

Borrow a Meter – Save a Load

Instructions and Tips

The EM100 Energy Meter measures the energy used by an appliance / device in real time. The EM100 Energy Meter has the ability to provide the usage at that exact moment in time as well as measure the energy used by the appliance / device over a period of time i.e. a 24 hour period. The top line of the display measures the energy the appliance / device is using at that specific moment, the middle line of the display measures the energy the device has used since being plugged into the meter and the bottom line of the display shows the time the energy meter has been plugged in for.



How the Meter Works

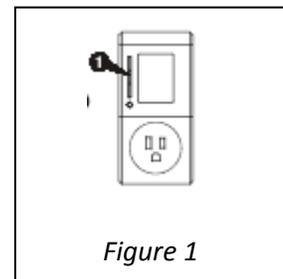
When the meter is plugged into an outlet and an appliance / device is plugged into the meter, the meter measures the amount of energy the appliance / device is using at that specific moment in time as it passes through the meter.

Suggested Appliance / Device Audit Approach

Erie Thames Powerlines suggests performing a room by room audit of all plug in appliances / devices and recording them on the worksheet. Once the preliminary audit is complete, go back and measure the **off** energy consumption and **on** energy consumption of each appliance / device and record it on the worksheet. Next fill in the **on** and **off** hours and complete the necessary calculations. For your convenience, an electronic copy of the worksheet is available on Erie Thames Powerlines website at www.eriethamespowerlines.com/green/meter_loan_program.

Using the Meter

To ensure proper readings the energy meter needs to be set up correctly. To do this, press the **UP ARROW** ↑ button until the display shows **0^W** in the top line of the display. See figure 1. Next unplug the appliance / device from the outlet. Plug the energy meter into the outlet. Plug the appliance / device into the energy meter and your ready to measure the energy the appliance / device is using at that specific moment. The value in the top line of the display is the energy used at that moment by the appliance / device, in watts. For example, if you plug in your television and it is off and the energy meter reads 10 watts, your television uses 10 watts in the **off** mode. Now turn on your television and record the energy used in the **on** mode.



Tips

You may wish to use a power bar and/or an extension cord to make measuring energy usage easier

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Display Fluctuates Between Two Values

The display figure may flicker between 2 values. This indicates that the appliance / device is using an amount between the two wattages or the electrical draw is low. In this case record the higher number.

No Number Appearing in the Display

If there is no number appearing in the display, the appliance / device you are evaluating is using less than 1 watt, i.e. Glade Plug-In.

Accumulation Monitoring Mode

Since appliances / devices have motors, fans etc. it is difficult to get an accurate reading of what they use based on a specific moment, therefore it is recommended to measure the energy used by the device over a 24 hour period to get an idea of how much energy the appliance / device uses.

To monitor the energy used by an appliance / device, like a refrigerator or chest freezer, that uses different amounts of energy throughout the day you need to clear the middle display which measures the energy used over a period of time in kilowatt hours. To clear, press and hold the **DOWN ARROW** ↓ and the **PRICE** button for 3 seconds until a beep occurs. The beep signals that the energy usage time and total energy used have been cleared. See figure 2 below. Now plug the energy meter into the outlet and the device into the energy meter. From this point forward the energy meter will accumulate the energy (in kilowatt hours) over a certain period.

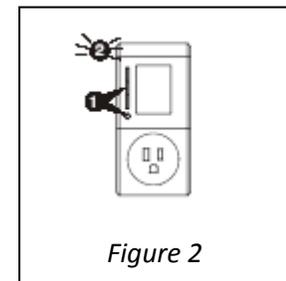


Figure 2

It is recommended to measure this accumulation over a 24 hour period to get a true sense of what the appliance / device truly uses. Remember that the energy meter records the accumulation of energy used in kilowatt hours. Therefore you will need to convert the usage back to watts by multiplying the value on the energy meter by 1,000. Record the value in the “Total Watt Hours per Day” column on the worksheet.

How to Calculate Appliance / Device Wattage

If you know the Amperage (A), you can approximate the appliance wattages by using the following formula Amps (A) X voltage (V) = Watts (w). For example if an appliance uses 5 Amps at 110 Volts, by way of the formula, the appliance uses 330 Watts (5 Amps X 110 volt = 550 Watts). Please note most appliances use 110 volts (fridge, microwave, television etc.), while a stove and dryer use 220 volts.