EPOCH

Installation Manual

FOR PV MODULES

Specification

Max Power at STC (P_{max})	400 W
Open-Circuit Voltage (V_{oc})	37.00 ± 3% V
Short-Circuit Current (I_{sc})	13.78 ± 3% A
Optimum Operating Voltage (V_{mp})	31.05V
Optimum Operating Current (I_{mp})	12.89A
Temp Coefficient of P_{max}	-0.37% / °C
Temp Coefficient of V_{oc}	-0.28% / °C
Temp Coefficient of I_{sc}	0.048% / °C
Max System Voltage	1500V
Max Series Fuse Rating	25A
Fire Rating	Type 1
Weight	47.3 lbs
Dimensions	67.8 x 44.7 x 1.2 in
STC	Irradiance 1000 W/m², T = 25°C, AM = 1.5

WARNING

- Please follow all applicable electrical safety precautions.
- Only qualified personne should install or perform maintenace work on these modules.
- Beware of dangerously high DC voltages when connecting modules.
- Do not damage or scratch the rear surface of the module.
- Follow your battery manufacturer's recommendation.

Safety Precaution Measures

PV modules produce electrical energy when light shines on their front surface. The DC voltage may exceed 30V. If modules are connected in series, the total voltage is equal to the sum of the individual module voltages. If modules are connected in parallel, the total current is equal to the sum of individual module currents.

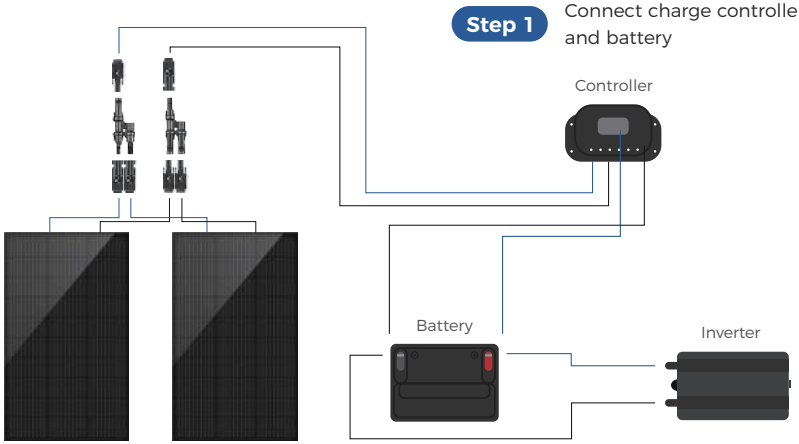
- Completely cover the module with an opaque material during installation to keep electricity from being generated.
- Do not wear metallic rings, watchbands, ear, nose, lip rings or other metallic devices while installing or troubleshooting photovoltaic systems.
- Use only insulated tools that are approved for working on electrical installations.
- Abide with the safety regulations for all other components used in the system, including wiring and cables, connectors, charging regulators, inverters, storage batteries and rechargeable batteries, etc.
- Use only equipment, connectors, wiring and support frames suitable for use in solar electric systems. Always use the same type of module within a particular photovoltaic system.

Under normal outdoor conditions the module will produce current and voltages that are different than those listed in the data sheet. Data sheet values are values expected at standard test conditions.

Electrical Installation

Step 2 Connect PV module and charge controller

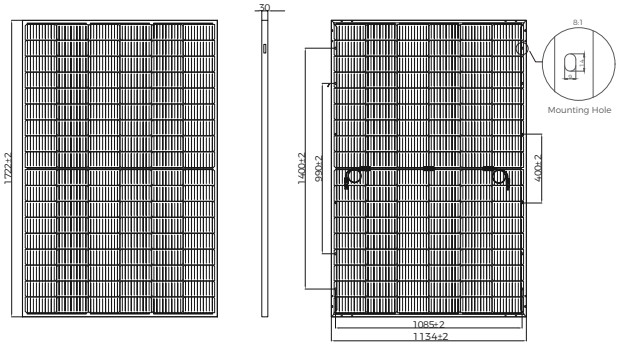
Step 1 Connect charge controller and battery



Module Mounting

Module mounting must use the pre-drilled mounting holes in the frame. Refer to the picture for more details.

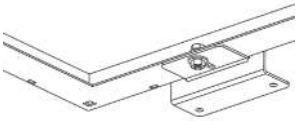
Modules should be safely fixed to bear all expected loads, including wind and snow loads. A minimum clearance of 0.25 in (6.5mm) or more between modules is required to allow for thermal expansion of the frames.

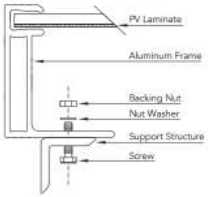


Bolting

Modules must be mounted using the mounting holes located on the rear side of the long frame parts using M6 or M8 bolt stainless steel bolts, nuts, and washers. Refer to the racking manufacturer for specific torque requirements.

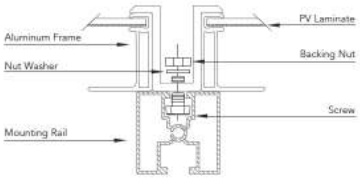
The mounting design must be certified by a registered professional engineer and comply with local code requirements from relevant authorities.





Top Down Clamps

Clamps are an approved method of mounting for our modules. A clamp holds two modules in a row. The centerline of the clamps must be in-line with the module mounting holes and installed according to code.



Grounding

The frame of the PV module, as well as any exposed non-current carrying metal parts of fixed equipment that can be energized must be grounded to avoid electrical shock. We recommends grounding all PV module frames to ensure the voltage between the conductive equipment and the earth ground is zero in all circumstances.

The frame rails have pre-drilled holes marked with the grounding sign. Do not drill additional holes into the frame rails.

Maintenance

- Clean the glass surface of the module as necessary. Always use water and a soft sponge or cloth for cleaning. A mild, non-abrasive cleaning agent can be used to remove stubborn dirt.
- Check the electrical and mechanical connections every six months to verify that they are clean, secure and undamaged.
- If any problem arises, have them investigated by a competent specialist. Observe the maintenance instructions for all components used in the system, such as support frames, charging regulators, inverters, batteries, etc.