ePump

STANDALONE SOLAR PUMPING SYSTEM

Congratulations on purchasing the ePump solar pumping solution.

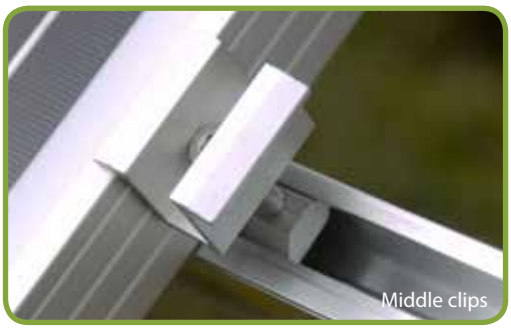
Please follow the easy step by step assembly instructions below.
We also have an assembly video which can be viewed via our website **www.solarpump.co.nz**

Assembly equipment supplied		Required	Supplied
2100mm posts 125mm x 125mm H5 treated piles	5.00	✔	
1500mm posts 125mm x 125mm H5 treated piles	5.00	✔	
150 x 50 H3 timber 5 mtr length	2.00	✔	
Solar panels 300 watt 36 Volt	6.00		✔
2.1 metre Aluminum rail	6.00		✔
Adjustable leg 13/30 degree (Panel Mount)	6.00		✔
Front leg (Panel Mount)	6.00		✔
Interclamps GPTL-IC-F50 (Centre panel fastener)	10.00		✔
End clamps GPTL-EC-F40 (End panel fastener)	4.00		✔
4 Mtr extension leads one male one female with blank ends (from 3-1 joiner to isolator)	2.00		✔
4.0mm DC wire extension 2.0 metre Male and female (from 2-1 joiner to 3-1 joiner)	4.00		✔
3 way branch joiners	2.00		✔
2 way branch joiners	6.00		✔
Isolating switch	1.00		✔
Aluminum Rail Joiner	4.00		✔
M10 x 175 bolt Galvanized	12.00	✔	
10mm large square washer Galvanized	12.00	✔	
10mm washer Galvanized	12.00	✔	
10mm spring washer Galvanized	12.00	✔	
Timber tek screw 12 x 100mm	24.00		✔

Step by step assembly

1. Install your 125mm x 125mm H5 Fence posts as per the layout in the diagram (page 4). The 2100mm and 1500mm posts need to be dug into the ground 900mm deep and earth rammed. Secure with concrete at the top for high wind areas.
2. Drill a single 10mm hole through the back of each post and thread through bolts.
3. Bolt top and bottom 150 x 50 rails to posts.
4. Fasten top and bottom rail supports onto 150 x 50 with tek screws provided.
5. Loosely slide the support channels onto the mounting clips like this. Keep the clips loose but tight enough for them to stay on. Do this with all 6 support channels and leave loose.
6. Slide an aluminium sleeve over the support channels and then slide the next one into that. It is easier to tip the support channels to the top and slide these on. Tighten the bolts on the sleeve once all are on.
7. Tighten all of the mounting bracket clips. Make sure the support channels are equal distance past each post at each end – top and bottom. Now all support channels are fixed. This should have firmed everything up,
8. Lift on each solar panel. Check the back on panel to make sure the cables are at the top end.
9. Secure panels with the middle (see right) and end clips. Slot the clip into the support rail and slip over the panel then tighten.

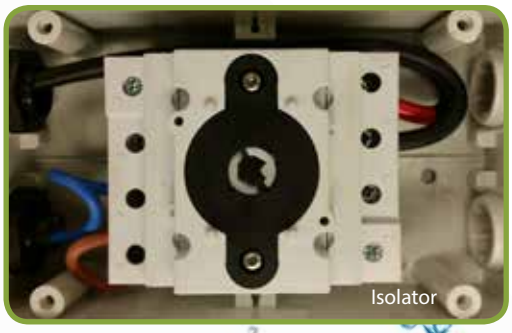
   The end clips are different, these slide in from the end and slip over the panel and tighten. Repeat for top and bottom of each panel.
10. Once all panels are on you are ready to connect the power.
11. The power cables are identified though the panels with Male being positive and Female being negative.
12. Using the 2 – 1 adapters, connect up both positives and both negatives from a pair of panels. Repeat for the other 2 pairs.
13. For the end 2 pairs of panels, Connect an extension cable from both cables and cable tie these to the rail. Run them both into the centre to be near the middle pair.


Middle clips


Back panel

14. Using 2 X 3-1 adapter cables, connect all three pairs together – both positive and negative.
15. Fix the isolator to the post at the end closest to the pump's position. Add extensions to the 3-1 adapters in the centre and run down into the isolator. Connect this according to the wiring diagram.
18. Connect the four coloured cables to the correct number on the isolator. Red to 1; brown to 2, black to 3 and blue to 4. ***Please note: If at first the pump does not run swap over polarity on terminals 2 and 4.***


Wiring


Isolator

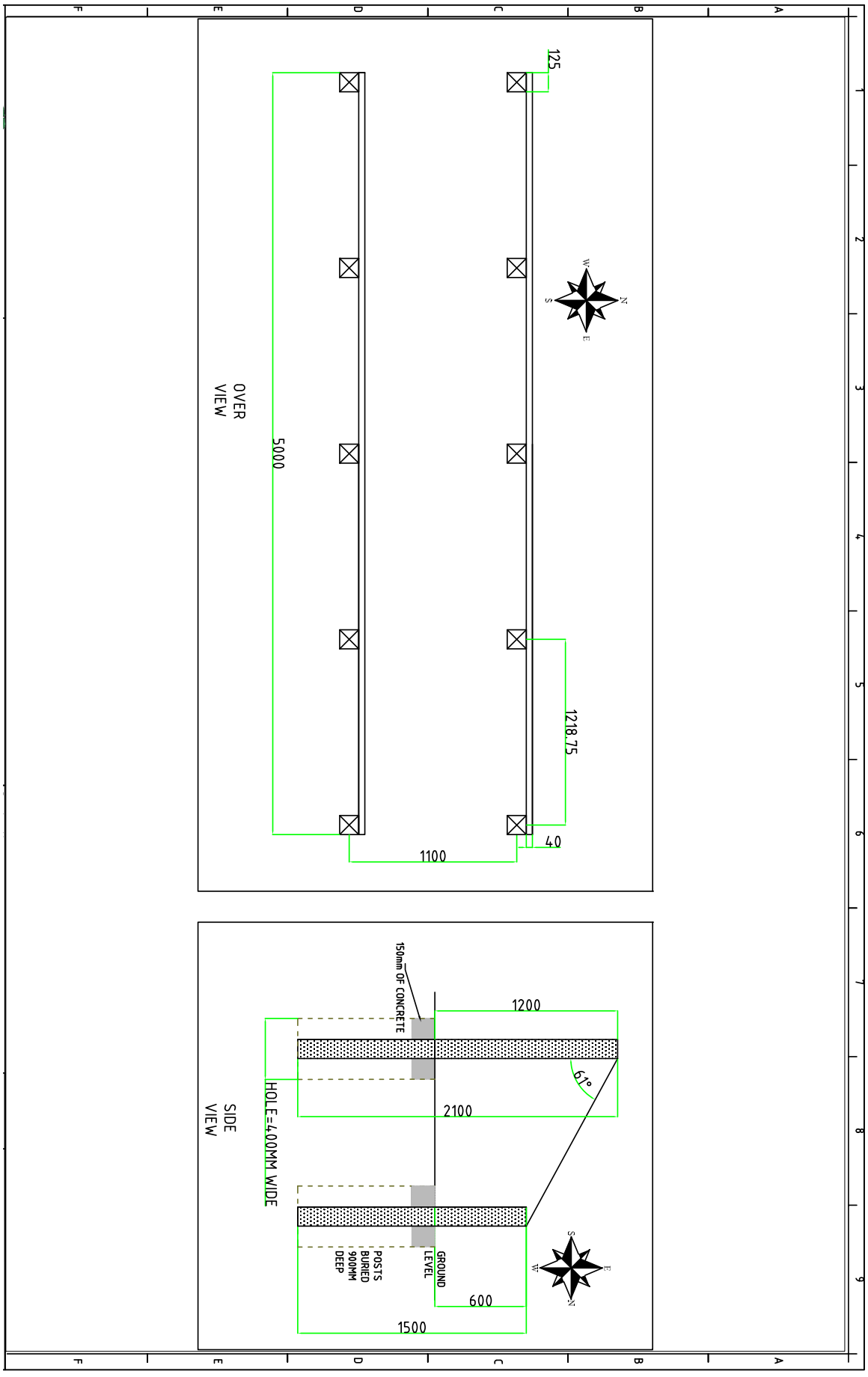
Starting the ePump

- Please ensure you fill the pump with oil and also prime the pump with water by filling it up before turning on
- You can now switch on the pump
- The lights will flash for a few seconds, while it starts. Once the green light flashes move on to next step
- When first turning on the pump, you must use the bypass switch on the low pressure valve as pressure is below 20psi. Once pressure reaches above 20psi, you can release switch and pump will continue to run until it reaches the high pressure set point.
- The pump is now ready for you to release water, once you release water, the pump is now fully automatic and will only have to repeat the startup steps in the case of a fault.

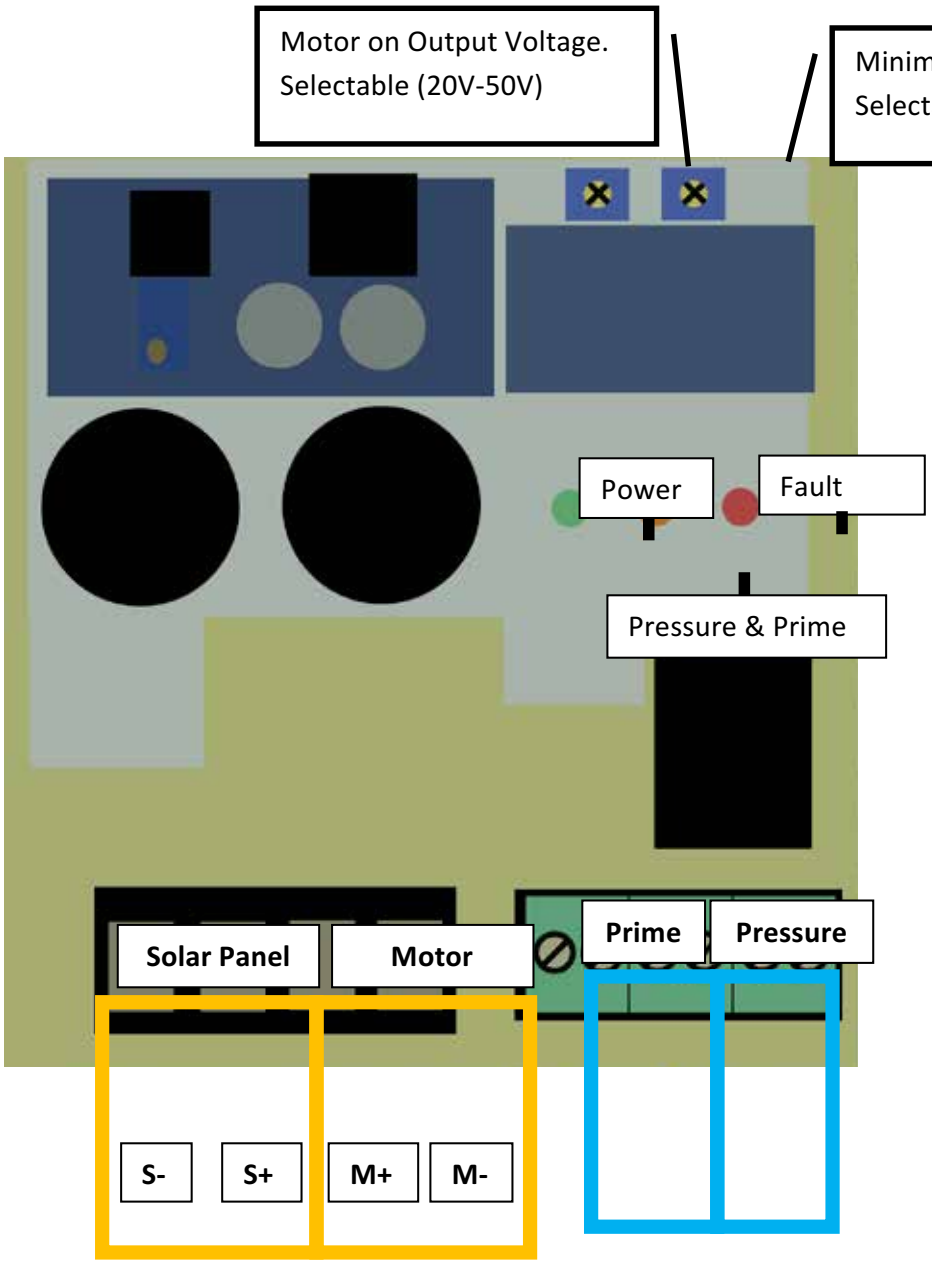
Enjoy your ePump!

Title: e-Pump Solar Panel Post Layout

Project: www.solarpump.co.nz



Solar Pump Controller



LED Status		
Power	**Pressure & Prime**	**Fault**
Blink – Low Voltage, Low Current	**Blink** – No Prime **Solid** – Prime + High Pressure	**Blink** - Overcurrent

Prime and Pressure switches have a 1 second hysteresis.

Start run condition	**The motor will keep running if**
• Solar panel voltage must be above **Output Voltage** pot. • Prime switch must be closed (0v). • Pressure switch must be closed (0v).	• Voltage is at set Output Voltage the motor will be turned on. • Current less than 20A but more than minimum current. • After 3 seconds. Continuously checking current is above minimum and panels can supply current.

The wait cool off period is 4 minutes.
After the cool off period the motor will be attempted to be started again if the start conditions are met.

When the panels are unable to deliver current motor will make a growling noise for a few seconds. After which there will be a 1 minute cool down period to allow the motor and hardware to cool down.

Optimum motor output voltage 28V-32V