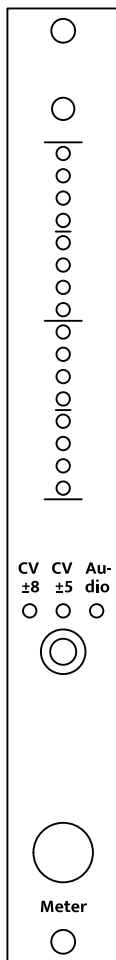

Entineering Meter

User Manual

v1.0a



Introduction

Engineering Meter is a module for Eurorack synthesizers. It offers a bar graph visualization of control voltages or audio data. Control voltages from 0 to 5 Volts, 0 to 8 Volts, -5 to 5 Volts and -8 to 8 Volts are supported. A single button on the front panel is used to switch through the different modes.

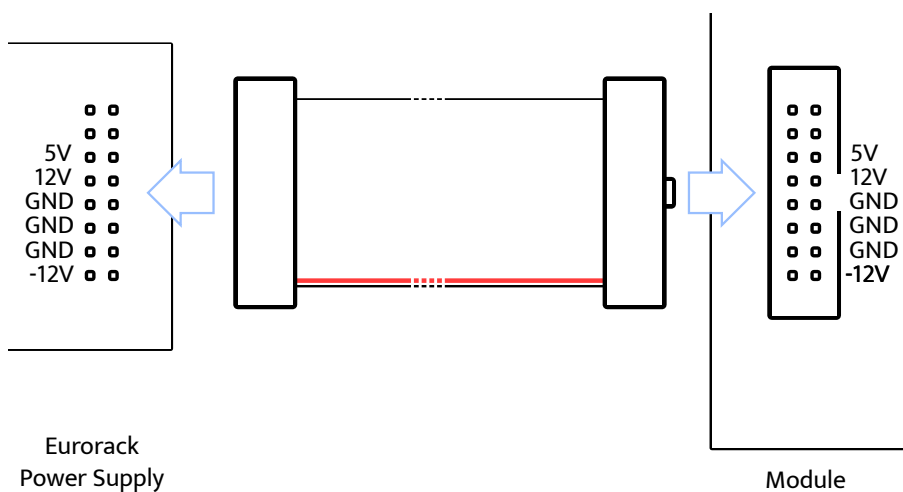
Connecting the Module

Connecting Power

Your Eurorack synthesizer module comes equipped with a 16-pin keyed connector for power supply.

To connect the module:

1. **Power Off Your System:** Before connecting the module, ensure that your Eurorack case and power supply are turned off.
2. **Locate the Power Connection on Your Case:** Identify the power headers on your Eurorack case. These headers will also have a 16-pin connector.
3. **Use the supplied ribbon cable to connect the module to your Eurorack power supply.** The red mark on the ribbon cable identifies the -12V supply line. On the module, the red mark points towards the bottom on the module.
4. **Secure the Module:** Once connected, mount your module into the case using the appropriate screws, ensuring it is securely in place.





Only use proper Eurorack power supplies with voltages of -12V, +12V and +5V.

Modes

The Meter module has six modes of operation. Changing modes can be done by pressing or holding the button on the front panel. The exact sequence for each mode, along with the modes themselves, are described below.

Control Voltages ± 8 Volts from Center

This mode is intended for control voltages.

In this mode, the bar graph starts at the center of the LED column. It extends upwards for positive voltages and downwards for negative voltages. At 8 Volts, all LEDs upwards from the center are lit. At -8 Volts, all LEDs downwards from the center are lit. At 0 Volts, all LEDs are off.

To enter this mode, tap the button until the indicator labeled “CV ± 8 ” is lit. Then hold the button until two LEDs of the LED column are flashing. Release the button. If two LEDs in the middle of the column are flashing, then you are in the correct mode. If instead the top and bottom LED of the column are flashing, you are in mode “Control Voltages ± 8 Volts from Top and Bottom”. Hold the button again for several seconds to switch modes again.

The module will remember the mode you selected for “CV ± 8 ”.

Control Voltages ± 8 Volts from Top and Bottom

This mode is intended for control voltages.

In this mode, the bar graph starts at the bottom (extending upwards) of the LED column for positive voltages and at the top of the LED column (extending downwards) for negative voltages. This is also useful for control voltages which are always positive.

This allows for a more accurate reading than the “from center” mode. However, an input of 8 Volts becomes indistinguishable from -8 Volts, as both values are represented by all LEDs being lit.

To enter this mode, tap the button until the indicator labeled “CV ± 8 ” is lit. Then hold the button until two LEDs of the LED column are flashing. Release the button. If the top and bottom LED of the column are flashing, then you are in the correct mode. If instead two LEDs in the middle of the column are flashing, you are in mode “Control Voltages ± 8 Volts from Center”. Hold the button again for several seconds to switch modes again.

The module will remember the mode you selected for “CV ± 8 ”.

Control Voltages ± 5 Volts from Center

This mode is identical to [Control Voltages \$\pm 8\$ Volts from Center](#), except that the maximum value is now 5 Volts and the minimum value is -5 Volts.

To enter this mode, tap the button until the indicator labeled “CV ± 5 ” is lit. Then hold the button until two LEDs of the LED column are flashing. Release the button. If two LEDs in the middle of the column are flashing, then you are in the correct mode. If instead the top and bottom LED of the column are flashing, you are in mode “Control Voltages ± 5 Volts from Top and Bottom”. Hold the button again for several seconds to switch modes again.

The module will remember the mode you selected for “CV ± 5 ”.

Control Voltages ± 5 Volts from Top and Bottom

This mode is identical to [Control Voltages \$\pm 8\$ Volts from Top and Bottom](#), except that the maximum value is now 5 Volts and the minimum value is -5 Volts.

To enter this mode, tap the button until the indicator labeled “CV ± 5 ” is lit. Then hold the button until two LEDs of the LED column are flashing. Release the button. If the top and bottom LED of the column are flashing, then you are in the correct mode. If instead two LEDs in the middle of the column are flashing, you are in mode “Control Voltages ± 5 Volts from Center”. Hold the button again to switch modes again.

The module will remember the mode you selected for “CV ± 5 ”.

Audio from Center

This mode is intended for audio signals ranging from -5 Volts to 5 Volts.

This mode shows the positive peak of the signal in the top half of the LED column and the negative peak in the bottom half. This means that if the bar graph is not symmetrical on the column, you likely have a DC offset superimposed on the signal.

To enter this mode, tap the button until the indicator labeled “Audio” is lit. Then hold the button until one or two LEDs of the LED column are flashing. Release the button. If two LEDs in the middle of the column are flashing, then you are in the correct mode. If instead the bottom LED of the column are flashing, you are in mode “Audio from Bottom”. Hold the button again for several seconds to switch modes again.

The module will remember the mode you selected for “Audio”.

Audio from Bottom

This mode is intended for audio signals ranging from -5 Volts to 5 Volts.

Both the positive and negative peak of the audio signal are visualised by the bar graph extending upwards.

To enter this mode, tap the button until the indicator labeled “Audio” is lit. Then hold the button until one or two LEDs of the LED column are flashing. Release the button. If the LED at the bottom of the column is flashing, you are in the correct mode. If instead two LEDs in the middle of the column are flashing, you are in mode “Audio from Center”. Hold the button again to switch modes again.

The module will remember the mode you selected for “Audio”.