

Subject: AC High Voltage Power Turndown

Created: 03 April 2014

Purpose:

To walk you through the process of enabling the AC High Voltage Power Turndown feature. This feature can be used to help inverters shutting down with high AC voltage.

What is it?

EnaSolar inverters have the ability to reduce the output power as the output voltage increases. This reduces the likelihood of the inverter disconnecting because of grid overvoltage.

How do you know if you need this feature enabled?

If the inverter is resetting during peak production times due to the inverter reaching the grid disconnect voltage, you would apply this feature.

An inverter disconnecting from the grid because of the high AC voltage at the output may occur if:

- i. The incoming AC voltage to the site is high (e.g. rural sites) before PV is installed.
- ii. The inverter is installed in a high density of PV (e.g. some suburbs of Australia).
- iii. The distribution company dictates a very low grid disconnect voltage (e.g. Wel Networks Hamilton).
- iv. The mains impedance at the site is high (e.g. small cables giving a high voltage rise).

How to enable this feature?

1. Turn the inverter AC and DC switches to the OFF position.
2. Undo the four front panel screws and let the front panel hang from its cables supporting it.
3. Connect the USB cable between your PC and the old front panel. Turn the DC switch to the ON position.
In the EnaSolar Inverter Configuration Software go to **Advanced Settings** menu, **AC Settings** tab.
4. EnaSolar suggests trying* an initial value of 4V for **Start at V Below Grid Limit**.

This is the voltage below the grid disconnect limit at which the inverter will start reducing the output power. If the voltage continues to rise, the inverter will linearly decrease the output power down to 0 at the grid disconnect voltage.



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- * If the value is too large, the customer will complain the inverter is not delivering full output power when it should. If the value is too small, the inverter could still trip out on over voltage.

E.g. If the Grid Disconnect Voltage is 259V and Start at V Below Grid Limit is 4V then once the inverter detects a grid voltage of 255V, the inverter will start reducing its output power linearly until 0 output at the grid disconnect voltage.

The inverter will still disconnect if it detects the AC above the grid disconnect voltage.

