components on columns, choose appropriate columns and structures to withstand expected wind forces in the area.

3 Installation Methods

To prevent bending, vibration, mechanical stress, or curvature, modules should be installed on a flat contact surface. The minimum distance between installed modules should not be less than 20mm. All installation points provided must be used to avoid direct contact between glass and metal (e.g., installation rails).

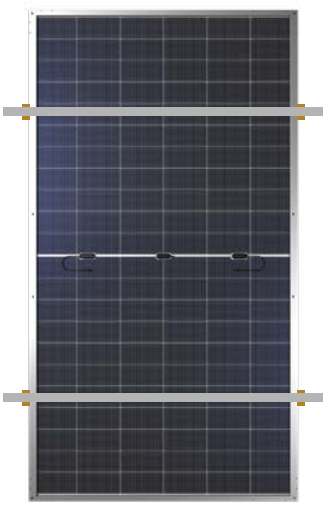
Note: Under static conditions, the glass surface of photovoltaic modules may experience non-uniform deformation due to its own weight, with the maximum deflection occurring in the geometric center area. When using bolt mounting, clamp mounting, or tracker mounting systems, the allowable deflection range (ΔL in the figure below) should be 0–20 mm in the absence of external loads (e.g., wind or snow loads).

Important: During storage, transportation, and installation, applying excessive pressure on the module surface is strictly prohibited, as improper external force may cause glass panel deformation.



Type 1 Clamp Installation

Clamps must overlap the front frame of the module by 8mm to 12mm. The minimum thickness of the clamp must be ≥4mm, and the length must be ≥50mm. The contact width between the frame and the rail should be at least 10mm. To secure the module to the mounting bracket, at least 4 clamps must be used, with a tightening torque of 16~20N·m. Clamps should not distort the frame.



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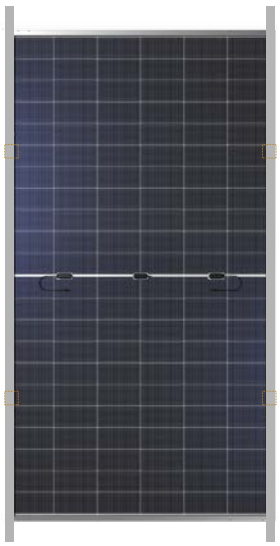

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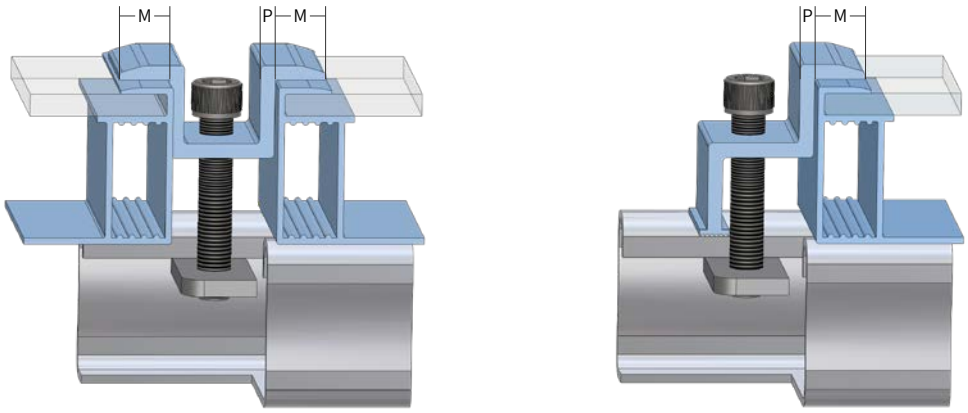
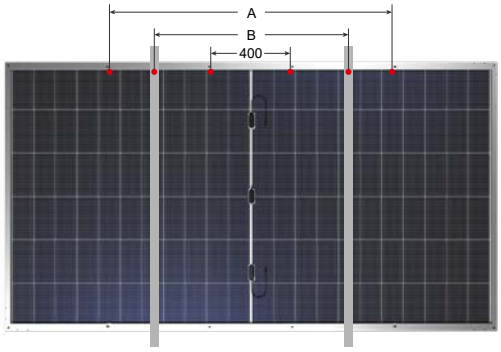
Installation position:
(1/4L-50) ≤ S ≤ (1/4L+50)
2 edge clamps per module (ends) & 2 middle clamps per module (middle of the module)



Dimension "M" represents the overlap dimension between the clamp and the front frame of the module;
Dimension "P" represents the thickness of the clamp;
8mm ≤ M ≤ 12mm; P ≥ 4mm; Clamp length ≥50mm; Bolts include: bolts, spring washers, flat washers, nuts.

Type 2 Bolt Installation

Secure each module's frame to the support structure through at least 4 installation holes (corresponding to installation rails 2 and 3). For larger wind and snow loads, secure 8 holes (corresponding to installation rails 1 to 4). The module frame must be fixed to the installation rail using M8 corrosion-resistant screws with spring washers and flat washers. The recommended torque is 15~20 N?m. Please use existing installation holes for installation instead of drilling additional holes (drilling behavior is not conducive to the reliability and warranty of the module). Please use corrosion-resistant installation and connection materials. Installation diagrams and instructions are as follows：



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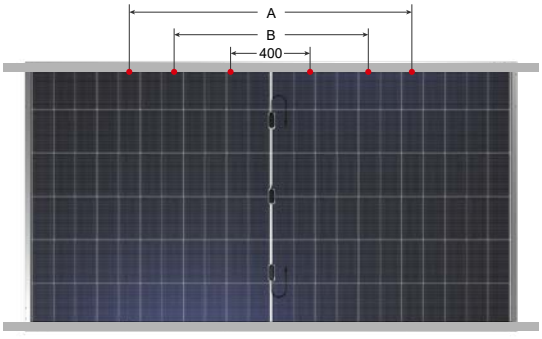

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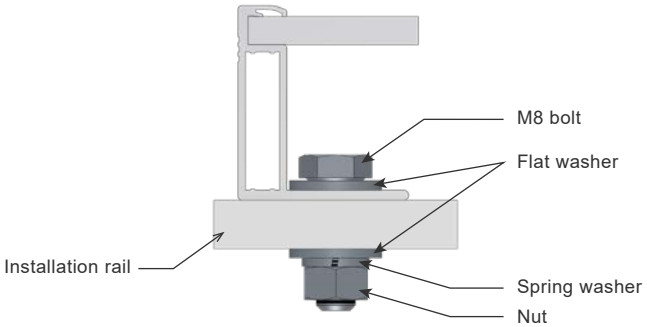


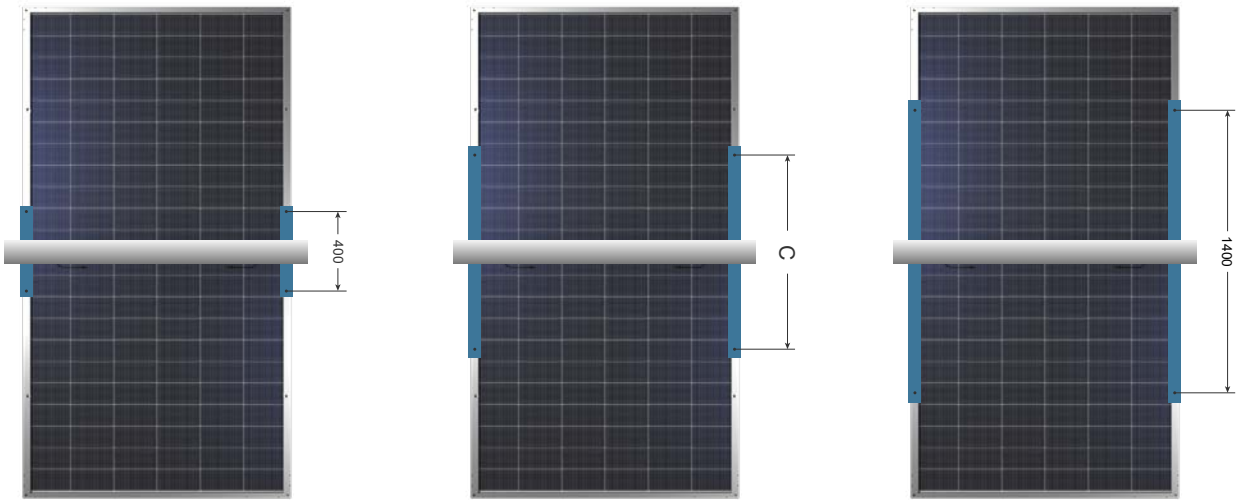
Secure the module at each installation location with M8 bolts, flat washers, spring washers, and nuts, and tighten to a torque of 16~20 Newton meters (140~180 pounds/inch).

Type 1 and Type 2 Corresponding Test Loads

Module Type			Front/ Back	Clamp Installation		Bolt Hole Installation			
				Long Side Perpendicular to Purlin ①	Long Side Parallel to Purlin ②	Long Side Perpendicular to Purlin ①		Long Side Parallel to Purlin ②	
						Hole A	Hole B	Hole A	Hole B
60 cell	JTxxxSXh(B)	xxx: 295-330	Front	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
60×2 cell	JTxxxSIh	xxx: 300-325	Front	5400 pa	/	5400 pa	5400 pa	/	/
			Back	2400 pa	/	2400 pa	2400 pa	/	/
		xxx: 355-370	Front	5400 pa	/	5400 pa	5400 pa	/	/
			Back	2400 pa	/	2400 pa	2400 pa	/	/
	JTxxxSIh(B)/ JTxxxSIt(B)	xxx: 355-380	Front	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
		xxx: 430-460	Front	5400 pa	3600 pa	5400 pa	5400 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
		xxx: 460-480	Front	5400 pa	3600 pa	5400 pa	5400 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
72 cell	JTxxxSTh(B)	xxx: 350-395	Front	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
72×2 cell	JTxxxSSh	xxx: 360-390	Front	5400 pa	/	5400 pa	5400 pa	/	/
			Back	2400 pa	/	2400 pa	2400 pa	/	/
		xxx: 430-445	Front	5400 pa	/	5400 pa	5400 pa	/	/
			Back	2400 pa	/	2400 pa	2400 pa	/	/
	JTxxxSSh(B)/ JTxxxSSt(B)	xxx: 430-455	Front	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa	5400 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
		xxx: 520-555	Front	5400 pa	3600 pa	5400 pa	3600 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2000 pa	2000 pa
		xxx: 570-590	Front	5400 pa	3600 pa	5400 pa	3600 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2000 pa	2000 pa
78×2 cell	JTxxxSRt(B)	xxx: 610-630	Front	5400 pa	/	3600 pa	5400 pa	/	/
			Back	2400 pa	/	2400 pa	2400 pa	/	/
54×2 cell	JTxxxSJh(B)/ JTxxxSJt(B)	xxx: 385-415	Front	5400 pa	3600 pa	5400 pa	5400 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
		xxx: 410-430	Front	5400 pa	3600 pa	5400 pa	5400 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
66×2 cell	JTxxxSLh(B)/ JTxxxSLt(B)	xxx: 475-505	Front	5400 pa	3600 pa	5400 pa	5400 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
		xxx: 500-535	Front	5400 pa	3600 pa	5400 pa	5400 pa	3600 pa	3600 pa
			Back	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa	2400 pa
66×2 cell	JTxxxSLk(B)	xxx: 645-665 695-720	Front	5400 pa	/	5400 pa	/	/	/
			Back	2400 pa	/	2400 pa	/	/	/

Type 3 Single-axis Tracking System Installation

Clamp installation is not recommended for tracking systems. The following illustrations apply only to the installation of installation holes. To avoid contact with bracket components, the distance between the module junction box and the bracket must be greater than 60mm. Installation diagrams and instructions are as follows:



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Type 3 Corresponding Test Loads

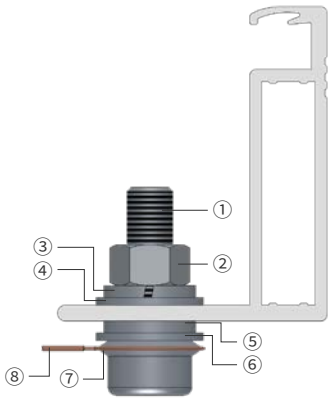
Module Type			Front/Back	Bolt Installation ①	Bolt Installation ②	Bolt Installation ③	C-hole spacing
72×2 cell	JTxxxSSh(B)/ JTxxxSSt(B)	xxx:520-555 xxx:570-590	Front	2400 pa	2500 pa	/	990
			Back	2000 pa	2000 pa	/	
66×2 cell	JTxxxSLk(B)	xxx:645-665 /695-720	Front	2200 pa	/	2400 pa	790
			Back	2000 pa	/	2000 pa	

4 Grounding

Modules with aluminum frames should be grounded in accordance with the following requirements; glass fiber reinforced polyurethane (FRP) frames are exempt from grounding.

- To avoid the risk of electric shock or fire, the frame of the module must be grounded before energization.
- Frame grounding should be carried out in accordance with NEC Article 250 (USA) or CEC requirements in Canada.
- To ensure proper grounding, grounding hardware should penetrate the anodized layer of the frame.
- Jetion recommends using the following components or equivalents.

① Stainless steel bolt
② Stainless steel nut
③ Stainless steel spring washer
④⑥ Stainless steel flat washer
⑤ Stainless steel lock washer
⑦ Stainless steel countersunkwasher
⑧ Grounding wire



- Attach a separate conductor as a grounding wire to a 4mm diameter grounding hole, and install an M4 bolt, countersunk washer, lock washer, spring washer, and nut.
- Suntech PV modules can be grounded using third-party grounding devices suitable for metal frame grounding, but these devices must be installed in accordance with the specifications of the grounding device manufacturer.
- The exposed copper of the grounding wire must not come into contact with the module frame to prevent corrosion of the frame.

5 Wiring

5.1 General Requirements for Wiring

Proper Wiring Design: To reduce lightning strike risks, system design should avoid forming closed loops. Before the PV system begins operation, verify that the wiring is correct. If the measured open-circuit voltage (Uoc) or short-circuit current (Isc) deviates from the specifications, wiring issues may exist.

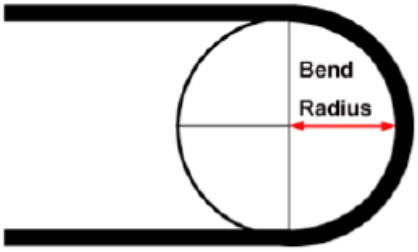
The junction box on the back of the Jetion's module is weather-resistant and compatible with standard wiring and conduit connections. Wiring methods must comply with the National Electrical Code (NEC). Each module is factory-equipped with bypass diodes and cable connectors.

Use modules with identical parameters within the same system. For series connections, all modules must have matching current ratings; for parallel connections, all modules must have matching voltage ratings. Connected modules must align with the system equipment’s voltage specifications, and the combined voltage from module connections must not exceed the system’s maximum allowable voltage.

When using coated modules, account for voltage variations under different temperatures (check the temperature coefficient of different modules; voltage increases as temperature decreases. For details, refer to test reports from certification bodies). The current and voltage values on the nameplate are typical; actual measured data should reference the power test checklist.

Ensure connectors are clean and sealing rings are intact.Lock positive and negative plugs securely. Poor connections may cause leakage or burnout.Junction boxes and connector housings are made of organic materials. Avoid contact with organic solvents, as this may cause deformation or cracking.

The minimum bending radius of module cables must be no less than 4 times the cable diameter.



Wrong bending method

Correct bending method

When securing cables to the mounting structure, care must be taken to avoid mechanical damage to the cables or components. Do not apply excessive pressure to the cables. For proper cable fixation, specially designed UV-resistant cable ties and clips must be used to fasten them to the structure. Although the cables are UV-resistant and waterproof, direct sunlight exposure and water immersion should still be avoided.

5.2 Number of Modules in Series and Parallel Connections

Series Connection:The total voltage of modules in series must be less than the system's maximum voltage (Umax-)(IEC: Umax = 1000 V or 1500 V).Modules in the same string should have identical current ratings, identifiable via the grading labels on the packaging header or module frame.

Parallel Connection:The total current of modules in parallel must be less than the system's maximum current.Ensure polarity and voltage consistency across all strings. If reverse polarity or significant voltage differences are detected, verify the configuration before connecting.

When components are connected in series and then in parallel, if there is a possibility of reverse current exceeding the maximum fuse current rating of the component, over-current protection devices of equal specifications must be used to protect the components. If the number of parallel connections is greater than or equal to 2 strings, each string of components must be equipped with an over-current protection device and a blocking diode.

Under normal circumstances, components may generate more electricity than under standard conditions. When determining the accessories for a photovoltaic power generation system, such as rated voltage, rated current, wire capacity, fuse specifications, and other parameters related to the output power of the components, the Isc and Voc values marked on the component nameplate should be multiplied by 1.25.

When connecting components in series, the number of components should be determined according to the formula:

$$N \times Voc \times [1-TC_{Voc} \times (25-T_{min})] \leq \text{Maximum system voltage}$$

N：Number of modules in series

Voc：Open-circuit voltage of the module

TC_{Voc}：Temperature coefficient of the module's open-circuit voltage

T_{min}：Local minimum ambient temperature

Parallel Connection:The output current of the entire string of modules is equal to the sum of the currents ofthe individual branches or module strings. Each string of modules should be equipped with a fuse. Please refer to the regulations of the country or region. The correction factor is determined by an authorized professional electrical engineer basedon relevant design standards and system simulation results. Jetion do not assume responsibility for the determination of minimum fuse specifications.

$$\frac{1.5}{K_f} \cdot I_{SC} \leq I_n \leq \text{Max. Fuse Rating(Regions Complying with IEC Standards)}$$

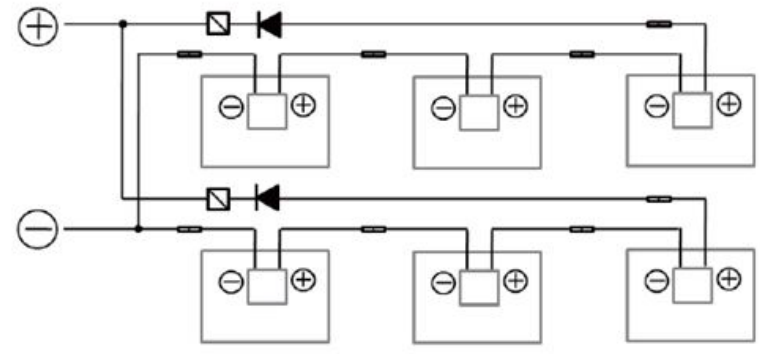
$$\frac{1.56}{K_f} \cdot I_{SC} \leq I_n \leq \text{Max. Fuse Rating(Regions Complying with NEC Standards)}$$

I_n：Rated current of the fuse

I_{sc}：Short-circuit current of the module

K_f：Temperature correction facto

The rated current value is corrected for different operating ambient temperatures through the temperature correction factor(Kf). Please confirm the final selection of fuse models with qualified calculation agencies and fuse manufacturers at the installation site. The maximum fuse rating provided on Jetion's product sheet is for reference only.



Diode(eg.20SQ045) Overcurrent protector Connector

5.3 Mainstream Junction Box Diode Model Reference Table

Bypass Diode Supplier	Bypass Diode Model	Junction Box Model
Zhejiang Zhonghuan Saite Photovoltaic Technology Co., Ltd.	35SQ045,for 25A	PV-ZH011C-5
	40SQ045,for 30A	
Zhejiang Jiaming Hehe Photovoltaic Technology Co., Ltd.	RT3550 for 25A	JM07w
	RT4550 for 30A	
Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FMK4530T for 25A	FT50xy
	MK4045 for 25A	
	MK5045 for 30A	

5.4 Potential Induced Degradation (PID) Effect Protection

- To avoid the PID effect in non-PID-resistant modules, it is recommended to ground the negative pole of the inverter.
- It is recommended to ground the negative pole of the inverter to prevent PID effects in modules in hydroelectric projects.
- If the inverter does not have a negative grounding function, a PID recovery device can also be used.

5.5 Connector Cleaning and Protection

During module installation, connectors are easily exposed to the air and may even come into contact with the ground, causing contamination of the connectors. Organic solvents (such as electrode cleaning agents) should not be used to clean connectors, as they can cause cracking after cleaning.

Connectors are prone to corrosion in environments with the chemicals listed in the table below. Long-term exposure of connectors to environments marked with "△" should be avoided, and contact between connectors and chemicals marked with "×" is prohibited.

No.	Chemical Type	Tolerance Ability
1	Aliphatic Hydrocarbons	×/△
2	Aromatic Hydrocarbons	×
3	Halogenated Hydrocarbons	×
4	Alcohols	+
5	Phenols	×
6	Ketones	×
7	Esters	×/△

No.	Chemical Type	Tolerance Ability
8	Ethers	×
9	Inorganic Acids	×/△
10	Organic Acids	△
11	Oxidizing Acids	×
12	Alkalis	×
13	Gasoline	×
Remarks: "+" Good "△" Moderate "×" Poor		

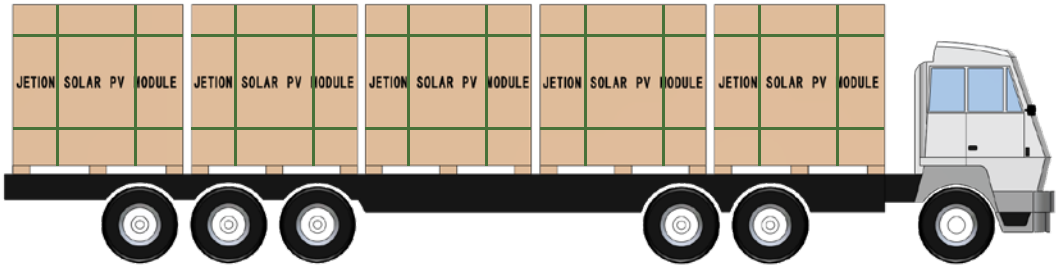
6 Handling and Transportation

6.1 Module Handling and Loading

If modules are loaded in containers, when handling modules, forklifts should lift the modules by inserting the tines from the short side of the pallet, and the length of the tines must exceed 2/3 of the pallet length; if the tine length does not meet the requirements, tine extensions must be added to increase the length. When transporting modules on flatbed trucks at the project site, modules can be lifted from the long side of the pallet, but the tine spacing must be adjusted to the maximum, and the tines should be inserted into the middle gap of the long side of the pallet. During forklift operation, a constant speed must be maintained, sudden acceleration or braking should be avoided, and lifting and lowering should be done slowly to prevent module oscillation.

6.2 On-site Transportation of Modules

If modules are transported on-site using flatbed trucks, they can only be stacked in a single layer for transportation as shown in the figure below.



Forklift Transportation

If modules are transported on-site using forklifts, they can only be stacked in a single layer for transportation as shown in the figure on the right.

Flatbed Truck Transportation

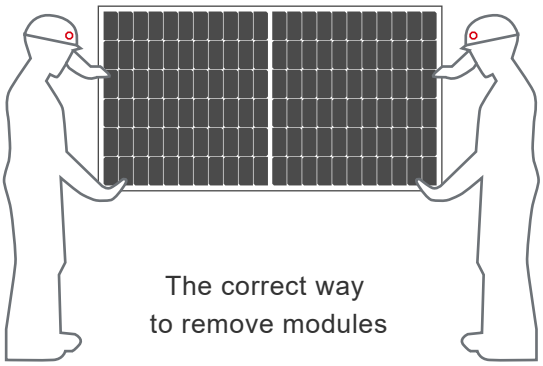
6.3 On-site Storage

Properly position arrived modules to prevent tipping and damage. Suntech modules are packaged in a vertical insertion method, with one packaging box vertically placed on each pallet; non-large-sized silicon wafer modules are typically packaged in a 2-drag module stacking method. Please separate the upper and lower pallets of the arrived modules in a timely manner. If temporary storage of modules is required, they should be placed in a dry, well-ventilated space with a storage temperature of 0-40°C and humidity of 30%-70%. Different colored current grade labels are affixed to the outer box and each module frame. Install modules of the same current grade in the same system.

If modules are stored in non-controlled environments, the storage time should not exceed 3 months, and additional measures must be taken to prevent connector moisture or module exposure to sunlight. Also, protect the packaging from damage.

6.4 Unpacking

The correct method for unpacking:
Step one, remove the strapping bands and shrink wrap, and open the packaging box lid.
Step two, two construction personnel sequentially lift the modules vertically from the packaging box and remove them from the box. The remaining modules in the box should be leaned against the side with a backstop.

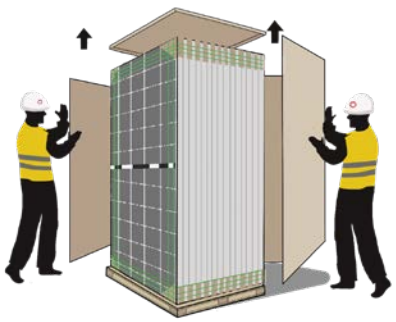


The correct way
to remove modules

6.5 Unpacking for Vertical Portrait Package

If modules are not installed immediately, secure them to the stand supporter with a safety rope in winds up to Force 6 (limit stacked modules to 12 or fewer).

① Remove wrapping film and outer packaging.



② Take off the top cover, sealing tape, and carton box.

③ Place the stand supporter on the glass or backsheet side.

④ Cut all horizontal packing belts. With 1-2 vertical belts remaining, gently tilt the module toward the stand supporter.

⑤ Cut the remaining packing belts and let the modules rest securely on the stand supporter.

⑥ Take out the modules in order.

6.6 Module Handling

Modules must be carried and lifted by two people with both hands. Single-person or one-handed operation is strictly prohibited. Do not lift the entire module by grabbing the junction box or wires. The number of stacked modules should not exceed 15, and they should be placed with the glass side up and the frames aligned.

6.7 Others

- Before modules arrive at the installation site, please keep the packaging intact and do not open it.
- Handle goods carefully and steadily. Do not place goods on sloping or severely uneven ground to prevent pallets of packaged modules from tipping over or falling directly.
- When stacking modules, do not exceed the maximum height limit printed on the packaging.
- Under no circumstances should anyone stand, climb, walk, or jump on the modules. Localized heavy loads may cause micro-cracks in the cells, thereby reducing the reliability of the modules.
- When unpacking outdoors, do not do so in the rain, as wet cardboard boxes will become soft or damaged, which may cause the modules inside the packaging boxes to tilt or fall over.
- When handling or installing modules, do not use the backsheet to support the module, i.e., the backsheet should not be subjected to force.

- Do not drop or stack items (such as installation tools) on the modules, and avoid scratches on the module back-sheet with sharp objects, as scratches can directly affect the safety of the modules.
- Modules or their electrical interfaces must not come into contact with unauthorized chemicals (such as oils, lubricants, pesticides, etc.), and all electrical interfaces must always be kept clean and dry.
- In windy conditions, on-site safety management should be emphasized, especially in strong wind environments. Jetion does not recommend transporting modules.Unpacked modules must be properly secured.
- Operators must wear protective gloves.

7 Maintenance and Cleaning

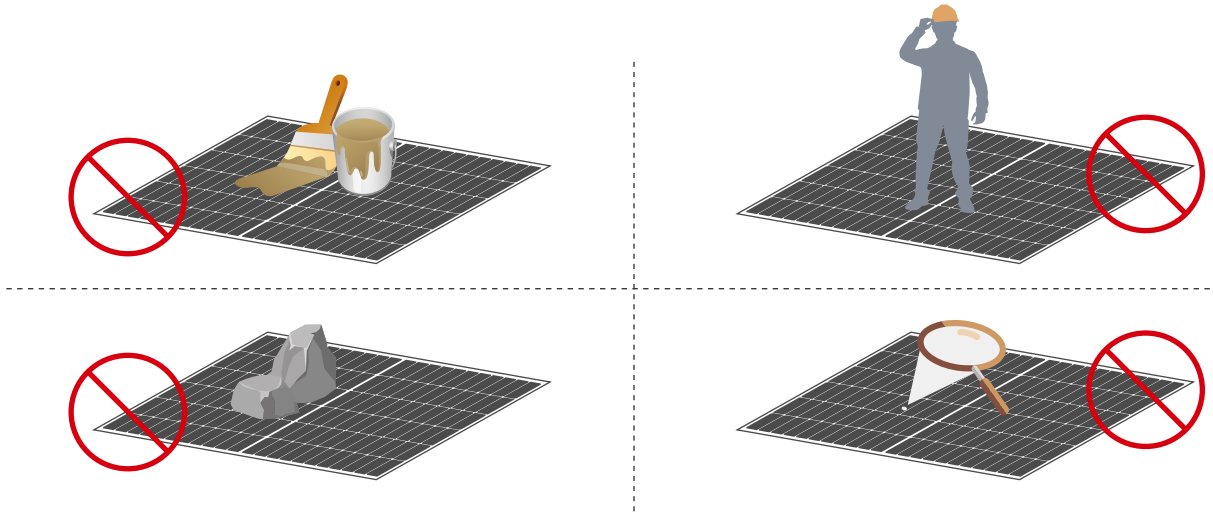
- Do not arbitrarily change photovoltaic components (diodes, junction boxes, plugs, etc.).
- If the tilt angle is sufficient (at least 15°), modules usually do not need to be cleaned (rainwater can serve a self-cleaning function). If modules are covered with a lot of dust, it will reduce power output. We recommend cleaning the modules with plenty of clean water and a mild cleaning tool (such as a sponge).
- When dirt is dry, do not wipe or scrub to avoid scratching the glass. We recommend regular system inspections.
- Do not clean modules with cold water during hot periods to avoid damaging the modules due to severe thermal shock.
- Do not use cleaning agents containing abrasives, acetone, or other corrosive components.

8 Inspection

- All fasteners are secure, safe, and not corroded.
- All cable connections are secure and not corroded.
- All connectors are undamaged.
- Check the grounding resistance of all metal parts.

9 Warning

- The maximum load of the module does not exceed 30 lb/ft2 (146.5 kg/m2). To avoid exceeding the maximum load, real-time loads in specific areas (such as wind and snow) should be considered.
- We recommend that the number of parallel module strings does not exceed 2. If more than 2 modules or module strings are connected in parallel, each module string must use a series fuse.
- The number of modules connected in series should be determined based on the maximum system voltage of the inverter used. The open-circuit voltage of all series-connected modules should not exceed the maximum system voltage.
- Do not use modules with broken glass or material tears. Damaged modules cannot be repaired, and contact with the surface or frame of any module may result in electric shock.
- Plug-in connectors have their own positive and negative poles. Ensure the safety and tightness of the connectors, and ensure that the electrical and mechanical performance is in good condition.Plug-in connectors should not be subjected to extreme pressure.
- Do not pull the connectors and cables forcefully. Tied cables can be loosened with special tools (such as pliers).
- Do not rotate the fixing nuts of the connectors.
- Do not attempt to drill holes in the module's surface glass or frame.
- Do not lift the module using the junction box or cable.
- Do not install or handle modules when they are wet or in windy weather.
- When transporting and installing mechanical and electrical components, ensure that children stay away.
- Do not strike or violently damage the modules.
- Avoid scratching or damaging the frame and the front and back of the modules during handling and installation.
- Do not stand or step on the modules.
- Do not place too many items on the modules to avoid breaking the glass.
- Do not drop the modules or tear off the module nameplate or remove any components.
- Do not bend or twist the modules.
- Do not use paint or glue on the front of the modules.
- Do not use sharp objects on the modules.
- Artificially focused sunlight should not directly shine on the modules.
- Rain and snow water can flow out from the small holes on the back of the module frame. Ensure that these holes are not blocked during installation and connection.
- Do not wear rings, watches, metal jewelry, etc., during installation.



10 Danger Warning

Electric Shock Can Be Life-Threatening!

PV modules generate voltage and current when exposed to light. Although the voltage output of a single module is below the safety threshold, connecting multiple modules in series (voltage adds up) or parallel(current adds up) can create hazards. Follow these precautions during operation to prevent fires, sparks, and fatal electric shocks.

- Do not insert conductive objects into plugs or sockets!
- Never use wet plugs or sockets when installing solar modules!
- Exercise extreme caution during wiring work. Always use safety equipment (insulated tools, insulated gloves, etc.)
- Do not damage, disassemble modules, or mark them with sharp objects on the back!
- Take extra care when wiring and installing inverters. Follow the manufacturer's installation manual strictly!

Arc Discharge Can Be Life-Threatening!

- DC current is generated when modules are exposed to light. Arcing may occur during circuit connection or disconnection.
- Cover modules with light-blocking cloth during installation, especially when disconnecting the system circuit (e.g., disconnecting the inverter and cables under load), to prevent lethal arcs.
- Never disconnect the PV system from the inverter while the inverter is connected to the power grid. Always disconnect the DC-side fuse of the inverter first!
- Ensure all connections are clean, contamination-free, and both electrically and mechanically secure!

Appendix 1 : Applicable Products

No.	Number of Cells	Cell	Module Type	Dimensions (L×W×H)/mm	Bolt Hole Spacing/mm	Frame	Notes
1	120	Mono	JTxxxSIh	1716×1005×40/25/30	990-1300 400-990-1300	Aluminum	xxx=300~325, xxx,in step of 5
2	120		JTxxxSIh	1789×1048×25/30 1773×1046×30	990-1300 400-990-1300		xxx=355~370, xxx,in step of 5
3	144		JTxxxSSh	2043×1005×40/25/30	990-1300 400-990-1300		xxx=360~390, xxx,in step of 5
4	144		JTxxxSSh	2132×1048×25/30 2111×1046×30	990-1300 400-990-1300		xxx=430~445, xxx,in step of 5
5	60		JTxxxSXh(B)	1664×998×40/25/30 1686×1004×40/25/30	990-1300 400-990-1300		xxx=295~330, xxx,in step of 5
6	72		JTxxxSTh(B)	1977×998×40/25/30 2009×1004×40/25/30	990-1300 400-990-1300		xxx=350~395, xxx,in step of 5
7	120		JTxxxSIh(B)	1789×1048×25/30 1773×1046×30 1755×1038×30 1908×1134×30/35	990-1300 400-990-1300		xxx=355~380, xxx,in step of 5 xxx=430~460, xxx,in step of 5
8	144		JTxxxSSh(B)	2132×1048×25/30 2111×1046×30 2094×1038×30 2256×1133×30 2278×1134×30	990-1300 400-990-1300 400-990-1400		xxx=430~455, xxx,in step of 5 xxx=520~555, xxx,in step of 5
9	108		JTxxxSJh(B)	1724×1134×30	400-990-1300		xxx=385~415, xxx,in step of 5
10	132		JTxxxSLh(B)	2073×1133×30 2094×1134×30	400-990-1300		xxx=475~505, xxx,in step of 5
11	132		JTxxxSLk(B)	2384×1303×33	400-790-1400		xxx=645~665, 695-720 xxx,in step of 5
				2384×1303×35	400-1400		
				2384×1303×35	/	Fiberglass	
12	156		JTxxxSRt(B)	2465×1134×30	400-1200-1600	Aluminum	xxx=610~630, xxx,in step of 5
13	144		JTxxxSSt(B)	2278×1134×30	400-990-1400		xxx=570~590, xxx,in step of 5
14	132		JTxxxSLt(B)	2094×1134×30	400-990-1300		xxx=500~535, xxx,in step of 5
15	120		JTxxxSIt(B)	1908×1134×30	400-990-1300		xxx=460~480, xxx,in step of 5
16	108		JTxxxSJt(B)	1722×1134×35	400-990-1300		xxx=410~430, xxx,in step of 5

Appendix 2: Electrical Data

No.	Module Type	Pmax(Wp)	Voc(V)	Isc(A)	Vmp(V)	Imp(A)
1	JT360SSh	360	48	9.58	39.2	9.19
2	JT365SSh	365	48.2	9.66	39.4	9.27
3	JT370SSh	370	48.4	9.74	39.6	9.35
4	JT375SSh	375	48.6	9.82	39.8	9.43
5	JT380SSh	380	48.8	9.9	40	9.51
6	JT385SSh	385	49.0	9.97	40.2	9.58
7	JT390SSh	390	49.3	10.03	40.5	9.64
8	JT430SSh	430	49.2	11.16	40.6	10.6
9	JT435SSh	435	49.4	11.23	40.8	10.67
10	JT440SSh	440	49.6	11.3	41	10.74
11	JT445SSh	445	49.8	11.37	41.2	10.81
12	JT430SSh(B)	430	49.2	11.16	40.6	10.6
13	JT435SSh(B)	435	49.4	11.23	40.8	10.67
14	JT440SSh(B)	440	49.6	11.30	41	10.74
15	JT445SSh(B)	445	49.8	11.37	41.2	10.81
16	JT450SSh(B)	450	50.0	11.44	41.4	10.87
17	JT455SSh(B)	455	50.2	11.51	41.6	10.94
18	JT300SIh	300	39.2	9.85	32.4	9.26
19	JT305SIh	305	39.4	9.93	32.7	9.33
20	JT310SIh	310	39.6	10.03	32.9	9.43
21	JT315SIh	315	39.9	10.1	33.1	9.52
22	JT320SIh	320	40.2	10.16	33.4	9.59
23	JT325SIh	325	40.5	10.2	33.7	9.65
24	JT355SIh	355	40.7	11.14	33.7	10.54
25	JT360SIh	360	40.9	11.23	33.9	10.62
26	JT365SIh	365	41.1	11.32	34.1	10.71
27	JT370SIh	370	41.3	11.41	34.3	10.79
28	JT355SIh(B)	355	40.7	11.14	33.7	10.54
29	JT360SIh(B)	360	40.9	11.23	33.9	10.62
30	JT365SIh(B)	365	41.1	11.32	34.1	10.71
31	JT370SIh(B)	370	41.3	11.41	34.3	10.79
32	JT375SIh(B)	375	41.5	11.49	34.5	10.87
33	JT380SIh(B)	380	41.7	11.58	34.7	10.96
34	JT350STh(B)	350	47.51	9.43	39	8.98
35	JT355STh(B)	355	47.68	9.53	39.2	9.06
36	JT360STh(B)	360	47.85	9.63	39.4	9.14
37	JT365STh(B)	365	48.02	9.71	39.7	9.2
38	JT370STh(B)	370	48.19	9.82	40	9.25
39	JT375STh(B)	375	48.28	9.85	40.2	9.33
40	JT380STh(B)	380	48.37	9.89	40.5	9.39

No.	Module Type	Pmax(Wp)	Voc(V)	Isc(A)	Vmp(V)	Imp(A)
41	JT385STh(B)	385	48.46	9.92	40.2	9.58
42	JT390STh(B)	390	48.55	9.96	40.5	9.64
43	JT395STh(B)	395	48.65	9.99	40.7	9.71
44	JT295SXh(B)	295	38.9	9.77	32.1	9.19
45	JT300SXh(B)	300	39.1	9.87	32.3	9.3
46	JT305SXh(B)	305	39.4	9.93	32.7	9.33
47	JT310SXh(B)	310	39.6	10.03	32.9	9.43
48	JT315SXh(B)	315	39.9	10.1	33.1	9.52
49	JT320SXh(B)	320	40.2	10.16	33.4	9.59
50	JT325SXh(B)	325	40.5	10.2	33.7	9.65
51	JT330SXh(B)	330	40.8	10.26	34.0	9.71
52	JT430SIh(B)	430	40.5	13.58	33.8	12.73
53	JT435SIh(B)	435	40.7	13.65	34.0	12.80
54	JT440SIh(B)	440	40.9	13.72	34.2	12.87
55	JT445SIh(B)	445	41.1	13.79	34.4	12.94
56	JT450SIh(B)	450	41.3	13.86	34.6	13.01
57	JT455SIh(B)	455	41.5	13.93	34.8	13.08
58	JT460SIh(B)	460	41.7	14.00	35.0	13.15
59	JT520SSh(B)	520	48.8	13.57	40.9	12.72
60	JT525SSh(B)	525	49.0	13.63	41.1	12.78
61	JT530SSh(B)	530	49.2	13.69	41.3	12.84
62	JT535SSh(B)	535	49.4	13.75	41.5	12.90
63	JT540SSh(B)	540	49.6	13.80	41.7	12.95
64	JT545SSh(B)	545	49.8	13.86	41.9	13.01
65	JT550SSh(B)	550	50.0	13.92	42.1	13.07
66	JT555SSh(B)	555	50.2	13.98	42.3	13.13
67	JT385SJh(B)	385	36.4	13.56	30.3	12.71
68	JT390SJh(B)	390	36.6	13.64	30.5	12.79
69	JT395SJh(B)	395	36.8	13.72	30.7	12.87
70	JT400SJh(B)	400	34.0	13.80	30.9	12.95
71	JT405SJh(B)	405	34.2	13.88	31.1	13.03
72	JT410SJh(B)	410	34.4	13.95	31.3	13.10
73	JT415SJh(B)	415	34.6	14.03	31.5	13.18
74	JT475SLh(B)	475	44.6	13.58	37.4	12.71
75	JT480SLh(B)	480	44.8	13.64	37.6	12.77
76	JT485SLh(B)	485	45.0	13.71	37.8	12.84
77	JT490SLh(B)	490	45.2	13.77	38.0	12.90
78	JT495SLh(B)	495	45.4	13.83	38.2	12.96
79	JT500SLh(B)	500	45.6	13.90	38.4	13.03
80	JT505SLh(B)	505	45.8	13.96	38.6	13.09
81	JT645SLk(B)	645	45.0	18.2	42.2	14.75
82	JT650SLk(B)	650	45.2	18.24	42.4	14.79
83	JT655SLk(B)	655	45.4	18.28	42.6	14.82

No.	Module Type	Pmax(Wp)	Voc(V)	Isc(A)	Vmp(V)	Imp(A)
84	JT660SLk(B)	660	45.6	18.32	42.8	14.85
85	JT665SLk(B)	665	45.8	18.36	43.0	14.89
86	JT695SLk(B)	695	49.85	17.37	41.95	16.57
87	JT700SLk(B)	700	50.00	17.43	42.1	16.63
88	JT705SLk(B)	705	50.15	17.49	42.25	16.69
89	JT710SLk(B)	710	50.30	17.55	42.4	16.75
90	JT715SLk(B)	715	50.45	17.61	42.55	16.81
91	JT720SLk(B)	720	50.60	17.67	42.7	16.87
92	JT610SRt(B)	610	55.03	14.17	45.49	13.41
93	JT615SRt(B)	615	55.23	14.23	45.66	13.47
94	JT620SRt(B)	620	55.43	14.29	45.82	13.53
95	JT625SRt(B)	625	55.63	14.35	45.96	13.60
96	JT630SRt(B)	630	55.83	14.41	46.12	13.66
97	JT570SSt(B)	570	51.07	14.25	42.32	13.47
98	JT575SSt(B)	575	51.27	14.31	42.47	13.54
99	JT580SSt(B)	580	51.47	14.37	42.62	13.61
100	JT585SSt(B)	585	51.67	14.43	42.77	13.68
101	JT590SSt(B)	590	51.87	14.49	42.92	13.75
102	JT500SLt(B)	500	45.85	14.03	37.90	13.20
103	JT505SLt(B)	505	45.95	14.11	38.05	13.28
104	JT510SLt(B)	510	46.10	14.19	38.20	13.36
105	JT515SLt(B)	515	46.25	14.26	38.35	13.43
106	JT520SLt(B)	520	46.40	14.34	38.50	13.51
107	JT525SLt(B)	525	46.55	14.42	38.65	13.59
108	JT460SIt(B)	460	42.00	14.07	34.60	13.30
109	JT465SIt(B)	465	42.15	14.16	34.75	13.39
110	JT470SIt(B)	470	42.30	14.24	34.90	13.47
111	JT475SIt(B)	475	42.45	14.32	35.05	13.56
112	JT480SIt(B)	480	42.60	14.40	35.20	13.64
113	JT410SJt(B)	410	37.70	13.92	31.20	13.15
114	JT415SJt(B)	415	37.85	14.01	31.35	13.24
115	JT420SJt(B)	420	38.00	14.11	31.50	13.34
116	JT425SJt(B)	425	38.15	14.20	31.65	13.43
117	JT430SJt(B)	430	38.30	14.30	31.80	13.53

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