

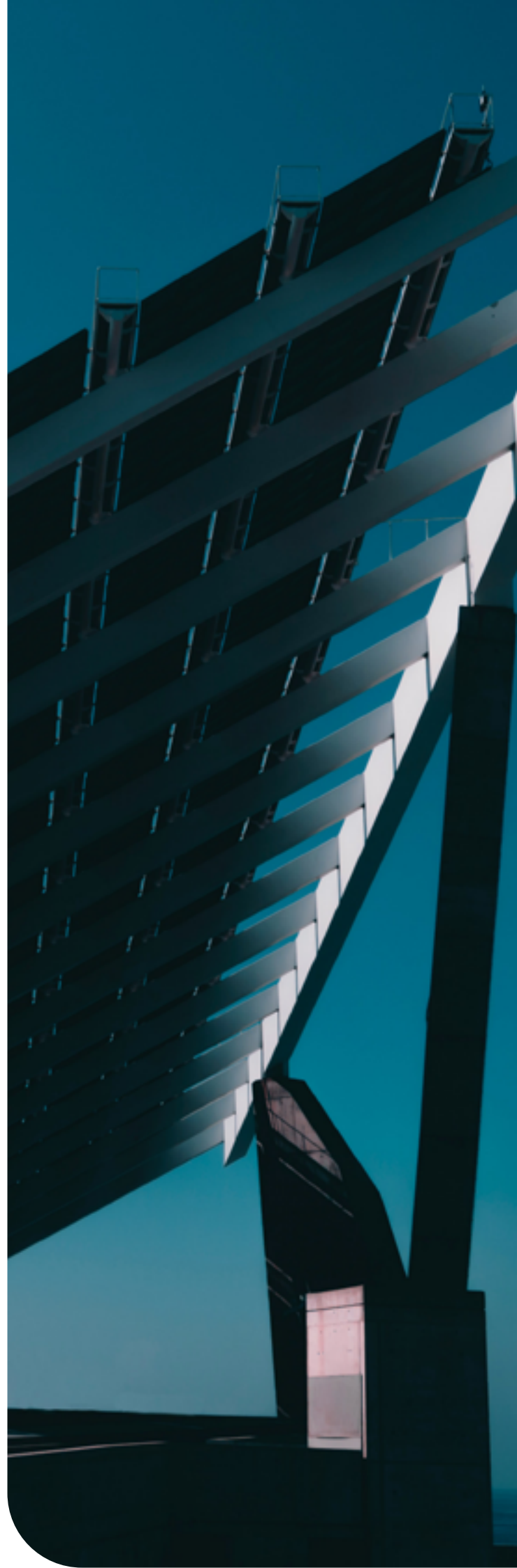


ASCENT
Ground Mount

Aluminium Ground Mounting

PORTRAIT CONCRETE FOUNDATION

Version 1



General information

ASCENT provides new, pre-assembled PV mounting systems, such as this aluminium ground-mounting system. The pre-assembly of the main support beam makes installation more convenient, requiring less labour time. The system requires few, high-quality components - saving on installation time and costs.

Ascent products are:

- Easy to install
- Innovative and engineered to speed up installation time
- Backed by a 10-year warranty and AS/NZS1170.2.2011 AMDT 3 -2012 compliant

Applications:

- Ground mounting

Features:

- Extruded from anodised Al 6005-T6 (aluminium)
- Can be preassembled, making installation quick and easy
- Suitable for a variety of conditions and for use with current, popular PV panels
- Inherent corrosion resistance results in lower maintenance and extended product life
- 10-year limited warranty backed by the parent company (Antai Aluminium)

Material standard:

Material	Yield strength (MPa)	
	Tensile Strength	Yield Strength
Al 6005-T6	295	263

Product Information

This ASCENT product is a ground mount structure, designed to fix modules on a flat, concrete platform. The ground-mount solar-racking is a cost-optimised design. Pre-assembly is carried out as far as possible to simply unfold on site. It is generally set with concrete foundations, where variable inclination and height makes this suitable for a flexible plant design. This product is made from anodised aluminium to ensure that the system is light, but strong.

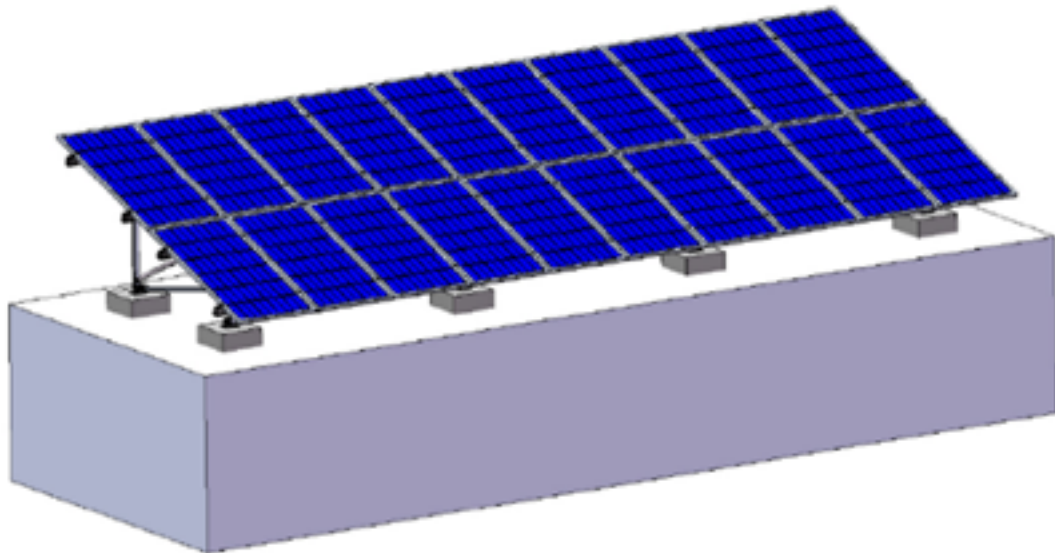
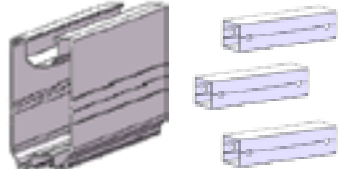




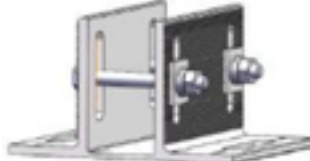
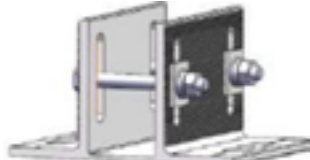



Figure 1 ASCENT Ground Mount Concrete Structure



Product features

- Can withstand windy conditions of up to 42m/s
- Can be used with modules with dimensions: 2279 x 1134 x 35mm

Components

Part Name	ASCENT Part Number	Picture
ASCENT Groundmount pre-assembled beam (2279x1134 module)	A4000001	
ASCENT Groundmount Rail 1650mm	A4001012	
ASCENT Ground mount rail 5000mm	A4001011	
ASCENT Ground mount Top Connector	A4000001	
ASCENT Ground mount Bottom Connector	A5001050	
ASCENT GMS base type 1 (2279 x 1134 module)	A4001032	
ASCENT GMS base type 2 (2279 x 1134 module)	A4001033	
ASCENT Groundmount Mid clamp (2279 x 1134 module)	A4001041	

Part Name	ASCENT Part Number	Picture
ASCENT Groundmount End clamp A	A4001050	
ASCENT Bottom Rail Clamp	A5001100	
ASCENT Ground mount Rail Splice	A4001070	
ASCENT Grounding Lug	A0001000	
ASCENT Groundmount Aluminium Angle 3595mm (2279 x1134 module)	A4001121	
ASCENT Type A Earthing Clip	A0001010	
ASCENT Groundmount Rubber Beam Cap	A4001110	
ASCENT Groundmount Rubber Rail Cap	A4001110	
ASCENT Ground mount Eyelet Bolt M12*300	A4001090	

Part Name	ASCENT Part Number	Picture
ASCENT M10x80 Bolts	A4001100	 A long, silver-colored metal bolt with a hexagonal head and a threaded shaft.
Rubicon Class 4 self tapper with seal	RUB-M3X25-HEX-CL4	 A small, silver-colored metal self-tapping screw with a hexagonal head and a sharp, pointed tip.

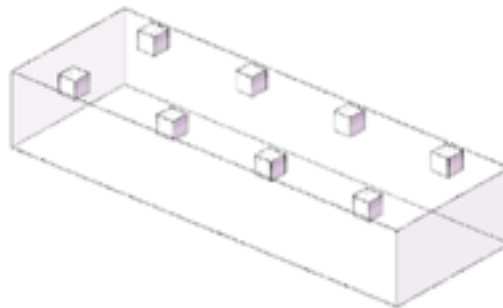
Installation manual

Tools required for this installation:

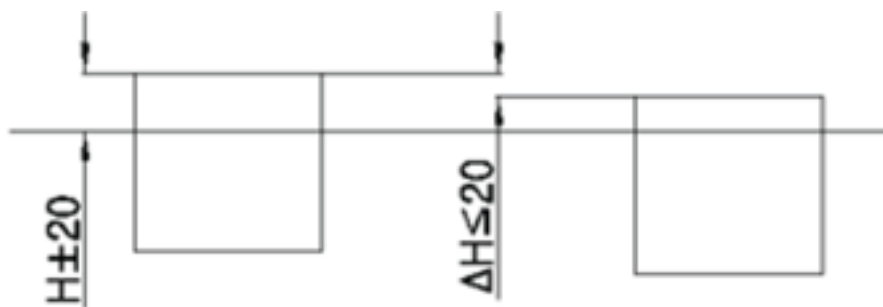
6mm Allen key or hexagonal driver bit	Monkey spanner	Torque wrench	Measuring tape
Power tool	Pen	Pipe wrench (M10/M14)	Rope

Installation Instructions

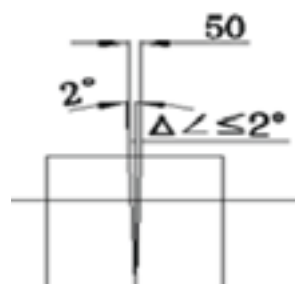
1. Mark the position of the concrete slabs that should be laid – as per the engineering drawing and the drawing at the back of this booklet.



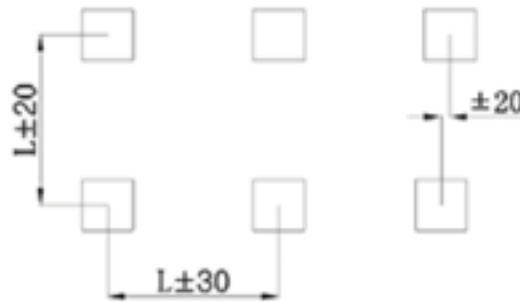
- a. There is a height tolerance of 20mm for the the surfaces of the concrete slabs. The concrete slabs also have a 20mm tolerance between their surfaces.



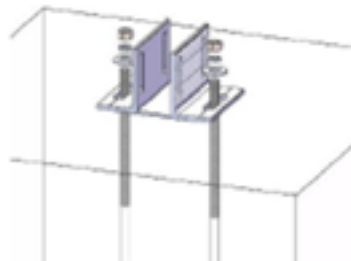
- b. The concrete slabs have a 2° deflection angle tolerance, where the maximum deflection from the centre of the slab to the edge of the slab is 50mm.



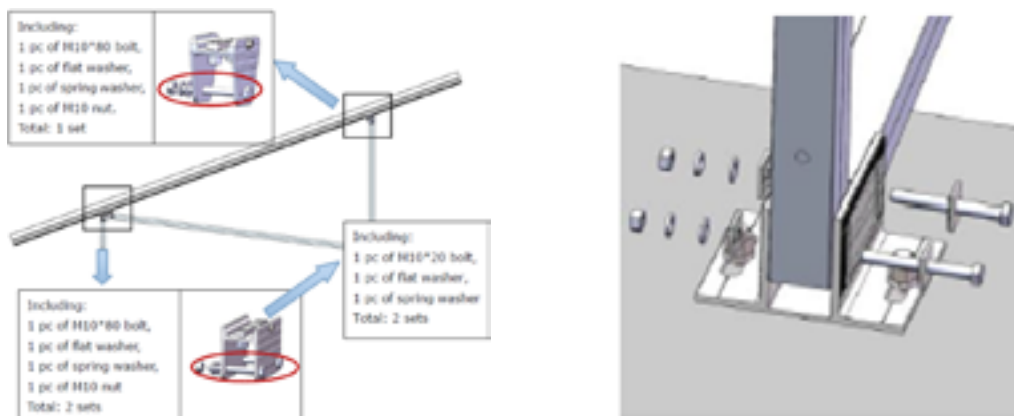
- c. When the East-West direction is flat, there is a 30mm tolerance between the slabs in the East-West direction. There is a 20mm tolerance between the slab centres. There is a 20mm tolerance between the slabs in the North South direction.



2. Mark the location of each anchor bolt (A4001090), ensuring that they are in the same horizontal/vertical line.
3. Drill the holes for the anchor bolts, with two bolts per base and fit the U-base (A4001032/A4001033) to the concrete as per the drawings.

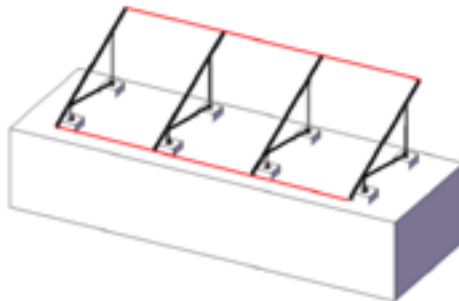


4. Unfold the preassembled beam (A4000001) and attach the U-base (A4001032/A4001033) and beams.

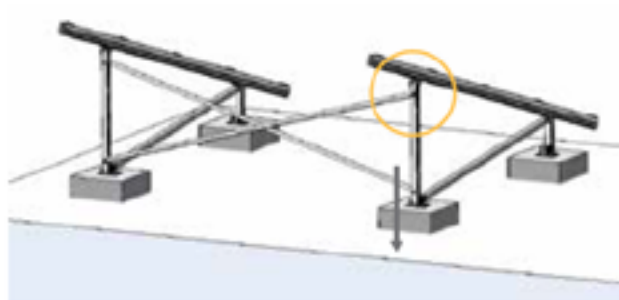




5. Adjust the rails to ensure that the upper surface of the beams is on the same plane.



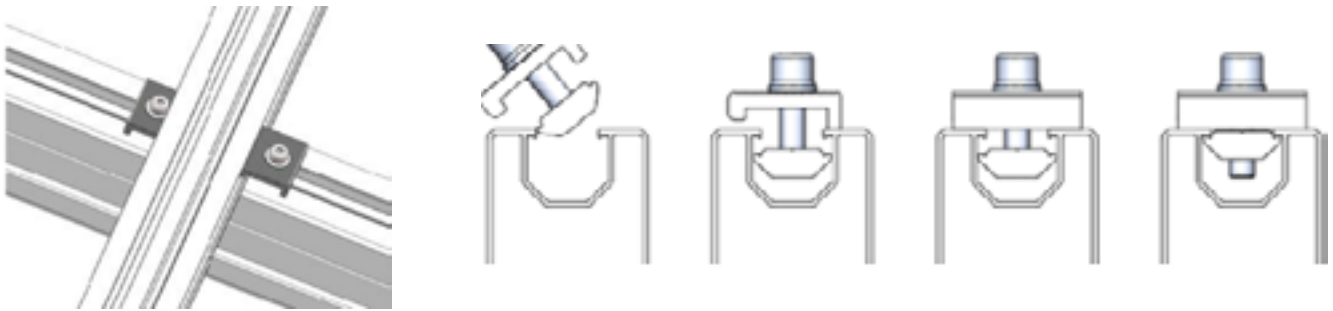
6. Fix the angle aluminium (A4001121) to the back beam using a M10x80 bolt (A4001100).



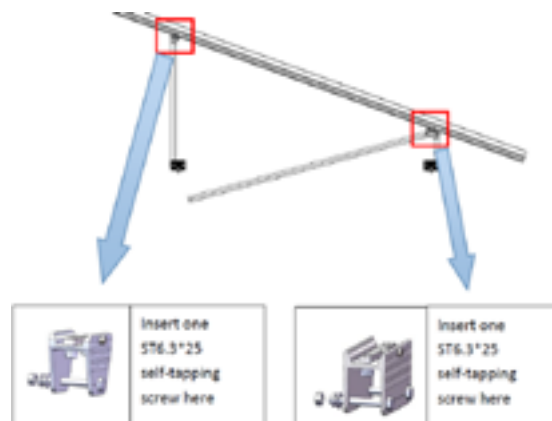
7. Insert the rail splice (A4001070) into one of the rails (A4001011/A4001012) and fasten with two self-drilling screws. Ensure that the rails are aligned. NOTE: To avoid interference of self-tapping screw, stagger the installation position of the screws to both sides of the rail.



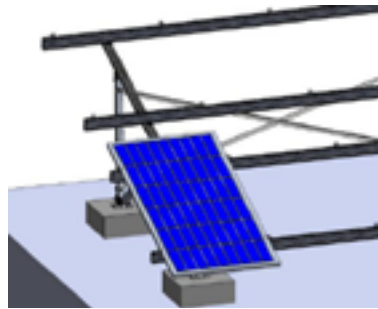
8. Use rail clamp (A5001100) to fix the rail (A4001011/ A4001012) to the pre-assembled and fixed beam (A4000001), with two clamps on each side of the rail. Take note of the nut direction to ensure that the clamp is tightened correctly.



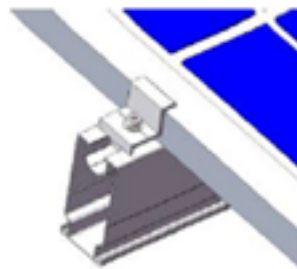
9. After the entire mounting structure is assembled, drill a self-tapping screw (RUB-M3X25-HEX-CL4) into each of the connectors (A4001020/A4001021). This is to reduce the risk of the connectors sliding along the beams (A4001000).



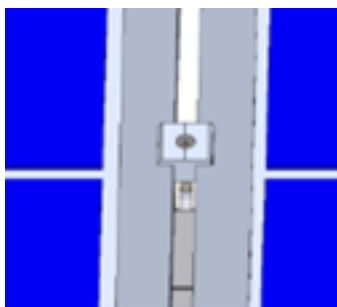
10. The modules can now be installed. They should be installed from the bottom to the top and from the left to the right. Leave 50mm between the end of the rail (A4001011/ A4001012) and the edge modules for installation of the grounding lug (A0001000).



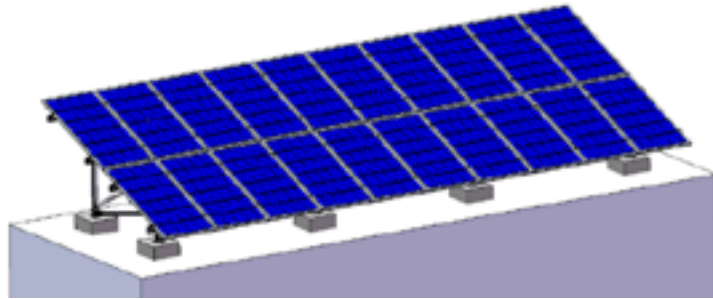
11. Fix the modules on the rails using the mid clamps (A4001041) and the end clamps (A4001050). Place the base of the end clamp in the rail slot and move the end clamp over the module rim. Loosely tighten the bolt of the clamp.



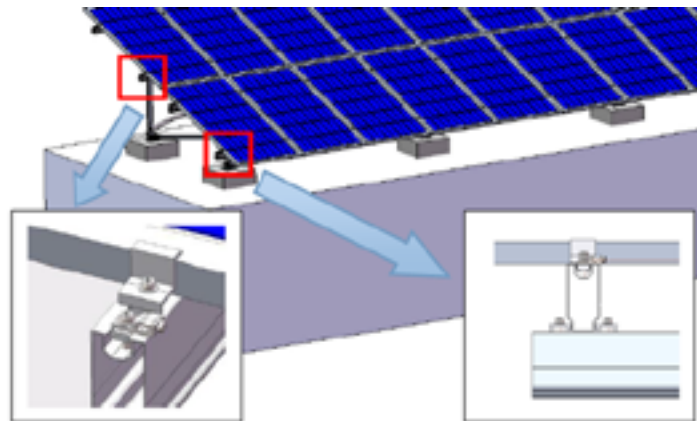
12. Unscrew the base of the mid clamp (A4001041) until it is fully extended. Insert the base of the clamp (A4001041) into the rail (A4001011/ A4001012) slot and move to the specified position. Loosely tighten each of the mid clamps. If an earthing clip (A0001010) is required, place the clip above the base of the clamp (A4001041) before slotting the clamp base into the rail slot (A4001011/ A4001012).



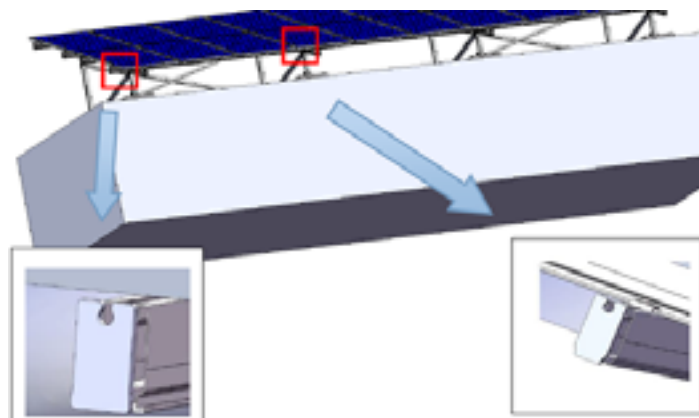
13. Ensure that all the clamps are in the correct positions and tighten them. The spacing between the modules should not be larger than 3mm.



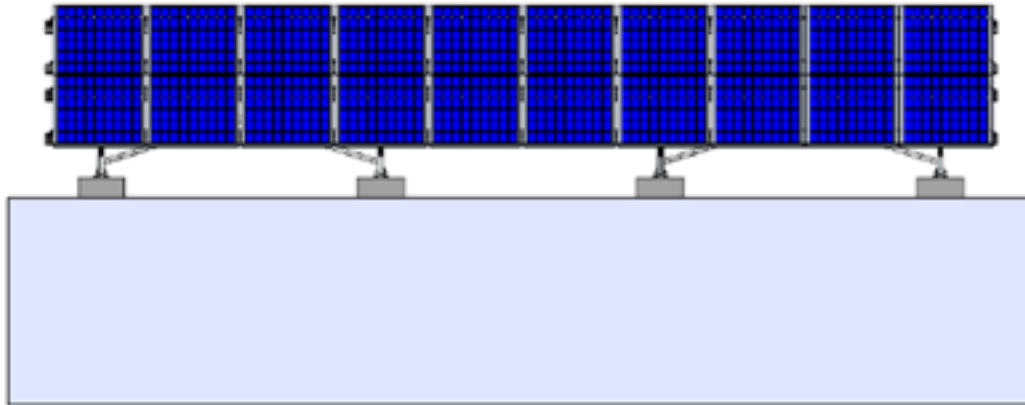
14. Install the grounding lug (A0001000) at the end of the rail (A4001011/ A4001012). Wire each of the grounding lugs with wires prepared by the user.



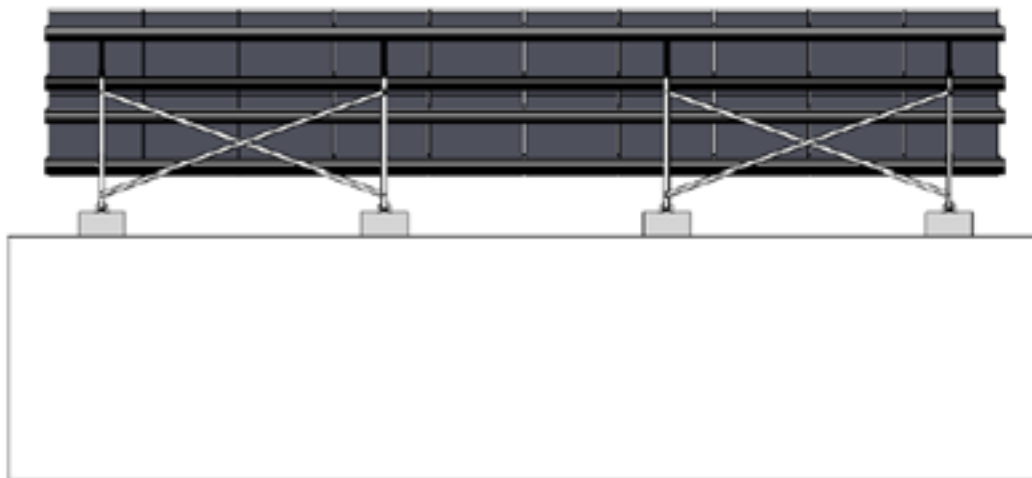
15. Place the beam end caps (A4001110) and the rail end caps (A4001111) on the beams and the rails, respectively.



Appendix



Front View



Back View

