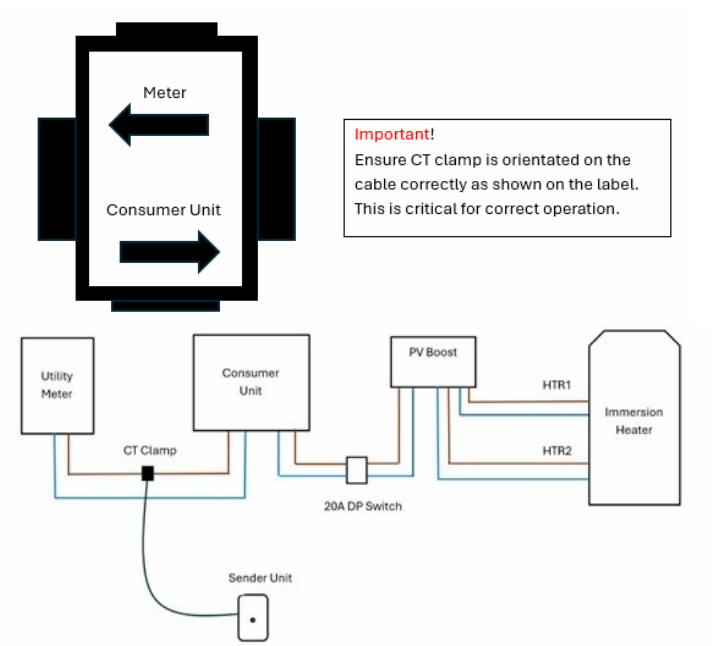
PV 1000 PV MATE INSTALLATION CHECK SHEET

Starting from the basic set up :

Please check the following:

- The CT Clamp direction arrows are facing towards the main incoming meter tails to the consumer unit, which is normally from the utility meter (not the PV generation meter).
- Please ensure the sender unit is installed in a location away from any immediate electrical conductors to avoid any stray pickup and the cable to the sender is not coiled or looped around any other wiring.



- **Reset**:
  1. **Factory Reset** by pressing and holding the Display and Boost buttons on the main unit for 5 Seconds, this clears all stored data and settings.
  2. **Hardware only** reset press the switch next to the mains input terminals for 2 seconds. This reboots the unit without clearing the settings and stored data.



Basic Set up:



Initial set up will require that the Water tank is not HOT, the PV 1000 looks at the heater elements to see if the thermostat on the tank is Open (HOT) or Closed (COLD) to work out what elements are installed in your system.

Turn on the PV 1000 at the power switch and the LCD screen will go through its set up, once the Unit has displayed its Firmware Version it will start the unit in it's ready to go state.

The CT Clamp Sender and the Remote screen must be paired to the main controller before the system can work or display any information.



Pairing the Sender unit with PV Boost Controller

- Briefly press and hold both the **Display** and **Change** buttons on the PV Boost Controller, the display on the main unit will show 'Pairing to sender'
- Briefly press the **pairing** button on the sender unit. The display on the controller will show 'Pairing success' or if the sender is out of range it will show 'Pairing failed'.
- If you are out of range, move the sender closer to the main unit and try again.
- Briefly press and hold both the **Display** and **Change** buttons on the PV Boost Controller, and Briefly press and hold both the **Display** and **Change** buttons on the External display.
  The display on the main unit will show 'Pairing to sender'



- **Adjust time and date settings**
- To adjust the current Time & Date, press the **MENU** button four times from the default screen until 'Set time' appears.
- To modify the settings, press the **CHANGE** button, causing the first digit (hour) to flash. Press the **CHANGE** button to increment the value by 1, repeating the process until the desired digit is selected.
- Press the **MENU** button once to confirm and proceed to set the next digit.
- Repeat the steps above to set the minutes, then proceed to configure the year, month and day.
- Repeat this process to set the date and time on the Remote screen (PV Monitor)

Programmable Options

Night Mask (V1.02 Onwards)

This feature is designed to stop parasitic heating of the water from battery storage during no solar hours (9pm-5am).
If hot water is required, the **BOOST** function can be used to override this feature.

Daily Programming

The PV Boost Controller has 3 independent ON/OFF periods available for programming, which will repeat daily. To program an ON/OFF period:

- Briefly press the **MENU** button to display 'Boost Time 1.'
- To make changes, press the **CHANGE** button to adjust the flashing value. The first digit (hour) of the ON time will begin flashing.
- Press the **CHANGE** button to increase the value by 1. Continue pressing **CHANGE** until desired digit is reached.
- Use the **MENU** button to confirm the selection and proceed to set the next digit. If no further adjustments are needed, press the **MENU** button again to skip to the next digit.
- Continue setting the remaining digits until the desired ON/OFF times are set.
- Ensure that any digits in any unused programs are all set to zeros (00:00).

Repeat above steps for 'Programming Time 2 & 3' if required.

Note: The electricity is drawn directly from the grid during the programs and heat only HTR1. (**HTR2 when HTR1 Satisfied**).

Boost Mode:

If boost mode is use for example 15Mins, even if the tank is at temperature the HTR will remain illuminated until the timer length of 15mins has been reached.
The unit will the return to standby, again this energy is drawn from the grid.
Daily programming options allow the unit to heat the tank from the grid when no solar energy is produced (at programmed only times)
Note:
If the unit is heating the water from the grid when no solar is produced, then it's highly likely that a program has been set up for programmed (timed) heating or a Boost is set up. (or CT Clamp installed backwards**)**

Automatic Solar Function:

With no programs set up, the PV1000 will not heat the water unless there is solar energy available, if the hot water is already up to temperature, then the excess energy will be sent to the grid unless there is an alternative storage solution installed.

- If the unit displays “Water Tank Hot” and the green light is flashing this is telling the user that the tank is at optimum temperature, there may be a delay of approximately seven minutes for this to extinguish if there is no solar energy as the unit automatically allows for “Cloud Coverage” and waits for approx. seven minutes before defaulting to not enough solar power available to heat. This is designed to save the unit constantly switching on and off with sporadic cloud cover.

Storage OFFSET Function:

Some systems require a slightly higher diversion offset threshold if they have battery storage and or different brands of invertor.
If the user chooses to prioritise water heating instead of battery storage or there is no battery storage, the threshold setting may need to be adjusted accordingly.

Press **MENU** until **Storage OFFSET** is displayed (default setting: 100W).
Press **CHANGE** to select the required setting then press **MENU** to save.

Now power down the PV mate for 5 seconds then Turn it back on and the new settings are now set as your default.
(Note: The PV1000 must be rebooted to activate the new settings).

The PV1000 Storage OFFSET may require adjustment when this product is installed with certain models of PV inverters.
With some inverter models, this offset value can be reduced to 200W.

Backflow Power Issues: (not a fault with the PV1000**)**

Solis inverters use a "Backflow Power" setting, managed via an external Export Power Manager (EPM) or internal CT clamp, to limit or prevent excess solar energy from exporting to the grid.
This allows for compliance with local DNO regulations, often setting export to 0W or a specific wattage. [1, 2, 3, 4, 5]
(The numbers in brackets above are links to all the manufacturers manuals and a You-Tube Video for set up)
Key Aspects of Solis Backflow/Export Management:

- **Accessing Settings:** Navigate to Advanced Settings using password 0010 (or 0001000 on some models) to configure Export Power Set.
- **Backflow Limit Configuration:** Under Set Backflow Power, define the maximum allowed export. Setting this to 0W or a minimal amount (e.g., 100W) ensures no or minimal energy is exported.
- **FailSafe Setup:** Enable FailSafe (default) so the inverter stops generating power if communication with the CT meter is lost, preventing uncontrolled export.

- **CT Installation:** The CT clamp must be installed on the live conductor on the grid side, with the arrow pointing toward the grid.

Notes by Technical:
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