



Power Management & EEG Setup Guide

Evershine TLC Eversol TLC Zverlution Pro 33K

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Three Phase Inverter Power Management & EEG Setup Guide

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1 Three Phase Inverter – Power Management & EEG Set-Up

1.1 Introduction

This standard operating procedure (SOP) details the steps that are required to successfully activate and deactivate the Power Management & EEG settings from the front LCD of a Zeversolar single phase inverter. Typically the Power Management settings on the inverter is required when using a ZeverCom or ZeverManager whilst the EEG setting is for use in Germany. *Please note for firmware versions that are older than the versions listed in Table 2 no Power Management or EEG Set-Up is necessary.*

1.2 Assumed Knowledge

This guide assumes the following:

- A Zeversolar three phase inverter has been installed;
- Either a ZeverCom or ZeverManager has been installed for Active Power Management (optional);
- The installation manuals for both the inverter, Zevercom and/or Zevermanager has been read and fully understood (optional.)

1.3 IMPORTANT – CHECK GRID CODE SETTING DURING COMMISSIONING!

The grid code, power management and EEG settings should be checked during the commissioning of a PV plant. It is essential to ensure that the correct grid code/safety setting has been selected for the relevant region. Each Zeversolar inverter is set to a default grid code which is based on the serial number suffix that can be found on the label affixed to the inverter and its packaging, see Figure 1 below.



Figure 1 - Serial Number with UK Suffix

Inverters shipped to Europe have three distinct suffixes and as such the default grid code is set accordingly, please see Table 1.

S/N Suffix	Default Grid Code
DE	VDE-AR-N-4105
UK	G83/2 or G59/3
NL	NEN 50438

Table 1 - Default Grid Code Settings

Therefore it is *necessary* to check the serial number suffix and ensure that the correct grid code is set. For example, an inverter being installed in the UK may have the DE suffix, in this case the inverter grid code should be changed from the “VDE-AR-N-4105” grid code to the relevant UK grid code “G83/2 or G59/3.” Please contact Zeversolar to receive a copy of the Grid Code set-up guide.

1.4 When is Power Management & EEG Required

Please note: For countries that do not require Power Management then it is recommended that both the Power Management and EEG settings are deactivated from the front LCD panel.

1.4.1 Power Management

Power management is required when the PV plant requires one or more of the following modes of operation:

- Ripple Control Mode – this allows the Distributed Network Operator (DNO) to control the power produced by the PV Plant, via a remote radio ripple control receiver, in defined limits of PV plant output e.g. 0 %, 30 %, 60 %, 100 % of inverter rating;
- Cos(phi) Fixed Mode – the PV plant will regulate the reactive power according to a fixed Cos(phi) (Power Factor) value;
- Cos(phi) Variable Mode – the PV plant will regulate the reactive power according to a defined characteristic which is a function of P/Pn;
- Q Fixed Mode – the PV plant will regulate the reactive power according to a fixed reactive value which is a percentage of the instantaneous AC power generated by the PV plant;
- Q Variable Mode - The PV plant will regulate the reactive power of according to a defined characteristic curve which is a function of U/Un;
- Active Power Limitation – The PV plant will limit the active power based on either the rated inverter AC output, rated DC array power or an export limit.

The modes of operation must be set on the webservice page of either a ZeverCom or ZeverManager, please refer to the ZeverCom or ZeverManager instruction guide.

1.4.1.1 Where is Power Management Required?

Countries include - Germany, Cyprus, Austria. Typically for all other countries, such as the Netherlands and the UK, please ensure that the Power Management setting is DEACTIVATED, however when in doubt it is necessary to consult with the relevant DNO in the region to determine what modes of operation are required.

1.4.2 EEG – 70 %

This setting is required only in Germany as the German Renewable Energy Act (EEG 2012) stipulates that PV plants up to 30 kWp must operate via the Ripple Control Mode or by limiting the active power feed-in at the grid connection point to 70 % of the installed PV power (kWp). The latter of these methods can be achieved by simply activating the EEG setting from the front screen of the inverter which automatically reduces the inverter AC output to 70 % of its maximum AC rating. *For all other countries please ensure that the EEG setting is DEACTIVATED.*

1.5 Hardware Requirements

- Evershine TL;
- Eversol TLC;
- Zevelution Pro 33K.

1.6 Software Requirements

Refer to the table below for the firmware (FW) versions that are required for each product.

Product	Firmware Version
Evershine TLC4K-TLC6K	610-03009-04 or greater
Evershine TLC8000-TLC10000	610-03013-02 or greater
Eversol TLC15K-TLC20K	610-03011-00 or greater
Zevelution Pro 33K	610-03015-03 or greater

Table 2 - Firmware Versions

1.7 Power Management & EEG Set-Up – Deactivating & Activating

1.7.1 Checking Firmware Version

It is necessary to ensure that the inverter has the appropriate firmware version. For older firmware versions it is not necessary to deactivate or activate these settings. To check the firmware version of the three phase inverter please follow the steps outlined in Table 3.


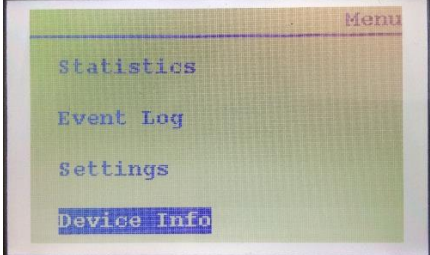
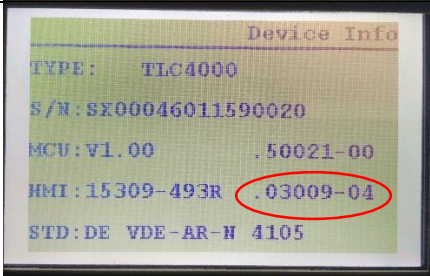
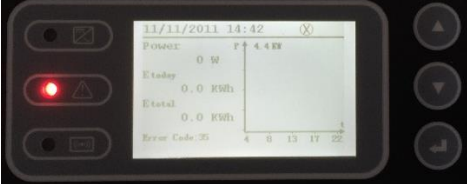
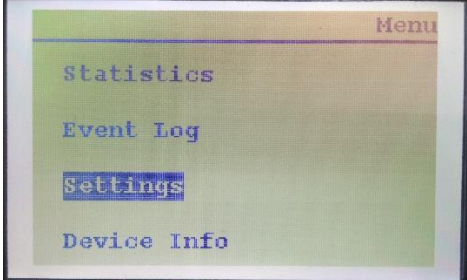
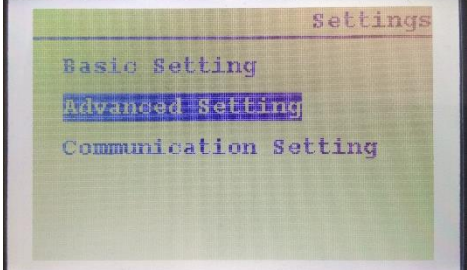
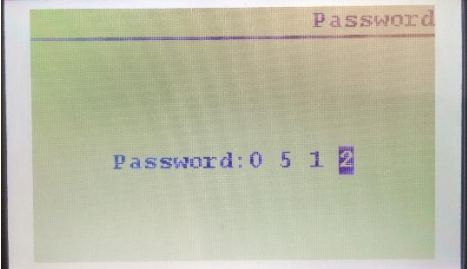
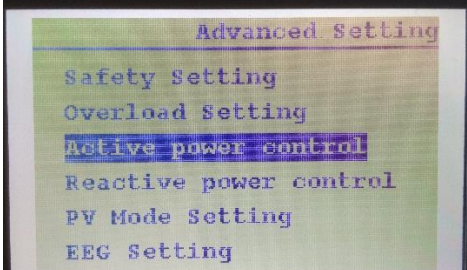
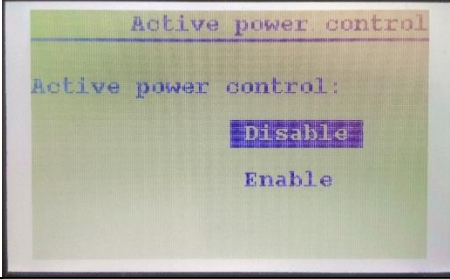
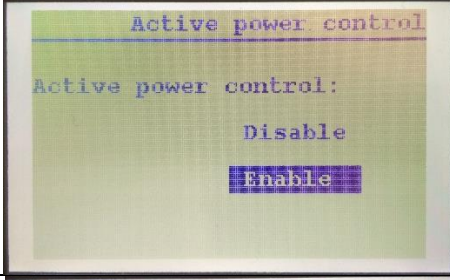
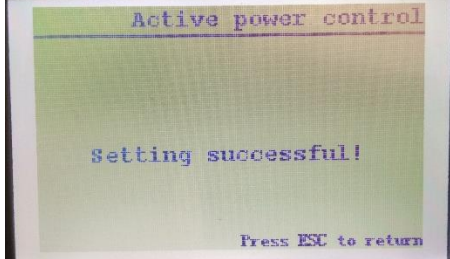
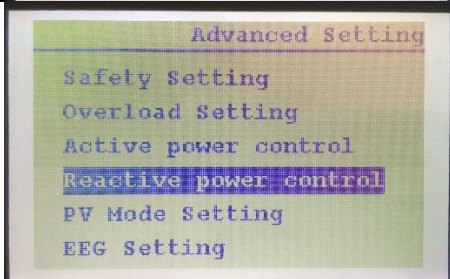
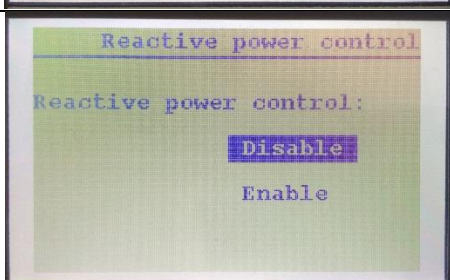
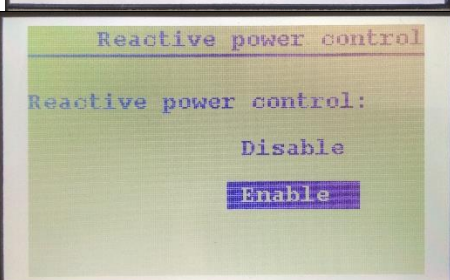
Steps	Images
1. Navigate to the “Menu” screen by pressing the Enter button on the front panel.	
2. When the “Menu” screen is displayed, highlight “Device Info” and press the Enter button.	
3. The firmware version will now be shown on the LCD. Compare the FW version circled to the last seven digits of the FW version in Table 2.	

Table 3 - Firmware Version Check

1.7.2 Power Management & EEG Set-Up

Steps	Images
<p>1. Navigate to the “Menu” screen by pressing the Enter button on the front panel.</p>	
<p>2. When the “Menu” screen is displayed, highlight “Settings” and press the Enter button.</p>	
<p>3. On the “Settings” screen select “Advanced Settings” and press the Enter button.</p>	
<p>4. On the “Password” screen enter “0512” using the arrow keys to scroll through the digits and the Enter button to move to the next digit. Pressing Enter after the last digit is entered will display the “Advanced Setting” menu.</p>	
<p>5. On the “Advanced Setting” screen highlight and select “Active Power Control” and press the Enter button.</p>	

<p>6. On the “Active Power Control” screen, if Power Management is NOT required then highlight “Disable” and press the Enter button.</p>	
<p>7. On the “Active Power Control” screen, if Power Management is required then highlight “Enable” and press the Enter button.</p>	
<p>8. When either “Disable” or “Enable” has been selected the screen will display “Setting Successful!” Press ESC to return to the “Advanced Settings” screen.</p>	
<p>9. On the “Advanced Setting” screen highlight and select “Reactive Power Control” and press the Enter button.</p>	
<p>10. On the “Reactive Power Control” screen, if Power Management is NOT required then highlight “Disable” and press the Enter button.</p>	
<p>11. On the “Reactive Power Control” screen, if Power Management IS required then highlight “Enable” and press the Enter button.</p>	

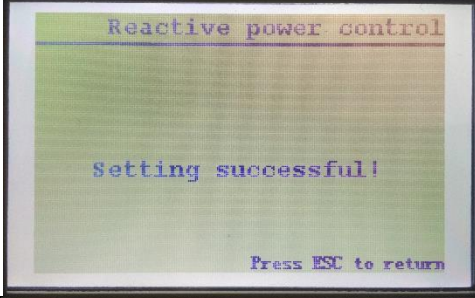
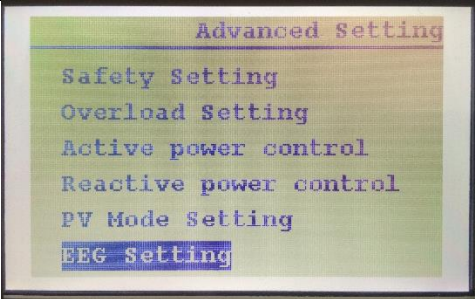
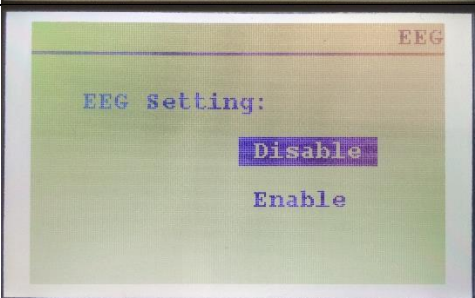
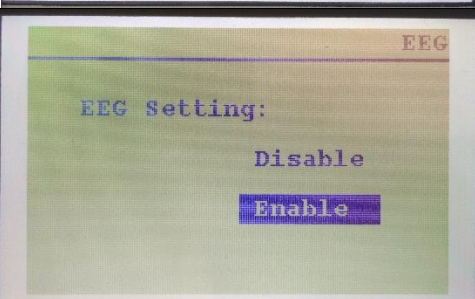
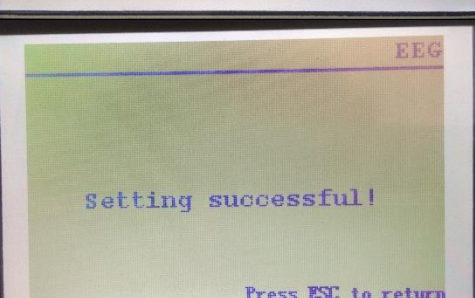
<p>12. When either "Disable" or "Enable" has been selected the screen will display "Setting Successful!" Press ESC to return to the "Advanced Settings" screen.</p>	
<p>13. On the "Advanced Setting" screen highlight and select "EEG Setting" and press the Enter button.</p>	
<p>14. On the "EEG Setting" screen, if the EEG is NOT required then highlight "Disable" and press the Enter button.</p>	
<p>15. On the "EEG Setting" screen, if the EEG IS required then highlight "Enable" and press the Enter button.</p>	
<p>16. When either "Disable" or "Enable" has been selected the screen will display "Setting Successful!" Press ESC to return to the "Advanced Settings" screen.</p>	

Table 4 - Power Management & EEG Set-Up

1.8 Zeversolar Contact Details

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