WARNING: This document is for use by qualified installers and electricians only. Under no circumstances should an unqualified individual attempt this configuration.

TECHNICAL DOCUMENT

ref: 5Mv4

Subject: **Inverter Grid Connect Settings Configuration**

Created: **16 October 2015**

Purpose:

To walk you through the process of on-site configuration of the inverter grid connect settings to meet varying requirements of electricity providers.

Why configure the grid connect settings?

EnaSolar Inverters are manufactured with standard, country specific, grid connect settings.

Some lines/network companies dictate that some aspects of the grid connect settings are changed before they allow permission for grid connection e.g. the Vector network in Auckland require specific settings and confirmation, once implemented.

What's required?

1. Notebook/PC running Microsoft XP or later.
2. Inverter Configuration Software.
   - Make sure you have the latest version downloaded from EnaSolar Online and installed on your computer.
3. USB to USB Mini B cable.
4. An "Installer ID". This is obtained from EnaSolar and allows access into the Advanced Grid Settings of the inverter.
5. An operating PV system, during daylight hours. (The DC switch needs to be **ON** to allow these changes to be made).

How?

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 front panel.
4. Turn the DC switch to the ON position.
5. Start the EnaSolar Inverter Configuration Software.
6. Choose the **Advanced Settings** menu and go to the **Grid Connect** tab.
7. Enter the **Installer ID** and unlock the inverter. The installer ID is a two-part number (10 digit user ID plus 4 digit passkey).
8. A table will be displayed. Change the Stage 1 settings (and if necessary, the duration), as required by the authority.

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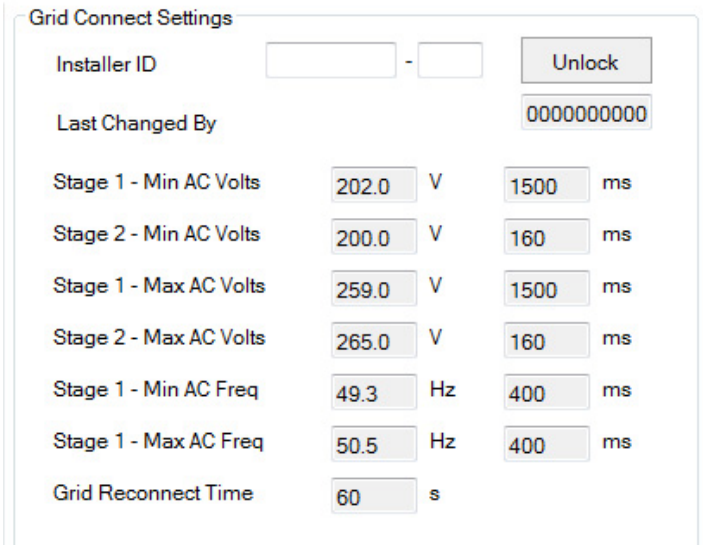
The following table shows the default settings for Australia and New Zealand:



9. Lines/network companies will require confirmation of these changes that have been made. Please discuss and confirm these requirements with them.

Note: The New Zealand Electricity Participation Code and AS/NZS4777 define limits for voltage and frequency. When changing Inverter Settings please be aware that any frequent grid transients outside the range may mean that the inverter disconnects, thus resulting in loss of generation for the client.

Hint: **Grid Connect Settings can be confirmed without the need to connect with the Inverter Configuration Software. During power-up of the inverter, the LCD displays the settings.**

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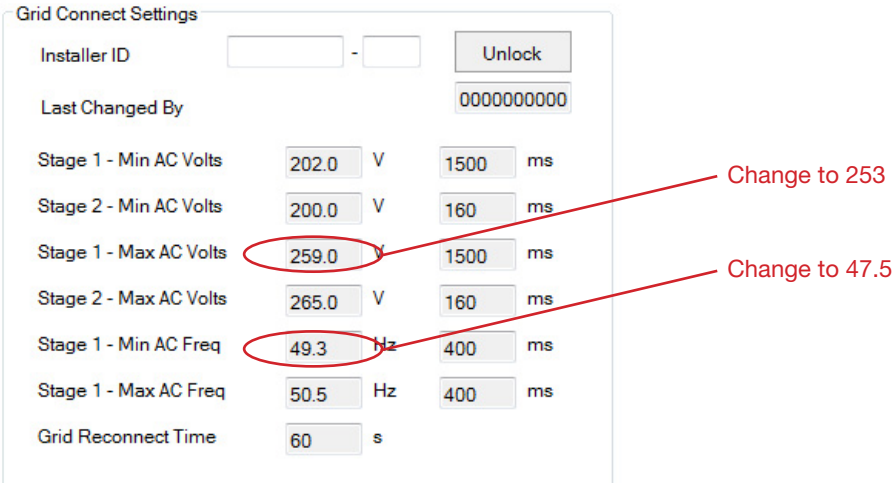
Appendix 1:

Vector Grid Settings Configuration

The following table denotes the compliance and changes required in order to meet the requirements for connection to the Vector network. This can be utilised in Table 2 on Page 3 of the Vector DG Application Form (V0.2) and is accurate as of 1 April 2015.

	Parameter	Maximum acceptable dis-connection (trip) time in seconds	Minimum acceptable setting	Maximum acceptable setting	Applicants inverter maximum trip time (seconds)	Applicants inverter voltage settings
a	Over-Voltage stage 1	3 s	230 V	253 V	1.5 s	253 V Requires Changing
b	Over-Voltage stage 2	0.2 s	230 V	265 V	.16 s	265 V
c	Under-Voltage (<230)	2.0 s	184 V	230 V	1.5 s	202 V
d	Over-Frequency (>50 Hz)	2.0 s	50 Hz	52 Hz	0.4 s	50.5 Hz
e	Under-Frequency (<50 Hz)	2.0 s	45 Hz	47.5 Hz	0.4 s	47.5 Hz Requires Changing

This is what you will need to change on the inverter to meet the Vector requirements (above).



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