

Voltage registers

Voltage registers are configured in much the same way as power registers (the default register type on the eGauge). To add a voltage register:

Firmware 4.0 and newer

1. Navigate to **Settings -> Installation**
2. Under **Registers**, click the "Add Register" button
3. Name the register as appropriate
4. Using the dropdown menu, change the register type from "P" to "L"

The screenshot shows the 'Add Register' form. The 'Name' field contains 'Voltage 1'. The 'Recorded value/formula' dropdown menu is open, showing options 'P', 'L', and 'S'. The 'P' option is currently selected. There is an 'Add Register' button on the left and an 'Add Component' button on the right.

5. In the next dropdown menu, select the appropriate voltage reference.
 - L1, L2, L3 use the high-voltage AC line inputs relative to N terminal
 - L1-L2, L2-L3, L3-L1 use the high-voltage AC line inputs as line-to-line voltages
 - D1, D2, D3 use the high-voltage AC line inputs with a virtually calculated neutral (**not commonly used and still requires N connection**)
 - Ldc uses the 2-pin DC voltage input

The screenshot shows the 'Add Register' form. The 'Name' field contains 'Voltage 1'. The 'Recorded value/formula' dropdown menu is open, showing options 'L', 'L1', 'L2', 'L3', 'L1-L2', 'L2-L3', 'L3-L1', 'D1', 'D2', 'D3', and 'Ldc'. The 'L' option is currently selected, and a sub-menu is open below it, showing options 'L1', 'L2', 'L3', 'L1-L2', 'L2-L3', 'L3-L1', 'D1', 'D2', 'D3', and 'Ldc'. There is an 'Add Register' button on the left.

- In the final dropdown menu, select the measurement type
 - "normal value" records RMS voltage (e.g., for AC voltages)
 - "DC-only (mean) value" records the mean value (e.g., for Ldc input)
 - "frequency" records the frequency of the input. Frequencies are counted as zero-level crosses, so DC voltages will typically display 0 Hz.

Name:	Recorded value/formula:		
Voltage 1	=	L	normal value
<input type="button" value="Add Register"/>			
<div style="border: 1px solid gray; padding: 5px;"> <p>normal value</p> <p>DC-only (mean) value</p> <p>frequency</p> </div>			

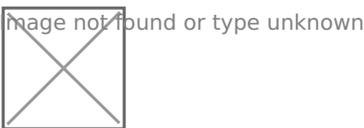
- Click "Save" at the bottom of the page when finished (valid credentials required)

As with all physical registers, data will only start recording from the time the register is created.

It is also possible to set up a formula register to evaluate the *difference* between two voltage registers. This can be used to trigger an alert, or just to obtain a historical reference. It is typically not required for the average installation. To create this register:

- Navigate to **Settings -> Installation**
- Under **Registers**, click the "Add Registers" button
- Name the register as appropriate
- Using the dropdown menu, change the register type to "="
- A second dropdown menu will appear. Set the unit type to "voltage [V]"
- In the formula field, enter the following: `abs($"VL1"-"$VL2")` where **VL1** and **VL2** are the names of voltage registers. The order does not matter.

Click "Save" at the bottom of the page when finished (valid credentials required)

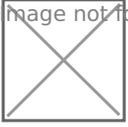


Legacy (pre firmware 4.0)

- Navigate to **Settings -> Installation**
- Under **Registers**, click the "Add Registers" button

3. Name the register as appropriate
4. Using the dropdown menu, change the register type from "P" to "V"
5. A second dropdown menu will appear. Select the appropriate voltage reference
6. Click "Save" at the bottom of the page when finished (valid credentials required)

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Please visit kb.egaugue.net for the most up-to-date documentation.