



INSTALLATION INSTRUCTION

1. CLIMATE CONDITION

Install the PV module in the following conditions:

Ambient temperature: -20°C to $+40^{\circ}\text{C}$.

Operating temperature: -20°C to $+80^{\circ}\text{C}$.

Snowfall pressure: below 2000Pa.

Wind pressure: below 3000Pa.

Water resistance: don't install the PV module in a location where it would be immersed in water or continually exposed to water from a sprinkler or fountain etc.

Corrosion resistance: except for corrosive salt area and sulfurous area.

2. ORIENTATION

Install the PV module facing South (in Northern Hemisphere), or North (in Southern Hemisphere). Module facing West or East can generate a smaller amount of electricity than facing South (in Northern Hemisphere), or North (in Southern Hemisphere). Incorrect orientation will result in loss of power output.

PV modules connected in series should be installed in same orientation and angle. Different orientation or angle may cause loss of output power due to difference of amount of sunlight exposed to the module.

Install the PV as free as possible from shading. Shading causes loss of output, even though the factory fitted bypass diode of the PV module will minimize any such loss.

3. MOUNTING AND NOTES

Use appropriate methods to mount PV modules. Modules falling down from high places will cause injury, damage, or even death.

Don't disassemble, bend, impact by sharp objects, walk on, and throw or drop etc.

Don't connect by demolishing or breaking the junction box, connector and guide wire. You'd better follow up the installation instruction to assemble module. When installing, the slope of module should be 6 in/ft.

You can choose this fix-up method to support the module as the least requirement. (See Fig 1.)

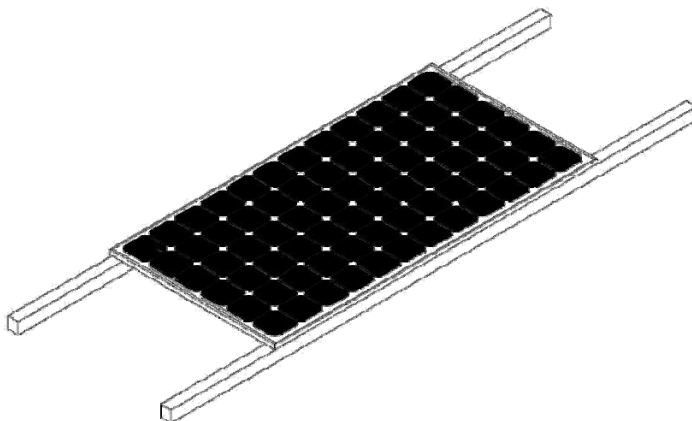


Fig 1:



You may mount the modules on the steel-made frame with roof.

There are six fixing holes in every module. Please make sure that every fixing hole is utilized and screws are all fitted well on the supporting cover. Please choose M8 steel screw to fix up PV module to the shelf with matching flat washer or spring washer.

Ground the PV module properly in accordance with mounting structure and environment.

Don't install the PV module near naked flame to flammable materials.

Mounting structure should withstand environment.

Select proper materials and corrosive treatment.

Please connect PV modules in series way to be a PV system, the maximum quantity of modules in one PV

System is 23 pieces. You may choose connector to connect every module together. We recommend you that the type of connector is SF01.

Wiring is selected according to the junction box with each module. Over-current protection method is to choose fuse. Artificially concentrated sunlight shall not be directed on the module or panel. Under normal conditions, a photovoltaic module is likely to experience conditions that produce more current and/or voltage than reported at standard test conditions. Accordingly, the values of ISC and VOC marked on this module should be multiplied by a factor of 1,25 when determining component voltage ratings, conductor current ratings, fuse sizes, and size of controls connected to the PV output. For a non-integral module or panel, the assembly is to be mounted over a fire resistant roof covering rated for the application.

4. WIRING AND NOTES

In modules, bypass diode nominal current: 10A; Peak reverse voltage: 40V. The PV module has a pair of male and female waterproof connectors. For a series electrical connection, connect positive (+) connector of the first PV module to the negative (-) connector of the following module.

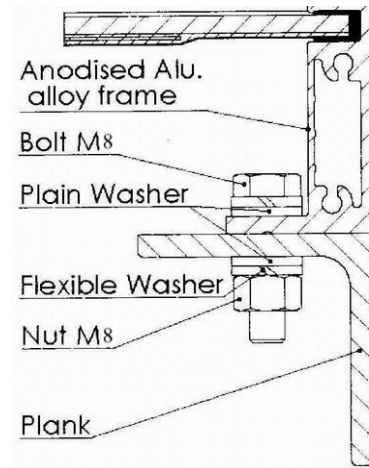
Connect the output cable with equipment correctly.

The connectors and wires should be what our company provides.

Be sure connector no gap between the insulators. In case there is a gap, a fire and/or an electrical shock may occur.

Restrain from non-linker connecting method. For a non-integral module or panel, the assembly is to be mounted over a fire resistant roof covering rated for the application.

Under normal conditions, a photovoltaic module is likely to 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 this module should be multiplied by the



Installation

Fig 2:

factor of 1.25 when determining component voltage ratings, conductor ampacities, fuse sizes and size of controls connected to the PV output.

The “maximum over-current protection rating” (MCR: value of the series fuse rating of a module string) is 6,5.

5. GROUNDING METHOD

Adopting the grounding hole method; the peripheral electrophoresis coating of grounding hole is wiped off. When mounting, you can select 8# stainless steel screw to well connect copper wires (diameter 4mm) and modules. The torque rating of screw is 1.2N·m at least. Then, copper wires should be connected with grounding wires.

Note:

The electrical characteristics are within $\pm 10\%$ of the indicated values of I_{sc} , V_{oc} , and P_{max} under standard test conditions (irradiance of $100\text{mW}/\text{cm}^2$, AM 1.5, and a cell temperature of 25°C (77°F)).

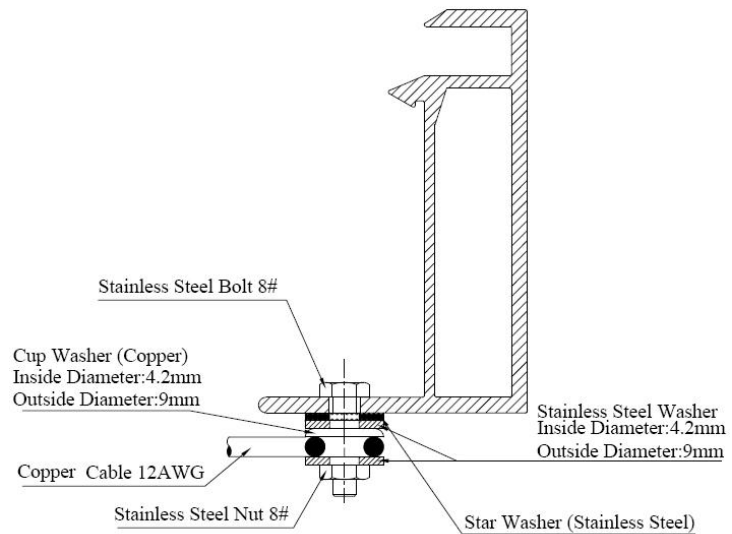


Fig 3:

GROUNDING

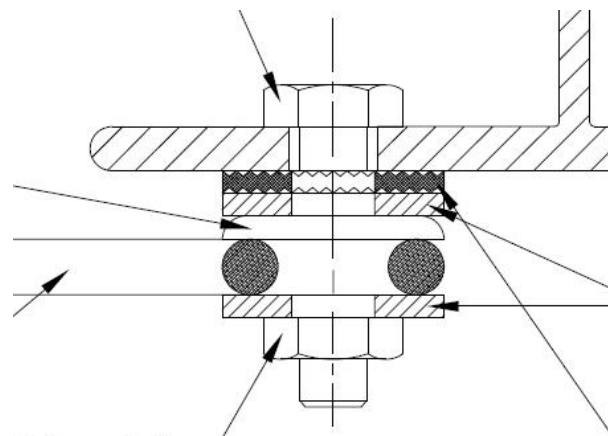


Fig 4:

Declarations:

- ① Each module has two grounding holes (see Fig.5). The symbol is located adjacent to the terminal.

The grounding point must be installed separately from the mechanical mountings.

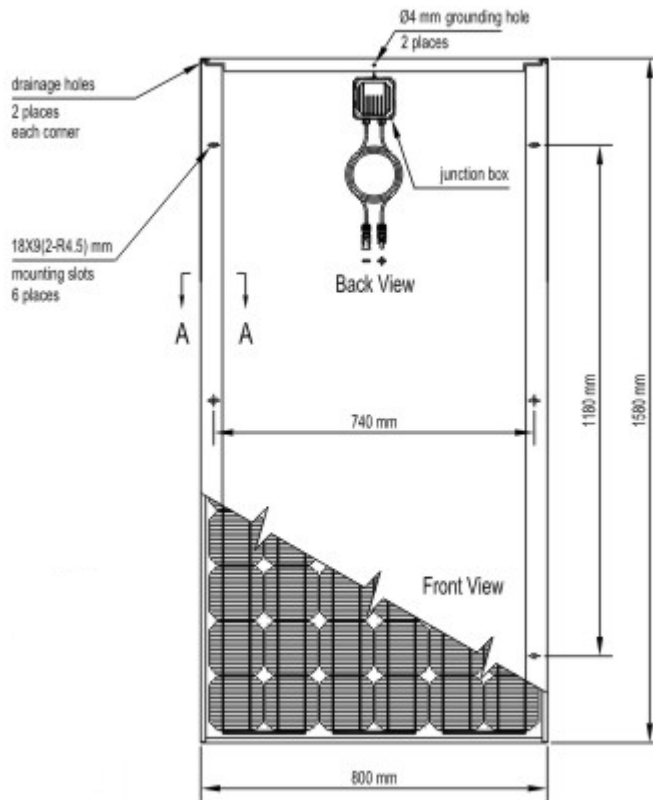


Fig. 5

- ② We apply a highly visible warning label regarding electrical shock hazard (see Fig. 6) near the means of connection on every single module.



Fig. 6

- ③ The following mentioned are the conditions of the application class A:
 The modules are qualified for Application Class A: Hazardous voltage (IEC 61730: higher than 50VDC; EN 61730: higher than 120V), hazardous power applications (higher than 240W) where general contact access is anticipated (Modules qualified for safety through EN IEC 61730-1 and -2 within this application class are considered to meet the requirements for Safety Class II.)