



EG4xxx LCD Manual

February 14, 2018

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1 Overview

eGauges in the EG4xxx line feature an integrated LCD display which can be used to view data and make changes to the device configuration. Navigation is handled through the small control toggle located to the left of the CT ports. The control toggle has three potentials - left, right and pressed in. By default, the LCD scrolls through a list of registers (the contents of this list are customizable) and also displays the device hostname and current IP address.

To access the main menu, press in the control toggle. The following screen will appear:

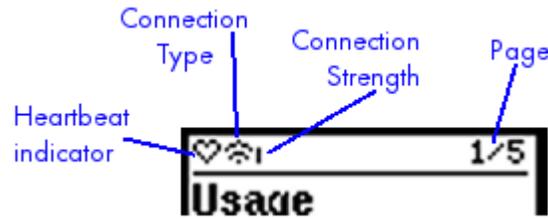


Figure 1: All items in Main Menu view

The main menu has four options. However, the number displayed on a single screen may vary based on orientation and font size. Simply scroll using the left or right toggle controls.

2 Status Bar

The status bar appears at the top of the LCD (main and sub-menus do not show the status bar). There are four primary pieces of information displayed in the status bar, as shown below:



- **Heartbeat indicator** – alternates between full and empty indicating that the eGauge is running and the display is active.
- **Connection type** – shows the communication technology in use. There are four possible connection types:
 - ⊙ – Unknown (generally shown immediately after reboot)
 - 📶 – Ethernet
 - ⚡ – HomePlug power-line communication
 - 📶 – WiFi adapter
- **Connection Strength** – Signal/link quality. A single dot indicates 0% signal. The taller the bar, the stronger the signal.
- **Page** – The active displayed page and total number available (active/total). You may scroll through pages displayed by moving the control toggle left or right.

3 Registers

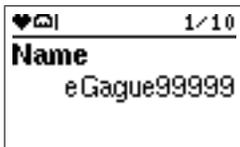
Registers is essentially the “default” state for the LCD. When this option is selected, the LCD will scroll through every register configured in the eGauge device web interface under **Settings** → **LCD** along with the device hostname and current IP address. The active page number is shown in the top right corner of the display. Note that the registers displayed will vary from device to device, depending on configuration.

<p>Usage 3 kWh 5005 W</p>	<p>Generation 1 kWh 125 W</p>	<p>Grid 3 kWh 5503 W</p>	<p>Solar 0 kWh 126 W</p>	<p>Name & IP eGague99999 10.1.90.133</p>
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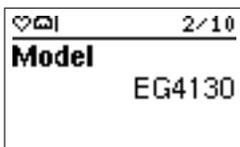
Figure 2: Example of scrolling progression in Register view

4 Info

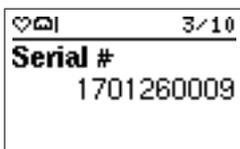
The Info section contains device-specific data. This data may be useful for troubleshooting. As some of this data may be sensitive (particularly the MAC address), it should not be shared with anyone other than eGauge technical support and individuals who are authorized to make configuration changes to the eGauge. The available information is summarized below:



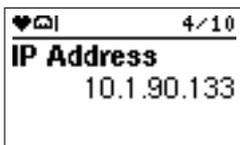
Name – eGauge hostname. A unique name identifying the eGauge. This can be used to access the eGauge remotely, using a URL in the form <http://DEVNAME.egaug.es> where DEVNAME is replaced with the hostname as shown here. Note: the eGauge must be configured for and connected to the d.egaug.net proxy-server for remote communication.



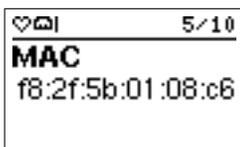
Model – The model number of the eGauge. This may be useful for troubleshooting purposes (different models may have different troubleshooting steps) and identifying the capabilities of the hardware (some models may have features that others lack).



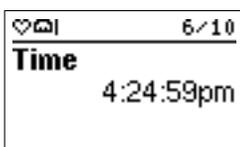
Serial Number – A unique identifying serial number, guaranteed not to change. This is generally not needed by the end user, but it may be requested by eGauge technical support or sales. This serial number matches the sticker on the device exterior.



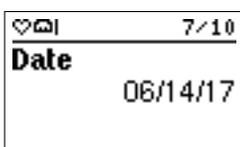
IP Address – Current IP address of the eGauge on the local network. A user can connect to the eGauge using this address *provided the computer being used is on the same network as the eGauge*. This address may change depending on the network and connection method used.



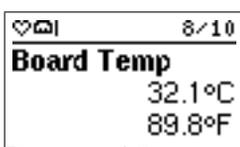
MAC Address – the MAC address of the communication interface in use by the eGauge. This will change depending on the type of connection in use. This will not be the same MAC address required for registration purposes or remote configuration assistance if an external USB adapter is in use.



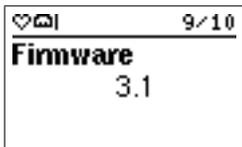
Time – the current system time set on the eGauge. The eGauge should automatically obtain the correct time via NTP, but in cases where it cannot the system time can be verified here.



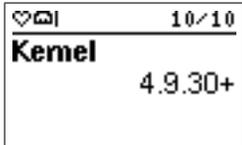
Date – the current date set on the eGauge. The eGauge should automatically obtain the correct date via NTP, but in cases where it cannot the date can be verified here.



Board Temp – internal temperature of the eGauge. Not the same as ambient temperature.



Firmware – current firmware version. Firmware release notes are available at <http://egauge.net/revs>.



Kernel – current kernel version. Generally not required, updated along with firmware when required.

5 Tools

The tools menu provides access to some basic eGauge utilities.

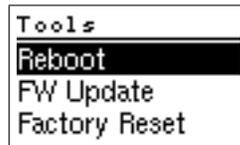
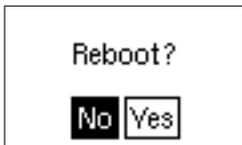


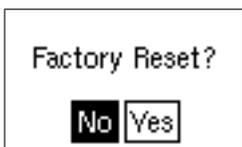
Figure 3: Tools menu showing available options



Reboot - reboots the eGauge. The same thing as **Tools** → **Reboot**. Useful for troubleshooting purposes.

FW Update – allows the user to update to the latest firmware. Firmware release notes are available at <http://egauge.net/revs/>.

NOTE: not implemented as of the date of this publishing.



Factory Reset – resets all settings on the eGauge to factory defaults. Warning – this will cause a loss of data recorded on the device. Depending on the network settings, it may also prevent the eGauge from connecting to the local network or proxy server again. Care should be taken when using this option.

6 Settings

Certain settings can be modified directly through this menu. The Settings menu is broken down into three subcategories – Display, HomePlug, and Wireless.



Figure 4: Top of the settings menu

6.1 Display

LCD display settings are configured here.

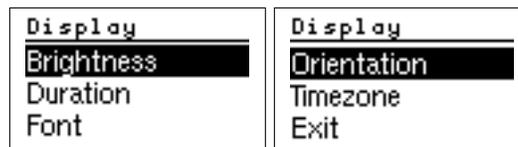
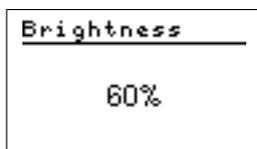
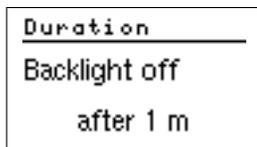


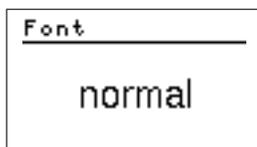
Figure 5: Settings → Display menu



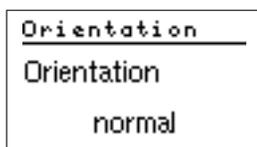
Brightness – controls the LCD backlight brightness. Range from 0-100% in 20% increments.



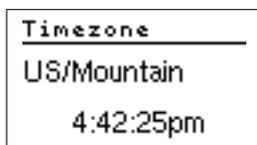
Duration – the amount of time until the backlight turns off, measured from the last input on the control toggle. Can be set to “always” (backlight always off), “after 30s”, “after 1m”, “after 5m”, “after 1h”, and “never” (backlight always on).



Font – font size used by the eGauge LCD. Can be set to “small”, “normal”, or “large”.



Orientation – display orientation. Since the eGauge can be mounted in a variety of ways, this can make the display easier to read. Can be set to “normal”, “counter clock-wise”, “upside-down”, or “clockwise”.



Timezone – timezone used by the LCD display and eGauge. This reflects the device interface option **Settings** → **Date & Time** → **Time Zone**.

6.2 HomePlug

HomePlug functionality can be accessed through this menu. Note that the “Join others” option will only attempt to pair with HomePlug adapters or eGauges currently in join mode themselves. If no HomePlug adapters or eGauges are present and in join mode, it will time out.

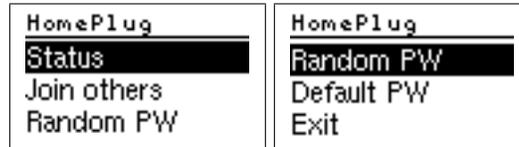
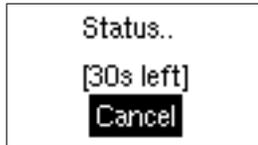


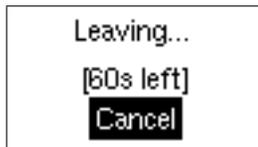
Figure 6: *Settings* → *HomePlug* menu



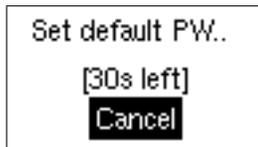
Status – shows the current status of the HomePlug interface. This may take up to 30 seconds to fully load. If the eGauge is connected to one or more HomePlug adapters, this will return “Status: member”. Otherwise, it will return “Status: alone”.



Join Others – attempts to pair with another nearby HomePlug adapter for 240 seconds. Make sure to randomize (using Random PW, see below) first. Returns “Status: member” if successful, otherwise returns “Status: timed out”.



Random PW – randomizes the HomePlug encryption key on the eGauge, causing it to leave any HomePlug network it may have been connected to. Should always return “Status: alone”.



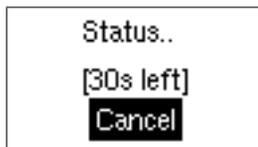
Default PW – sets the HomePlug encryption key on the eGauge to the protocol default of “HomePlugAV”. This allows the eGauge to communicate with any HomePlug adapter or eGauge using factory default settings. Will return “Default PW set” when successful.

6.3 Wireless

If using a supported WiFi dongle, wireless functionality can be accessed through this menu. When using WPS, access to the wireless router is required.



Figure 7: *Settings* → *Wireless* menu



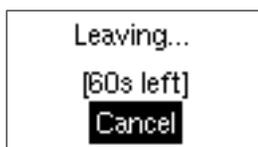
Status – shows the status of the WiFi interface. This may take up to 30 seconds to load.

- If the eGauge is connected to a WiFi network, “Connected to <network>” is displayed.
- If no wireless adapter is detected, “No WLAN device” is displayed.
- If the eGauge has a wireless adapter, but not configured for a WiFi network, “Status: inactive” is displayed.
- If a network is configured but can’t be found, or the password is wrong, “status: scanning” may be displayed.



WPS Setup – connects the eGauge to a router using WPS push-button pairing. To perform WPS setup, consult your router’s manual. Generally this process requires holding a button labeled “WPS” on your router between 1 and several seconds, then initiating the “WPS Setup” function on the eGauge.

- If the eGauge successfully connects to a network, “Connected to <network>” will be displayed
- If already configured for a WiFi network, “Disconnect first” will be displayed. Navigate to **Settings** → **Wireless** → **Disconnect** to disconnect before joining.
- If the eGauge can’t find a router to pair WPS with, it will display “Status: timed out”. This may be due to the router being out of range, or never being put into WPS pairing mode.
- If no WiFi adapter is found, “No WLAN device” is displayed.



Disconnect – Reset the WiFi configuration, forgetting any networks it has been configured to connect to.

- Forgetting all networks should return “Success”.
- If no wireless adapter is found, “No WLAN device” is displayed.
- If no wireless network has been configured, “Already disconnected” is returned.