

# IMAGINATION SOLAR LTD



## Installation Guide A5

## PV Module Mounting



Unit 4 Montpelier Central, Station Road  
Bristol BS6 5EE

t: 0117 942 6668 f: 0117 942 8998

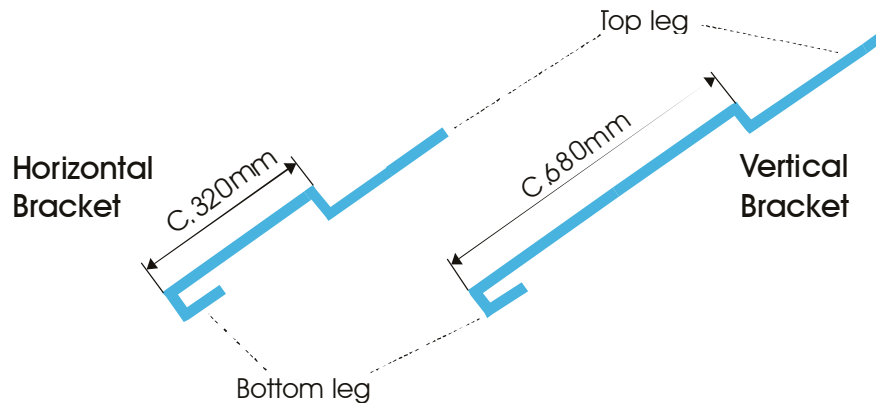
el: [enquiries@imaginationssolar.com](mailto:enquiries@imaginationssolar.com)

[www.imaginationssolar.com](http://www.imaginationssolar.com)

Reg. in England No. 4226842

### A5.1 PV Module Mounting for Roof Integrated Collectors

The PV module can be mounted either horizontally or vertically. There is no difference for slate or tile roofs. The brackets are supplied in two parts. This split version is especially suitable when the collector is mounted before the roof is tiled in.



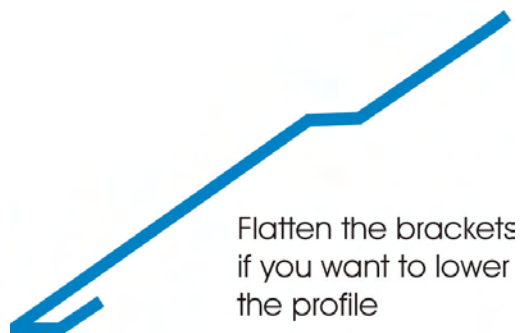
**A5 Figure 1:** Assembled Brackets (not to scale)

There are two aluminum brackets used per PV module which are Tek-screwed or bolted into the long edge of the frame of the PV module prior to mounting on the roof. For maximum flexibility of bracket position use a horizontal PV module, especially on a profiled roof.

Only two brackets are required, fixed at the top, whilst the bottom is hooked underneath a lower row of tiles/slates, which hold it down.

For vertical modules use six Tek-screws (4.9x16mm supplied) and for horizontal modules use four Tek-screws, to fix the brackets to the flat underside of the frame, using an 8mm hex driver. If you prefer then you can use stainless steel bolts and two self locking nuts (not supplied) to attach the PV module to the frame after fitting (one nut to fix bolt to module and second to fix to frame).

All frames are 60mm high, suitable for profiled roofs, but can easily be flattened if you require a lower profile on the roof (e.g. slate roof).



**A5 Figure 2:** Flattened bracket



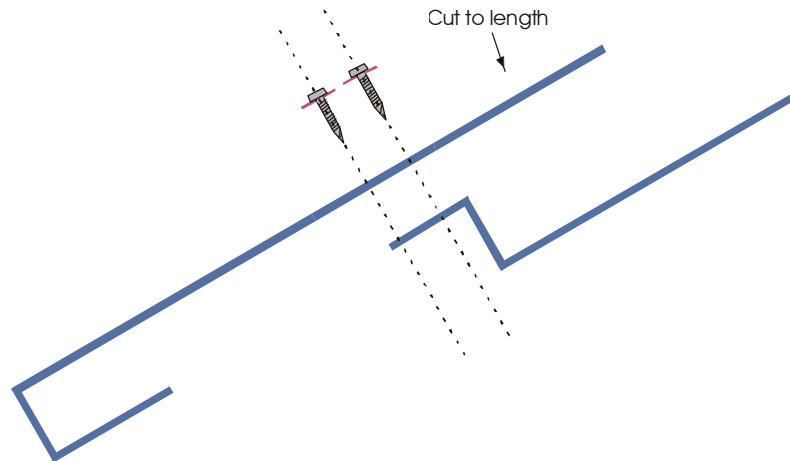
**A5 Figure 3:** Completed Installation with frame

## A5.2 Installing the PV Module onto a roof

There are two roof positions to install the PV module:-

1. Immediately below the collector with the top leg fixed underneath it as in fig 5.
2. Independently positioned with the top leg fixed under a course of tiles (difficult with slates) as in fig 3.

The split bracket is suitable for mounting horizontal or vertical PV panels and requires the first part of the bracket to be fitted at the same time as collector. In a new build situation the roof can then be tiled at a later date and the second part fitted along with the PV panel.



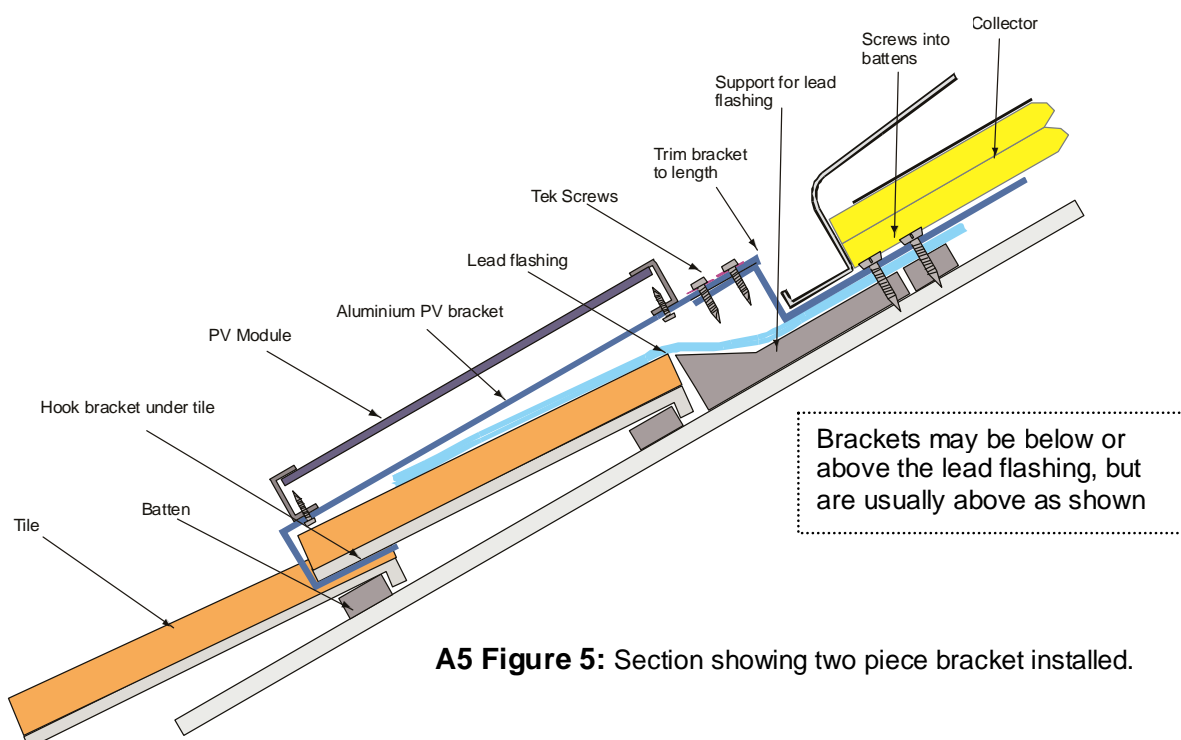
**A5 Figure 4:** Two piece Bracket (not to scale)

There are two split aluminium brackets used per PV module which is Tek-screwed or bolted into the long edge of the frame of the PV module prior to mounting on the roof.

Only two brackets are required, fixed at the top, whilst the bottom is hooked underneath a lower row of tiles/slates, which hold it down.

All brackets are 60mm high, suitable for profiled roofs, but can easily be flattened if you require a lower profile on the roof (e.g. slate roof).

1. Drill and screw the top two legs to as many battens as possible as shown in figure 5 below. For additional strength the top leg can be bent around the top batten, cutting to length as required. The distance apart between the two top brackets can be 400-600mm.



**A5 Figure 5:** Section showing two piece bracket installed.

2. Carefully measure the distance between the two upper brackets and then tek screw the PV module to the lower brackets using an 8mm hex driver. Use a long shafted hex driver to avoid snagging the frame.
3. Wire 1m of cable to the PV module using a UV stable flex and pass two-core cable out from the loft space through an overlap in the felt.
4. The lower bracket legs and module can now be slid into position underneath and right up to a suitable course of tiles. Trim the lower part of the bracket to the required length and fix to the upper part using two tek screws.

### Hints and Tips:

- By using a horizontal PV module just below a solar thermal panel, no extra tiles/slates need to be removed. Simply fix the top leg of the brackets over the lead flashing and screw down at least 50mm above the bottom edge of the solar panel. Apply insulating tape on the back of the bracket where in contact with the lead flashing to prevent electrolytic corrosion.
- The aluminum brackets can be easily re-shaped to deal with unusual situations.
- For maximum strength, slide the lower bracket leg as far as possible under the tiles/slates before fixing.

### A5.3 PV Mounting for On Roof Frame

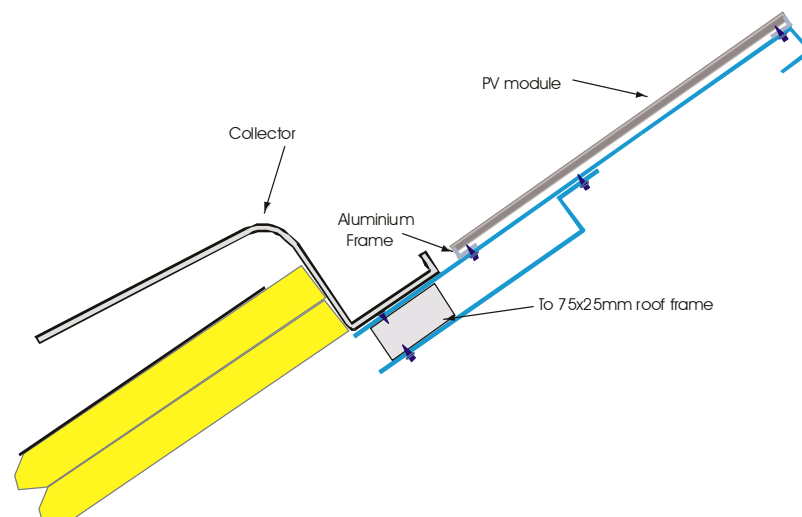
To mount a PV module to an over roof frame, utilize the brackets as indicated in the photos and diagram (figs 6 - 8), before fixing the collector. The PV module may be easily positioned either above or below the frame.



**A5 Figure 6:** PV module mounting



**A5 Figure 7:** With collector and external light sensor



**A5 Figure 8:** Frame and brackets detail