

DPA Solar Racking Solutions

AL Ground Mount Installation Guide

V1.1



DPA Solar

Introduction

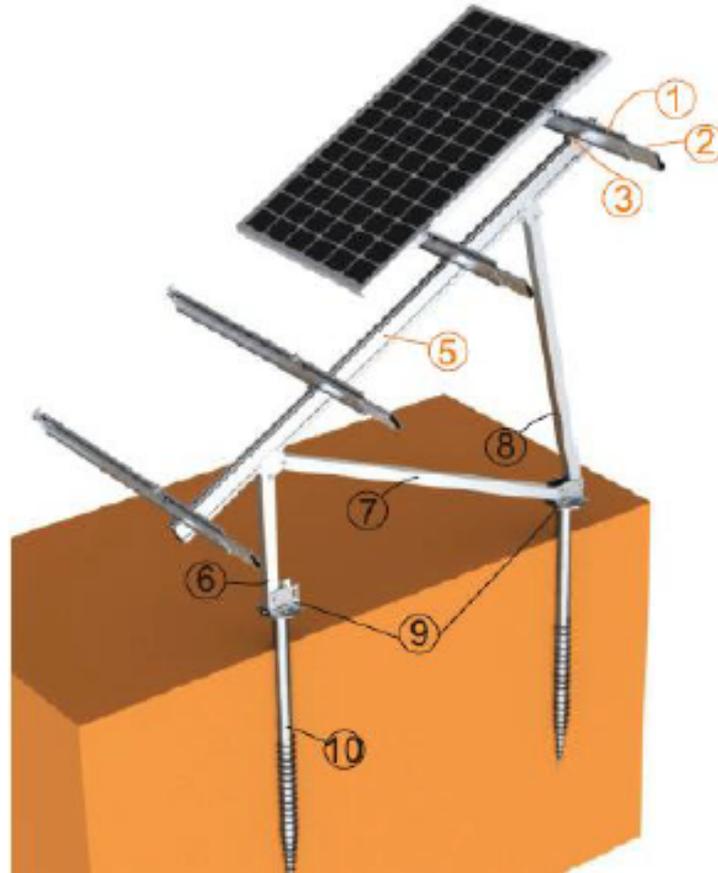
It is important to note that the installer is responsible for the following:

- Complying with all applicable local or national building codes, including any that may supersede this manual;
- Complying with all electrical, health and safety and other applicable regulations as applicable to the location;
- Ensuring that DPA Solar racking and other products are appropriate for the particular installation and the installation environment;
- Ensuring that foundations, piles, footings and associated securing / attachment are sufficient for the geographic location, applicable wind load and soil types;
- Fitting galvanic isolation where required to protect against dissimilar metals corrosion; and
- Ensuring safe installation of all electrical aspects of the PV array.

This product is warranted to be free from defective material and workmanship for a period of 10 years. Please visit www.dpasolar.com.au/support for full warranty details.

The nature and type of the footings / foundations, and the attachment to them is the responsibility of the installer, taking into account local conditions and geography, soil types, wind loads applicable to the area and local planning considerations.

Components



Item	Code	Description	Spec
1	GS-8R-Length	GS 8# Rail	_____
2	GS-8R-SP	GS 8# Rail Splice	400 mm
3	GS-8R-C60	GS 8# Rail Clamp	60 mm
4	GS-IC-F46	Inter Clamp Kit	46 mm
	GS-EC-F46	End Clamp Kit	46 mm
5	GS-AG2-BA-2740	AG 2# Support Beam	2740 mm
6	GS-AG-T-600	Front Leg, Tube	600 mm
7	GS-AG-T-1475	Back Leg, Tube	1475mm
8	GS-AG-T-1500	Brace, Tube	1500 mm
9	GS-AG-B-05	Bottom Base 1#	160 mm
10	GS-F76A-1600-T4	Ground Screw F76A-1600	F76Ax1600xT4

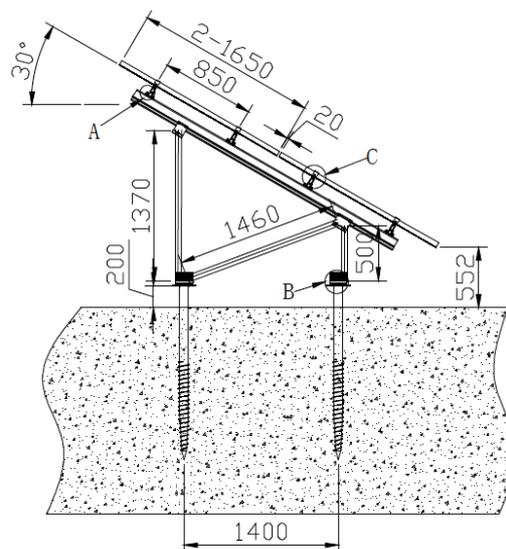
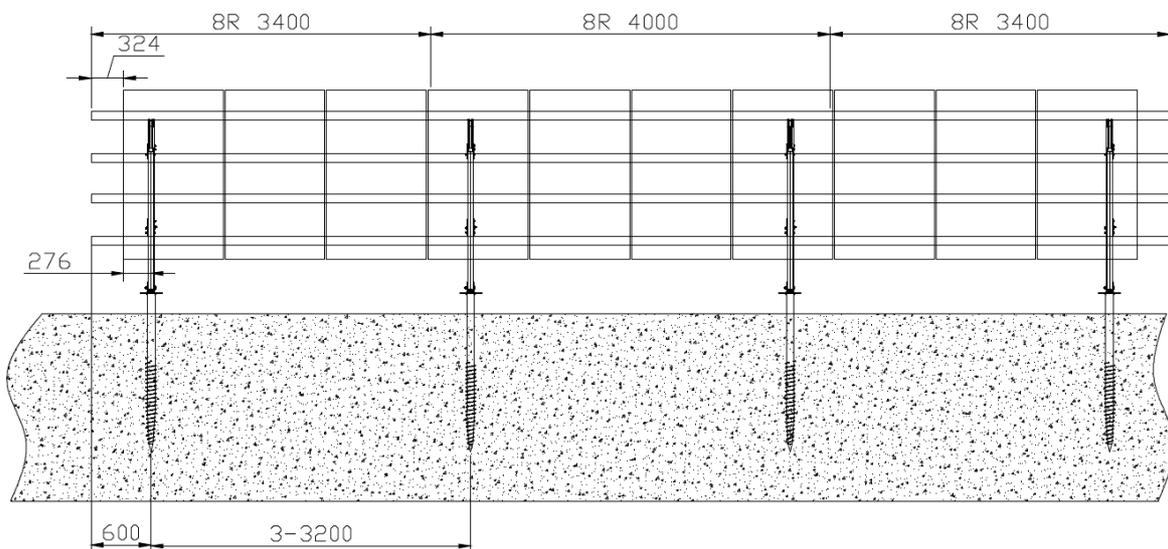
Planning

Determine the orientation of your system and the required spacing of the uprights. The front-to-rear spacing of the feet for each upright is fixed as per the drawing however there is some variation regarding the upright spacing.

The diagram below details a standard 5kW (20 panel) installation, however your system may be a different configuration. If you are uncertain as to the configuration of your system either enquire, or assemble the system prior to proceeding to confirm the dimensions.

The two main methods to mount the array are using concrete footings or screw piles. It is recommended that the system is at least partially assembled on site as a final check prior to pouring any footings or installing screw piles to confirm location of the feet.

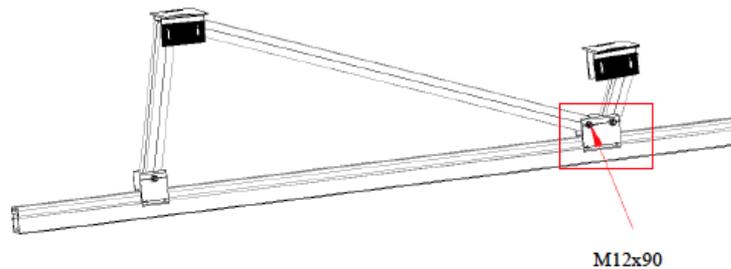
IMPORTANT: The dimensions below apply to a standard configuration system. Depending upon your requirements you may have been supplied with a custom configuration. Confirm your bill of materials and if required contact DPA Solar to confirm the appropriate spacing for your installation.



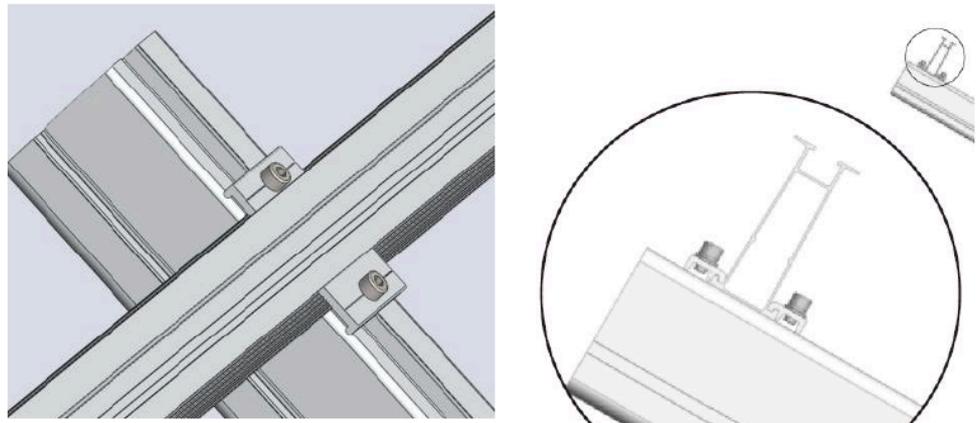
Installation Steps

These steps can be followed for free-standing assembly (attachment to footings or screw piles is detailed at the end of this procedure). If footings or screw piles are prepared, then loosely fit the uprights to the footings or piles after step one, assemble the remainder of the system and then tighten at the end.

- 1 Assemble the uprights by unfolding the front leg and attaching the rear leg / diagonal. Note that the longer length on the rear assembly is the diagonal.

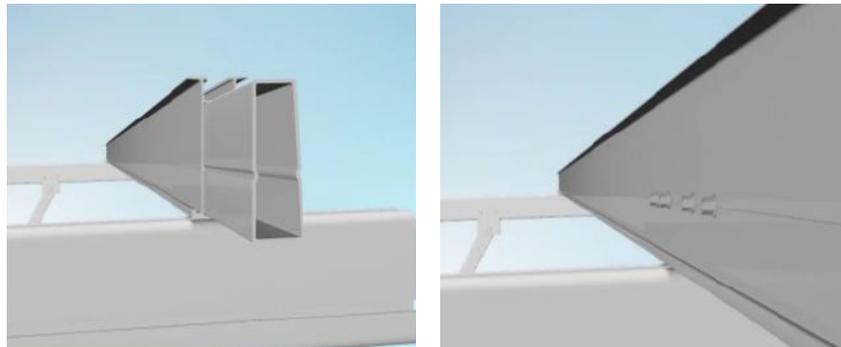


- 2 Install the GS-8R cross members (rails). Note that rails are in two lengths – consult the appropriate drawing to determine how to arrange the cross members and to obtain the upright spacing.



Clamp the cross members to the uprights using the GS-8R-C60 clamps (2 per rail i.e. clamp from both sides). Tighten to 10Nm.

- 3 Connect the cross members using the GS-8R-SP splices. Four self drilling screws are used to secure each splice (supplied).

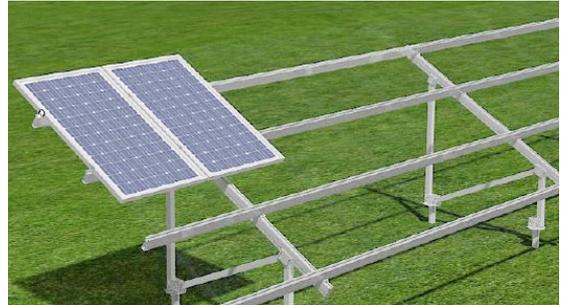


- 4 Cross members are spaced along the uprights as shown to suit two rows of panels (in portrait).

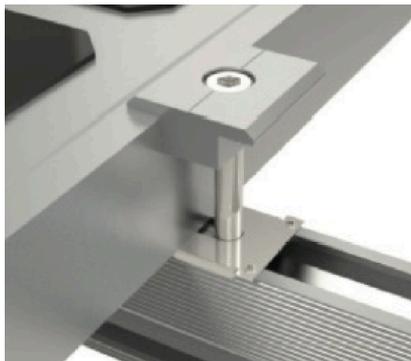


- 5 Install the panels using the mid and end clamps (supplied).

Tighten fixings to 10Nm.



- 6 Install earthing washers and grounding lugs as the panels are installed; one washer per mid clamp and one lug per set of rails.



Earthing washer

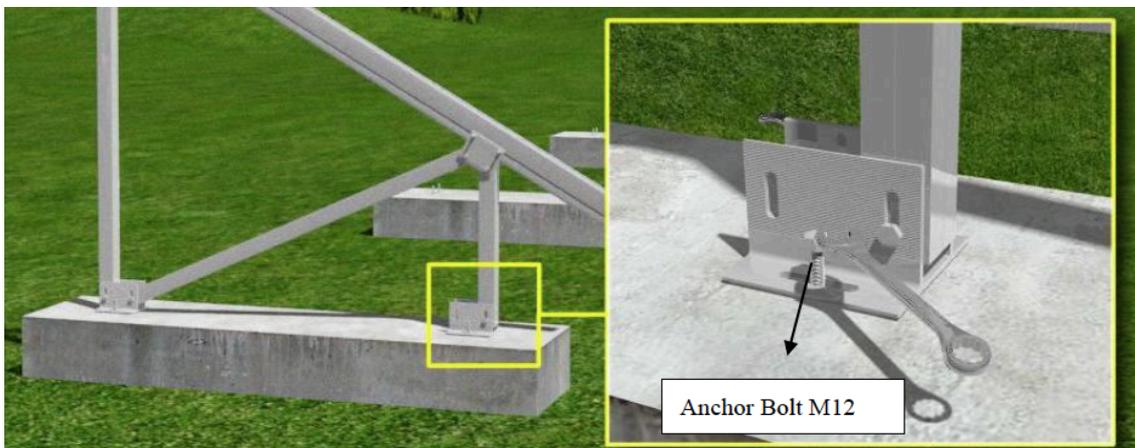
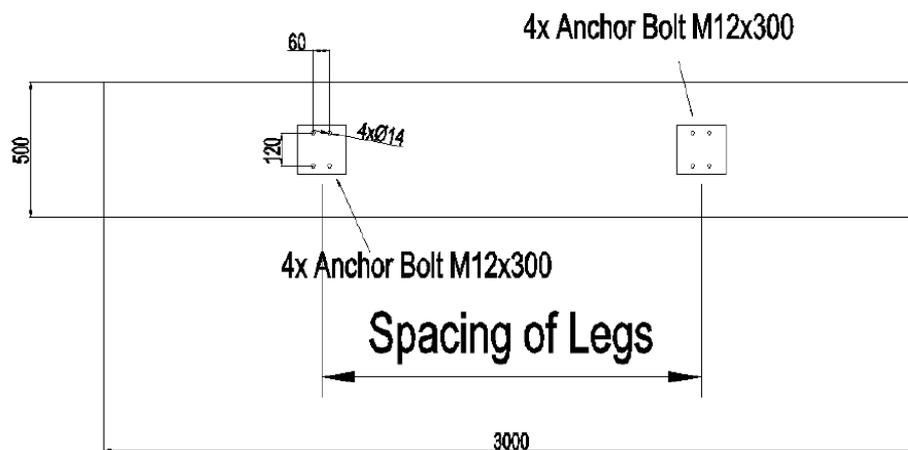
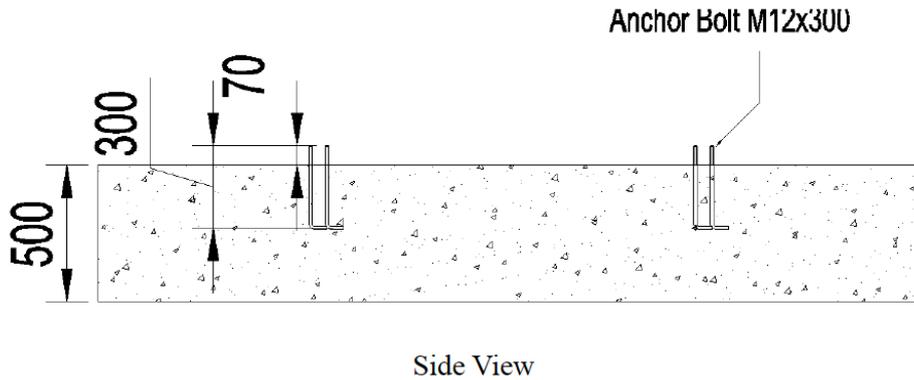


Grounding lug

- 7 Tighten all fasteners and perform a final check.

Footings

Concrete footings with pre-buried bolts, chemsets or other appropriate fasteners can be used to attach the system to concrete. The size of the footings is dependent on a number of considerations including the local soil type / conditions, drainage and other factors. A typical layout is shown below, using 500mm x 500mm footings and 300mm M12 pre-buried bolts. Note that fixings and anchor bolts to attach to concrete are not supplied.



Screw Piles

Screw piles can be used to mount the system where soil conditions are appropriate. A suitably qualified person will be required to assess a particular site to determine if the use of screw piles is appropriate given the ground conditions and other factors.

An auger is typically used to install the screw piles. The screw piles have a flat plate style interface to connect to the auger with a range of bolt holes to support most auger drives.

Screw piles are available as an option and include M12 bolts to attach to the ground mount uprights.

