



# 80W / 130W SOLAR PANEL KIT MOUNTING INSTRUCTIONS

## Kit contents

- 12V 80W Solar Panel or 18V 130W Solar Panel
- MPPT Solar Regulator 8 - 12V 10A
- Bracket Mount system
- 2 x Spare 10A fuses
- 5mm Allen key for MPPT enclosure
- 6mm Allen key for solar bracket adjustment
- 8 x 14g 65mm galvanised wood screws
- 4 x Stainless steel clamps
- 4 x U-bolts and nuts
- Instructions

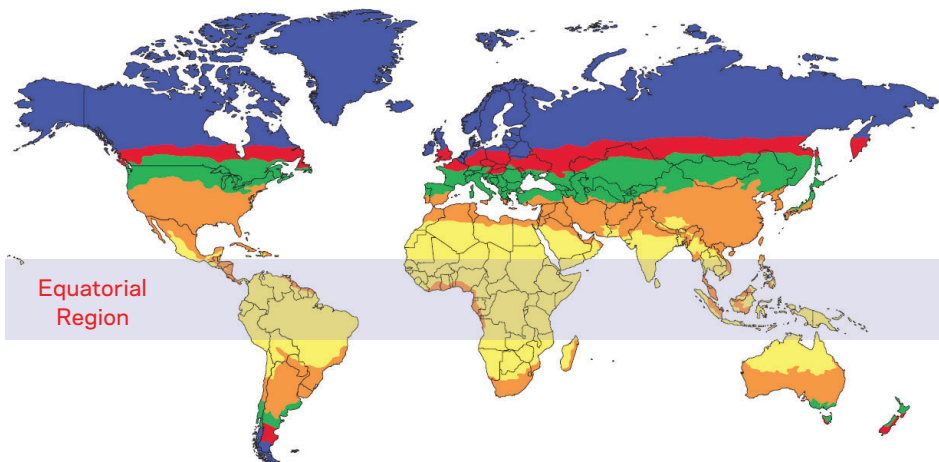
The bracket is designed to attach to:

- A flat surface such as wood railing → use the supplied 14g screws
- A wooden post up to 299mm in diameter → use the supplied stainless-steel clamps
- A 2" nominal diameter steel pole → use the supplied U-bolts



## Adjusting solar panel angle

Based on the region you live in, it is important to set the correct solar panel angle to maximise solar performance.



Region	Solar Panel angle
1	45°
2	50°
3	55°
4	55°
5	55°

**NOTE:** For equatorial regions, please contact Gallagher group for recommended solar panel installations.

## Mounting the Solar Panel

Choose a location where the solar panel will face North (Southern Hemisphere) or South (Northern Hemisphere) for optimum performance and where animals will not be able to access and cause potential damage.

**Note:** Two people are required for installation.

### Wooden Railing

1. Drive 2 posts firmly into the ground and cut 2 wooden cross rails to mount the solar panel.
2. Attach the top rail to the posts - recommend cutting these in to have a flat surface to mount against.
3. Remove the top mounting bracket from the solar panel by undoing the four bolts.
4. Secure the top bracket to the top railing using the supplied 14g 65mm woodscrews. Use 2 screws for the 80W panel and 4 screws for the 130W panel. 7mm holes need to be drilled through the frame for the screws.
5. Lift the solar panel up and attach the panel to the top mounting bracket with the four bolts from Step 3. Leave the bolts loose at this stage.
6. Raise the lower bracket and mark the position where the angle displayed is set as per your region.
7. Attach the second rail in this marked position and attach the solar panel using the remaining 14g 65mm woodscrews.
8. Check the angle and do any final adjustments on the bracket. Tighten the bolts in Step 5.



## Mounting the Solar Panel (continued)

### Wooden Post

1. Drive 1 x post firmly in the ground - maximum diameter 299mm
2. Attach the top bracket of the solar panel to the post using 2 x supplied stainless steel clamps. Thread these clamps through the two slots in the bracket and around the post.
3. Raise the lower bracket and mark the position where the angle displayed is correct for your region.
4. Thread the two remaining stainless steel clamps and secure the lower bracket to the marked position.
5. Check the angle and do any final adjustments on the bracket and firmly tighten all clamps.



### Steel Pole

U-bolt mount system design to suit poles up to a 2" nominal diameter

1. Attach the top bracket of the solar panel to the pole using 2 x supplied U-bolts.
2. Raise the lower bracket and mark the position where the angle displayed is correct for your region.
3. Fix the lower bracket into the market position using the remaining U-bolts.
4. Check the angle and do any final adjustments on the bracket and firmly tighten all U-bolts

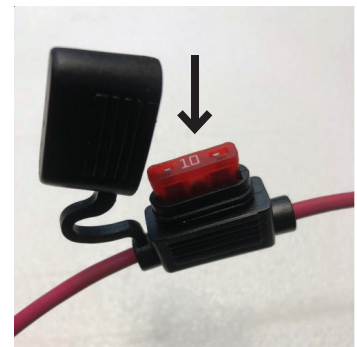


## Connect Solar Panel to the Energizer and Battery and Insert Fuse

These solar panels are designed for easy connection to the Energizer and battery. They are supplied with two lead sets exiting the back of the solar regulator:

1. **3m Energizer connection cable:** Plug connects directly into the Energizer
2. **3m Battery cable:** Connect the BLACK Lead to the (-) Negative Battery Terminal and the RED Lead (with the inline fuse holder) to the (+) Positive Battery Terminal.
3. **Insert Fuse:** Open the inline fuse holder on the red lead, insert the supplied fuse and close the fuse holder cover.

**Note:** Gallagher recommend protecting your batteries from the environment by storing them in an insulated storage container.



## Multiple Panels and Multiple Battery Connections

If using multiple solar panels, the battery connection leads need to be connected in parallel with the battery/batteries as shown in Figure 2. Only 1 of the panels will be required to be connected to the Energizer. Leave the remaining Energizer cable coiled up and cable tied to the back of the panel.

With multiple batteries ensure that the connection between positive and negative is made across the complete battery bank.

For example, in Figure 2 the positive connection is made from the battery on the right and the negative connection from the battery on the left.

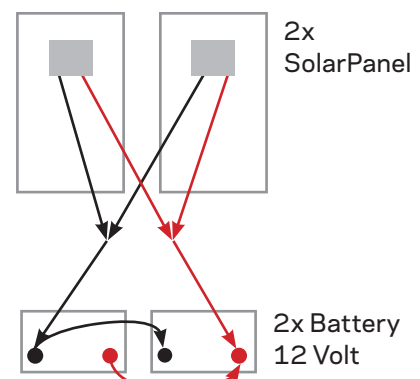


Figure 2.