

INSTALLATION MANUAL



Crystalline Silicon PV Modules

S4Axxx-108MH10 / S4Axxx-144MH10



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Contents

- 1. INTRODUCTION 3**
 - 1.1 PURPOSE OF THE MANUAL 3
 - 1.2 DISCLAIMER OF LIABILITY 3
 - 1.3 PRODUCTION IDENTIFICATION..... 4

- 2. SAFETY GUIDELINES..... 4**
 - 2.1 GENERAL SAFETY GUIDELINES 4
 - 2.2 PRODUCT PRECAUTION..... 5
 - 2.3 TRANSPORT AND STORAGE SAFETY GUIDELINES..... 5

- 3. MECHANICAL INSTALLATION 6**
 - 3.1 SELECTING THE LOCATION 6
 - 3.2 SELECTING THE PROPER RACKING SYSTEM 6
 - 3.3 GENERAL INSTALLATION 6
 - 3.4 INSTALLATION METHOD 8
 - 3.5 SPECIAL INSTALLATION (ERTHOS-CERTIFIED PV SYSTEM).....12

- 4. ELECTRICAL INSTALLATION 13**
 - 4.1 MODULE SELECTION 13
 - 4.2 SAFETY FACTOR..... 13
 - 4.3 GENERAL INSTALLATION 13
 - 4.4 GROUNDING/BONDING 14

- 5. COMMISSION AND MAINTENANCE..... 16**
 - 5.1 BLOCKING DIODES AND BYPASS DIODES 16
 - 5.2 TROUBLESHOOTING..... 16
 - 5.3 MAINTENANCE..... 16

1. INTRODUCTION

1.1 PURPOSE OF THE MANUAL

This manual contains information on precautions to be used during the handling and installation of Solar4America photovoltaic modules along with technical instructions to be followed during installation, wiring and maintenance thereof. Solar4America Technology Inc., hereafter is referred to as “Solar4America”. Any divergence from the contents of this manual during the handling, installation, or maintenance of Solar4America’s products will render the warranty and any guarantees hereunder null and void.

Information for Installation Personnel

- ✧ Installation personnel must read and understand this manual before installation.
- ✧ Please ensure that installation, operation, and maintenance of the photovoltaic system is only carried out by qualified persons able to carry out the technical procedures described in this manual, and is carried out in accordance with all safety precautions in this manual and any applicable federal/state/local codes. If you do not possess these qualifications, you may not carry out the work described herein.
- ✧ This manual and the instructions set forth herein are part of the product and should therefore be kept for the entire useful life of the solar installation.

Information for Operators

- ✧ Keep these instructions safe for the entire useful life of the solar installation.
- ✧ Please contact your supplier for information concerning the formal requirements for solar systems. Operators and/or installers should be aware of all applicable directives and permit requirements from the responsible local authorities and energy providers prior to installation of the solar plant.
- ✧ We recommend inspection is performed after extraordinary natural events (e.g., lightning strike, hail, high snow load).

1.2 DISCLAIMER OF LIABILITY

- ✧ These instructions are only valid for products of Solar4America.
- ✧ The information in this manual is based on Solar4America’s knowledge and experience and is believed to be reliable; but such information including product specification (without limitations) and suggestions do not constitute a warranty, expressed or implied. Solar4America reserves the right to change the manual, the PV products, the specifications, or product information sheets without prior notice.
- ✧ Because of the use of this manual and the conditions or methods of installation, operation, use and maintenance of photovoltaic products are beyond Solar4America’s control, Solar4America assumes no liability for damage, loss, or expense arising out of or in any way connected with such installation, operation, use or maintenance. Solar4America assumes no responsibility extending beyond the functional capability and safety of the modules. This manual is only for reference.
- ✧ No license is granted by implication or otherwise under any patent or patent rights.
- ✧ Special module’s installation should follow the module’s specification or contract terms.
- ✧ If your questions are not addressed in this manual, please first contact your system supplier. You can find more information on our website www.solar4america.com.

1.3 PRODUCTION IDENTIFICATION

Each module has three labels that provide the following information:

- ✧ Nameplate: describes the product type; rated power, rated current, rated voltage, open circuit voltage, short circuit current, all as measured under standard test conditions (irradiance 1,000 W/m²; Spectra at AM 1.5; module temperature 25°C); weight, dimension etc.; the maximum system voltage is 1500 volts DC and is shown on the nameplate. Maximum fuse rating is also shown.
- ✧ One dimensional bar code: The serial number has 17 digits. There are three bar codes on each module. One is permanently attached to the interior of the module and is visible when viewing the front of the module, another is stuck to the back side of the module, and a 3rd one is stuck on top side of the short frame and removable for installation record.



2. SAFETY GUIDELINES

2.1 GENERAL SAFETY GUIDELINES



DANGER! Danger due to electric shock!

All installations must be performed in compliance with all applicable international, national, regional, and local codes, or other electrical standards as applicable.

- ✧ A solar module can generate currents and voltages even in low light intensities. Therefore, contact with live modules should be avoided and isolation of live circuits should be taken before any connection or disconnection operation.
- ✧ Physically disconnecting contacts in a live electrical circuit can cause arc flash, resulting in injuries up to death. The severity of injury will increase when several modules are connected.
- ✧ Never disconnect plugs when under load. Be aware that even without the presence of daylight, residual charge may still be present in the module. Ensure that the modules are first disconnected from the inverter prior to opening any contacts in the solar installation.
- ✧ Artificially concentrated sunlight shall not be directed on the module. Solar modules produce electrical energy when light shines on their front and rear surface. The DC voltage may exceed 30V. Contact with a DC voltage of 30V or more is potentially hazardous.
- ✧ In the case of module or phase voltages of more than 120 V, the ghost voltage may exist. Undertake the necessary protective and precautionary measures.
- ✧ Do not insert electrically conductive parts into the plugs and junction box. Do not touch the contacts or exposed terminals.
- ✧ Keep children and unauthorized persons away from the modules.
- ✧ In case of modules damage or mis-operation of PV array, please contact Solar4America technical customer service.
- ✧ Do not wear metallic ornaments or metallic devices while installing or troubleshooting photovoltaic systems. Please wear appropriate personal protective equipment (PPE).
- ✧ In case of fire, please do not use water to extinguish the fire at the power source.
- ✧ In case of wet or windy weather, do not install or work on modules.

WARNING! Danger of injury due to broken glass! Risk of injury due to falling modules!



- ✧ The modules are primarily made of glass and must therefore be handled with appropriate caution.
- ✧ To ensure safe mounting, familiarize yourself with all applicable national and/or local regulations for work safety and accident prevention.
- ✧ Wear suitable protective clothing (e.g., safety shoes, protective gloves) to prevent injuries.
- ✧ To prevent injury, wear appropriate protective clothing (e.g., safety shoes, protective gloves).
Note: Per Solar4America module model description, the system voltage including "(H)" is 1500VDC. Therefore, the withstand voltage that the protective clothing provided for workers shall not be less than 1500VDC.
- ✧ Under normal conditions, photovoltaic modules may experience more current and/or voltage generation under stricter conditions than under standard test conditions. Therefore, when determining the rated voltage of the modules, the rated current of the conductor, the size of the fuse and the size of the control device connected to the PV output, the ISC and VOC values marked on the modules should be multiplied by 1.25 times.
- ✧ Modules passed UL61730 safety standard and are considered to meet the requirements of safety class II application class. Modules rated for this grade of application may be used to operate in systems with DC voltages greater than 50V or 240W, where general access points are expected.

2.2 PRODUCT PRECAUTION

- ✧ Do not attempt to disassemble the modules.
- ✧ Do not remove any attached nameplates or bar code from the modules.
- ✧ Do not open the junction box under any circumstances.
- ✧ Do not plug plugs with blocked or contaminated connections.
- ✧ Only carry out modifications to the modules that have been confirmed by Solar4America in writing in advance.
- ✧ Do not punch holes in frame (e.g., for fasteners) of the modules.
- ✧ Use only insulated tools that are approved for work on electrical installations.
- ✧ Do not use light concentrators (e.g., mirrors or lenses) to attempt to increase the capacity of the module. The module may be damaged. This also voids the warranty.
- ✧ Do not bend, squeeze, scratch photovoltaic module glass and avoid collision or hitting the glass with sharp objects.



2.3 TRANSPORT AND STORAGE SAFETY GUIDELINES

Inappropriate transport and installation may break the module. To prevent damage of the modules:

- ✧ Transport the modules in their original packaging until installation.
- ✧ Store the modules securely in cool and dry rooms. The packaging is not weather-resistant!
- ✧ Protect the modules against scratches and other damage, especially from impact at the edges or improper storage.
- ✧ Ensure modules do not bow or bend under their own weight.
- ✧ Do not rest a module unprotected on its edges. This can damage the module and the frame.
- ✧ Do not lift or move the modules using the cables or at the junction box under any circumstances!

- ✧ Do not set the modules down hard on any surface.
- ✧ Do not subject the module surfaces to mechanical stress.
- ✧ Do not stand on the modules.
- ✧ Do not drop or place objects on the modules.



3. MECHANICAL INSTALLATION

3.1 SELECTING THE LOCATION

- ✧ The modules are certified according to the norm UL 61215 and others and are suitable for safe operation in moderate climates. The operator needs to consider the effect of the high altitude on the operation of the module, do not install modules above 4000m altitude above sea level.
- ✧ Do not expose the modules to chemicals.
- ✧ Do not place the modules in standing water. The protection grade of the junction box is IP68.
- ✧ Do not install the modules near flammable gases and vapors (e.g., gas containers) or near open flames and flammable materials. Solar modules are not explosion-proof operating equipment.
- ✧ Long-term exposure to salt mist (i.e., marine environments) and sulfur -containing conditions will cause a risk of module corrosion.

Do not install modules within 100m of the marine environment; and it's recommended to install the modules with salt mist resistant function when the distance is between 100m and 1km.

- ✧ A module is considered shade-free when it is entirely unshaded throughout the year (e.g., by buildings, chimneys, trees). Even partial shading of the modules (e.g., by overhead lines, dirt, snow) should be avoided.

3.2 SELECTING THE PROPER RACKING SYSTEM

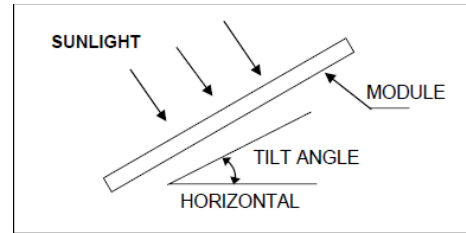
Always observe the instructions and safety precautions included with the racking system to be used with the modules. Install each module to a mounting structure:

- ✧ That is made of durable, corrosion-resistant, and UV-resistant material.
- ✧ That can transfer forces from the module to the assembly substructure.
- ✧ That ensures that no mechanical stress (e.g., caused by vibrations, twisting or expansion) is generated on the module.
- ✧ That ensures sufficient back ventilation of the module. Recommended spacing is around 4 inches.
- ✧ That ensures long term stability.
- ✧ That will not cause galvanic corrosion in case of direct metal contact (i.e., grounding lead, bolts, washers, clamps, etc.).
- ✧ That allows for strain-free **expansion** and **contraction** due to natural ambient temperature variations.

3.3 GENERAL INSTALLATION

Modules connected in series should be installed at the same orientation and angle. Different orientations or angles may be specified by design engineer based on the convention equipment (micro inverter/optimizer) used in the system to minimize loss of power output due to variation of sunlight exposure.

- ✧ When developing the final layout of photovoltaic system, consider keeping suitable access to allow maintenance and inspection works.
- ✧ The minimum spacing between modules is ¼ inch.
- ✧ Select an installation mode and ensure the drainage holes are not blocked during installation and use.
- ✧ The optimal tilt angle of the module depends on the respective latitude. We recommend follow the design of a photovoltaic design engineer for the optimal orientation.



Ground Mount

- ✧ Select the height of the mounting system to prevent the lowest edge of the module from being covered by snow for a long time in winter in areas that experience heavy snowfalls.
- ✧ In addition, assure the lowest portion of the module is placed high enough so that it is not shaded by plants or trees or damaged by sand and stones driven by wind.

Roof Mount

- ✧ When installing modules on a roof or building, ensure that it is securely fastened and does not fall due to wind or snow loads.
- ✧ Make sure there is adequate ventilation space under the modules. At least ¼ inch clearance between the modules is required to allow thermal expansion of the bracket. Other installation methods may affect UL certification or fire rating.
- ✧ For roof mounting applications the assembly is to be mounted over a fire-resistant roof covering rated for the application. Solar4America modules have been listed as fire type 1 according to UL61730 standard.
- ✧ Any roof penetration required to mount the module must be properly sealed to prevent leaks.
- ✧ In some cases, a special support frame may be necessary.
- ✧ The roof installation of solar modules may affect the fireproofing of the building construction.
- ✧ Do not install modules on a roof or building during strong wind or rain to prevent accidents.
- ✧ All module support structures used to support PV modules at correct tilt angles should be wind and snow load rated by appropriate local and civil codes prior to installation.



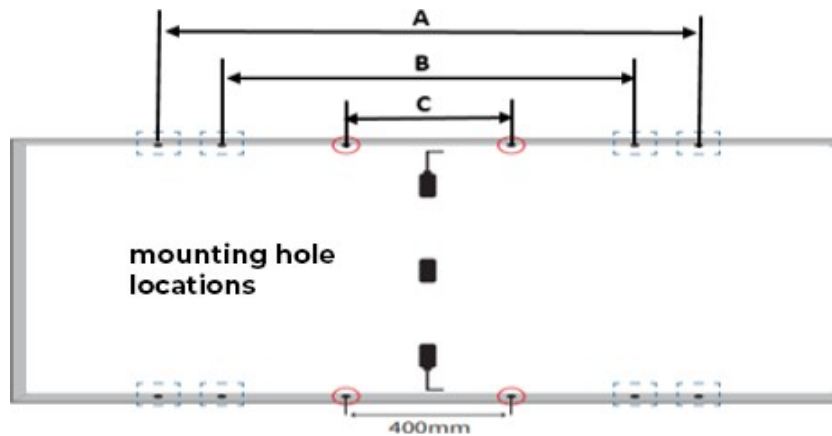
Pole mount

- ✧ When installing a module on a pole, choose a pole and module mounting structure that will withstand anticipated winds for the area.

3.4 INSTALLATION METHOD

- ✧ Mono-facial module is installed with bolts using mounting holes or clamps on the frame, and the mounting structure is perpendicular to the long side frame.
- ✧ Bifacial module is installed with bolts using mounting holes and clamps on the frame. To avoid shading and to comply with load requirements, the installation structure should be mounted parallel to the long-side frame to maximize the benefits of the bi-facial modules. Mounting on the short-side frame is also acceptable. Modules must be securely attached to the mounting structure using at least 4 of the pre-drilled mounting holes in the frame.

Bolt Method

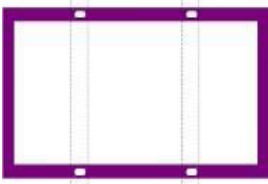
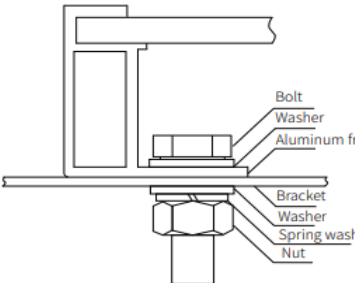

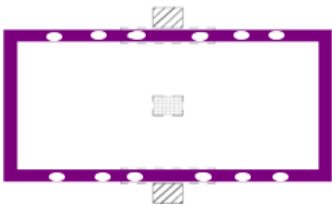
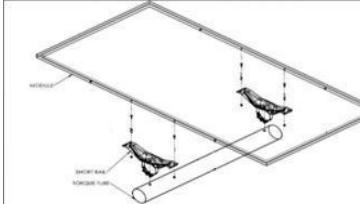
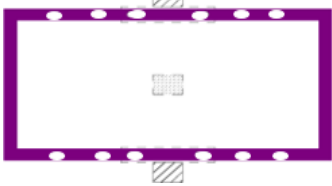



Position of Mounting Holes

Module Type	Mounting Holes	Pitch(mm)
S4A410-108MH10 S4A550-144MH10	A	1400±1
	B	990±1
	C	400±1

- I. Use mounting holes A or B
The modules have been designed for a positive design load of 3600 Pa and negative design load of 1600 Pa with safety factor $\gamma_{m=1.5}$, and this value can decrease if modules are not mounted following the instructions above.
- II. Use mounting holes C or C & B
Recommend the modules with frames B side of 35mm. The modules have been designed for a positive design load of 1600 Pa and negative design load of 1600 Pa with safety factor $\gamma_{m=1.5}$, and this value can decrease if modules are not mounted following the instructions above.

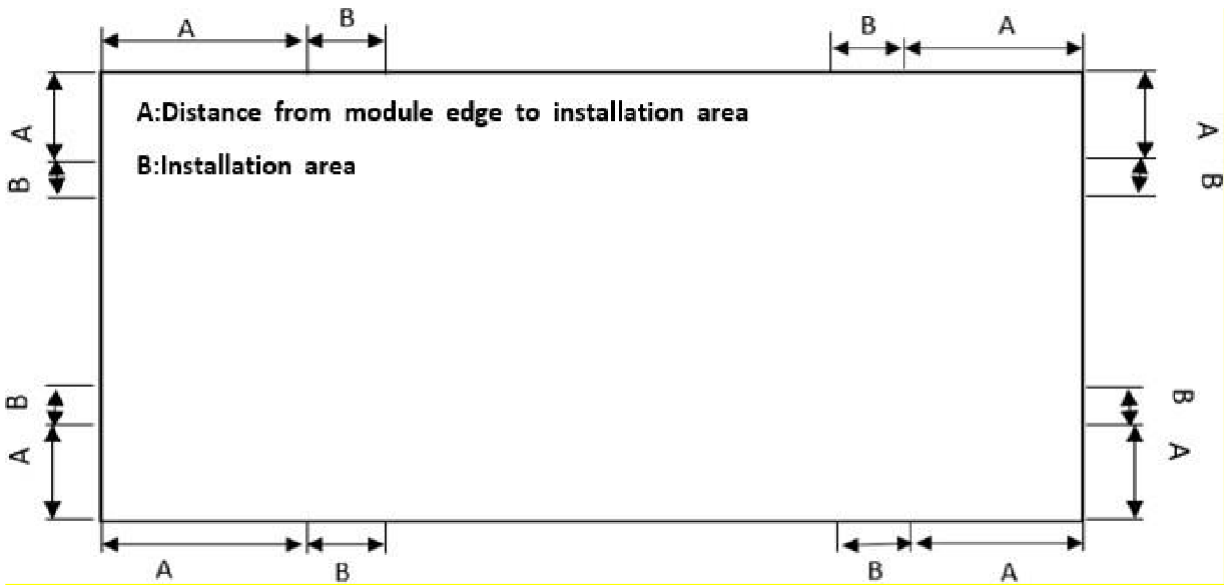
✧ Installation legend

Installation Type		Module Type	Module Legend	Installation Legend
Bolt Installation	Install with A or B holes Guide rail In parallel or perpendicular to long side of module	All mono-facial modules		
	Install with the A or B holes Guide rail in parallel or perpendicular to long side of module	All bifacial modules		
	Install with C mounting hole and short rail, the shaft is vertical to long side of module	S4A410-108MH10		
	Install with C&B mounting holes and supplemental rail, the shaft is vertical to long side of module	S4A550-144MH10		

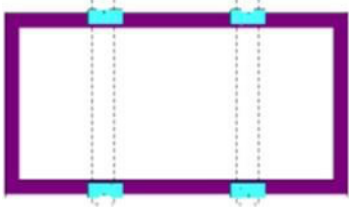
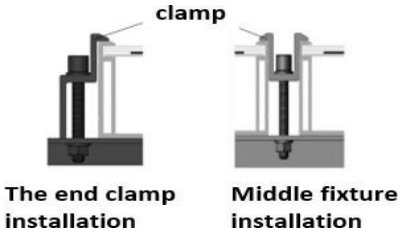
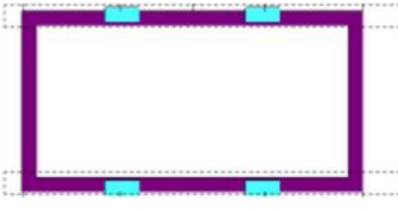

- ✧ Modules should be bolted to support structures through mounting holes located in the frame's back flanges only. Do not drill additional holes. Doing so will void the warranty.
- ✧ M8 coarse thread bolts shall be used for the mounting holes of A or B; The mounting hole of C uses M6 coarse thread bolts.
- ✧ Each module must be securely fastened at a minimum of 4 points. If additional wind or snow loads are anticipated for this installation, additional mounting points should be used. System designer and installer are responsible for load calculations and for proper design of support structure.
- ✧ Use appropriate corrosion resistant fasteners, including proper bolts, nuts and washers etc. The tightening torque of M8 coarse thread bolt should be 16 ~ 20 nm; The tightening torque of M6 coarse thread bolt shall be 10 ~ 16 nm, depending on the bolt quality.
- ✧ Follow mounting guidelines recommended by the PV mounting supplier. The mounting design must be certified by a registered professional engineer.
- ✧ The mounting design and procedures shall comply with local codes and all authorities having jurisdiction.
- ✧ Ensure that the drainage openings of the frame are left open following installation to allow water runoff. This prevents frost damage.
- ✧ Install the module in such a way that rainwater and snowmelt can run off freely to avoid standing water or puddling.

Clamp Method

- ✧ Modules can be clamped in. Modules must be securely attached to the mounting structure with at least four clamps on the frame.
- ✧ The modules must be properly secured to their support so that they can withstand live load condition, including wind uplift, to the pressure they have been certified for. It's the installer's responsibility to ensure the clamps used to secure the modules are strong enough.
- ✧ The modules are not subject to wind or snow loads exceeding the maximum permissible loads.
- ✧ The module clamps which are used must not contact the front glass and must not deform the frame. Avoid shadowing effects from the module clamps. Drain holes in the module frame must not be closed or obscured by the clamps.
- ✧ The different values of "A" and "B" are shown in the following table (mono-facial vertical long side installation and bifacial parallel long side installation).



Module Type	Installation Mode	A(mm)	B(mm)	Load Design Value	Modules Type	Installation Mode	A(mm)	B(mm)	Load Design Value
Monofacial					Bifacial				
S4A410-108MH10	Vertical long side installation	270	100	+3600Pa -1600Pa	S4A550-144MH10	Parallel long side installation	460	100	+3600Pa -1600Pa
S4A550-144MH10		520	100						
S4A410-108MH10	Vertical short side installation	100	140	+1600Pa -1067Pa					

Installation Type	Installation	Module Type	Module Legend	Installation Legend
Clamp Installation	Long-side fixture installation, mounting rail is vertical to the long side of module	All mono-facial modules		
	Long-side fixture installation, mounting rail is parallel to the long side of module	All bifacial modules		
	Short side fixture installation, mounting rail is vertical to the long side of module	Only for S4A410-108MH10		

✧ I: Long-side clamping installation

The modules have been designed to a positive design load of 3600 Pa and negative design load of 1600 Pa with safety factor $\gamma_m=1.5$.

II: Short-side clamping installation

The modules have been designed a positive design load of 1600 Pa and negative design load of 1067 Pa with safety factor $\gamma_m=1.5$, it's only suitable for S4A410-108MH10 modules.

- ✧ The installation structure of modules must be made of corrosion-resistant and UV resistant materials. It is recommended to use a pressure block that can at least fix M8 bolts. The tightening torque should follow manufacturer specification. Make sure that the pressure block will not fail due to deformation or corrosion during the overall loading of the module.

- ✧ The minimum recommended length for each clamp is 2 inches.
- ✧ If the module is not installed according to the above instructions, the actual load bearing value may be reduced.

3.5 SPECIAL INSTALLATION (ERTHOS-CERTIFIED PV SYSTEM)

Please follow Erthos Installation manual. Otherwise, any putative warranty claims would be impaired.

For electrical and grounding details of Erthos-Certified PV System, please contact Erthos directly.

4. ELECTRICAL INSTALLATION

4.1 MODULE SELECTION

- ✧ Only connect modules in series of the same type and same power class in the same system. This is the only way to achieve optimal yields.

4.2 SAFETY FACTOR

- ✧ Under normal conditions, a photovoltaic module may experience conditions that produce more current and/or voltage than reported at Standard Test Conditions. Accordingly, the values of I_{sc} and V_{oc} marked on modules should be multiplied by a factor of 1.25 when determining modules voltage ratings, conductor capacities, fuse sizes and size of controls connected to the module output.

Alternatively, all valid national regulations for the installation of electrical systems are to be applied. Installers should watch for and avoid the PID phenomenon, when installing the electrical system.

4.3 GENERAL INSTALLATION

- ✧ Before installing modules, contact the appropriate authorities to determine permission, installation, and inspection requirements to follow that apply to your specific location and installation purposes.
- ✧ Check applicable building codes to ensure that the construction or structure (roof, facade, support, etc.) where the modules are being installed is strong enough to support the weight of the modules and all other system modules.
- ✧ When high current is required, several photovoltaic modules can be connected in parallel; the total current is equal to the sum of the respective currents, and each module (or a series of modules in series) must be equipped with the specified maximum current fuse. The recommended number of parallel modules is one.
- ✧ When a high voltage needs to be obtained, several PV modules can be connected in series with the total voltage equal to the sum of their voltages. However, the maximum system voltage must be lower than the highest certified voltage and the maximum input voltage for inverters and other electrical equipment in the installed system. The maximum number of modules in series is $(N) = \text{System } V_{max} / \{V_{oc} \text{ (at STC)} \times [1 + (t - 25) * K_v]\}$, where:
 - Voc (at STC): Open circuit voltage of each module (refer to product label or data sheet)
 - t: The lowest expected ambient temperature.
 - Kv: Thermal coefficient of open circuit voltage for the module (refer to data sheet)
- ✧ Connect an appropriate number of modules according to the voltage specification of the inverter used by the system. Even under the worst local temperature conditions, the voltage generated by

the connected modules shall not be higher than the voltage allowed by the system.

- ✧ It is recommended to connect modules with similar electrical properties on the same string to reduce array mismatch effects.







- ✧ Use PV cables specified in local fire, building and electrical codes and matching plugs (wiring should be placed in light-resistant conduits or light-resistant materials if exposed to air). Ensure that they are placed under optimum electrical and mechanical conditions.
- ✧ Only photovoltaic cables can be used as connection cables. It is recommended to use the same type of connector from the same manufacturer in a photovoltaic system and to connect inverter-compatible connectors. During installation, disassembly, maintenance, and any other related process, the force between the cable and the connector shall not be greater than 90N to avoid improper connection or damage of the connector and the cable caused by human factors, which may affect the electrical safety or service life of the product.
- ✧ Ensure that all electrical modules are in a proper, dry, and safe condition. In this way you avoid electrical short-circuits or dangerous contact voltages due to defective or damaged cables.
- ✧ Always avoid mechanical stressing of the connection cables.
- ✧ Ensure the tight connection and correct connection between individual connectors (especially for inverters).
- ✧ The minimum bending radius of the cable is 43mm.



4.4 GROUNDING/BONDING

- ✧ Module frame must be properly grounded. The ground wire must be properly fixed to the frame of the modules to ensure good electrical contact. Use the recommended type or equivalent connecting cable.
- ✧ In addition, from the system side, the negative grounding of the inverter can effectively reduce the PID effect of the modules. However, professional personnel are required to operate the matching negative grounding of the inverter.
- ✧ If the support frame is made of metal, the surface of the frame must be electroplated and have excellent conductivity.
- ✧ The following are three grounding methods for reference:

Grounding Type	Requirement	Legend
Using grounding clamp	<p>1. Grounding clamp: Tyco 1954381-1 (recommended).</p> <p>2. There is a grounding hole with diameter of 4.2mm at the middle edge of the frame on the back of the module. The median line of the grounding mark coincides with the median line of the hole and is consistent with the length direction of the frame.</p> <p>3. The grounding between modules must be confirmed by a qualified electrician, and the grounding device must be manufactured by a qualified electrical manufacturer. The recommended torque value is 2.3 N.M. The grounding clamp uses 12 AWG copper core wire. The copper wire shall not be damaged by pressure during installation.</p>	
Using mounting holes	<p>1. The existing unused mounting holes on the assembly can be used to install grounding device. Align the grounding clamp with the frame mounting hole. Insert grounding bolt through the grounding clamp and frame. Use toothed washer and fasten nut on the other side and tighten nut. Inert grounding wire through the grounding clamp. The material and size of the grounding wire shall meet the requirements of relevant local national, regional, or international regulations, laws and standards.</p> <p>2. Tighten the ground wire fastening bolt to complete the installation.</p>	

<p>Install with grounding holes</p>	<p>1. The grounding hardware includes grounding screw, flat washer, star washer and grounding wire. Other related hardware shall be stainless steel. Please do not drill holes or modify the frame of the modules. Solar4America limited warranty will be void.</p> <p>2. Solar4America recommends that the grounding resistance $< 1 \Omega$. The electrical contact point is formed by penetrating the anodized coating of the aluminum frame and tightening the M4 mounting screw (together with the star washer) to an appropriate torque of 3-7 N.M.</p>	<table border="1"> <thead> <tr> <th data-bbox="792 352 964 394">spare parts</th> <th data-bbox="969 352 1133 394">Diagram</th> <th data-bbox="1138 352 1419 394">Connection mode</th> </tr> </thead> <tbody> <tr> <td data-bbox="792 401 964 562">  </td> <td data-bbox="969 401 1133 562">  </td> <td data-bbox="1138 401 1419 562"> <p>Place the star washer, flat washer and grounding wire in turn, screw through the grounding hole and tighten it to secure the adjacent modules.</p> </td> </tr> </tbody> </table>	spare parts	Diagram	Connection mode			<p>Place the star washer, flat washer and grounding wire in turn, screw through the grounding hole and tighten it to secure the adjacent modules.</p>
spare parts	Diagram	Connection mode						
		<p>Place the star washer, flat washer and grounding wire in turn, screw through the grounding hole and tighten it to secure the adjacent modules.</p>						

5. COMMISSION AND MAINTENANCE

5.1 BLOCKING DIODES AND BYPASS DIODES

- ✧ Blocking diodes prevent current flowing from the battery to the module when no electricity is being generated. It is recommended to use blocking diodes when a charging regulator is not used. Your specialist dealer can advise you regarding the suitable types.
- ✧ In systems with more than two modules in series, high reverse current can flow through cells that are shaded partially or outright when part of a module is shaded, and the rest is exposed to the sun. These currents can cause the affected cells to get very hot and could even damage the module. To protect module from such high reverse currents, by-pass diodes are used in modules. All modules rated greater than 55 Watt have bypass diodes already integrated in the junction box. In the unlikely event of diode failure, it can be easily replaced; however, doing so will void warranty unless this replacement is performed by an authorized person.
- ✧ Protect yourself from electric shocks while debugging or maintaining the solar power system.

5.2 TROUBLESHOOTING



DANGER! Life danger due to electric shock!

- ✧ Please do not attempt to correct problems on your own!
- ✧ In case of problems or damaged modules (for example, glass breakage, damaged cables) please contact your installer or the Solar4America customer service by phone or email.

5.3 MAINTENANCE

- ✧ Solar4America modules shall be inspected and maintained regularly after installation. Dirt is typically washed away by rain. However, rain may not adequately clear more stubborn grime (i.e., pollen, vegetation, bird droppings, etc.). Such soiling which shades the active area of the module

can lead to a reduction in the system performance. Solar4America recommends the following maintenance to ensure optimum performance of the module:

- ✧ Clean the glass surface as necessary. Make sure to use clean water and soft sponge or cloth and use mild and non-abrasive cleaning agent to remove stubborn stains; Solar4America limited warranty will be void if damage is caused by improper cleaning methods.
- ✧ Check the electrical and mechanical connections every six months to verify they are clean, secure, and undamaged.
- ✧ If any problem arises, have them investigated by a qualified module service technician. Attention: observe the maintenance instructions for all components used in the system, such as mounting racks, charging regulators, inverters, batteries etc.
- ✧ The right of final interpretation belongs to Solar4America Technology Inc.