

UPM

EM338 electronic energy meter

OWNER'S MANUAL

EM338 is an energy meter that allows you to measure the amount of electricity used by an appliance. Ideal for use with large appliances like refrigerators, air conditioners and office machines. It enables you to enter the electricity price per Kilowatt Hour (KWh) to calculate the total cost of an appliance's power consumption, and to monitor the electricity usage. It also detects energy overloads and records the maximum amperage and wattage.

FEATURES

- Monitors and totals energy use.
- Maximum amperage and wattage readings
- Energy cost calculation
- Energy usage time
- Overload warning (Amps or Watts)

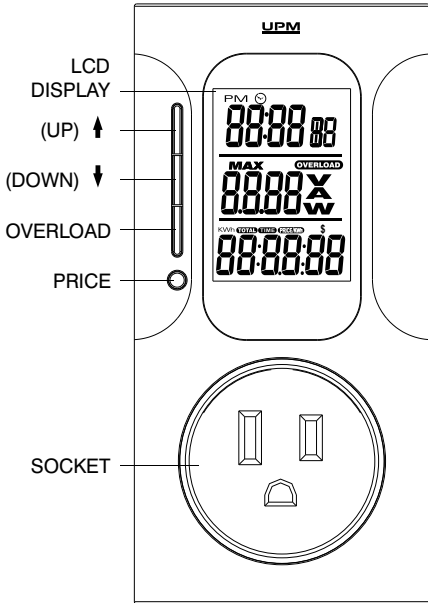


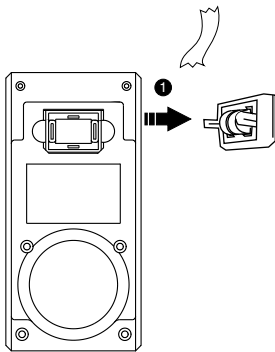
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BATTERIES

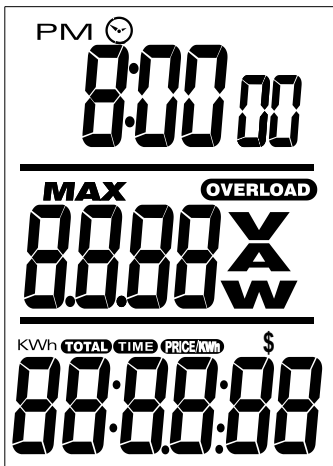
Your new energy meter comes with two button cell batteries already installed. To begin operation, you must first remove the ribbon from the battery compartment located at the back of the unit.

- 1 Carefully pull out the ribbon from the battery compartment; this will activate the batteries. Make sure the batteries are inserted properly.
-
- To replace batteries that are worn out, remove the battery cover.
 - Ensure the two button cell batteries are properly in place, then replace the battery cover. (Be careful not to bend any of the metal contacts)



Replace batteries as required to ensure the proper operation of this unit. The batteries serve as a memory backup for the readouts and settings. If the energy meter is not in use for an extended period of time it is recommended to remove the batteries from the unit.

LCD DISPLAY AND BUTTONS



Top Pane

Clock Display

(12 hour clock only)

Middle Pane

Energy monitor display

OVERLOAD indicator

V - Volt (Line Voltage)

A - Ampere (Load current)

W - Watt (Power / Wattage)

MAX A - Maximum recorded Amperage

MAX W - Maximum recorded Wattage

Bottom Pane

Price / Cost Display

KWh - Kilowatt Hours

TOTAL - Total cost in dollars

TIME - Usage (total on time)

PRICE/KWh - Energy Price /Kwh

Buttons

(UP)↑ - increases values in setting modes

(DOWN)↓ - decreases values in setting modes

displays: volts→ amps→ max amps→ watt→ max watt→ overload

OVERLOAD - Displays: KWh→ Total Usage time→ Price/KWh→ Total \$

PRICE - price set (Enables the setting of the price, clock and overload value)

CLOCK SETTING

The clock can be set at any point, except for when the middle pane displays OVERLOAD or the bottom pane displays PRICE per KWh.

SET THE CLOCK:

- Press **PRICE** (the hour digit will flash)
- Press **↑** or **↓** to set the hour.
- Press **PRICE** (the minute digit will flash)
- Press **↑** or **↓** to set the minute.
- Press **PRICE** again to confirm, this will exit the clock setting mode

(Note: If no key is pressed for 1 minute the set clock mode will end automatically.)

12 HOUR CLOCK

The clock display is only available in 12 hour format. It will display a **PM** symbol to differentiate between morning and afternoon time. **AM** will not be displayed on screen. (e.g. 9:00 am will be displayed as 9:00, but 9:00 pm will be displayed as PM 9:00)



ENERGY MONITOR

Press the **↓** button to scroll through the energy readings displayed in the middle portion of the LCD screen. The voltage display indicates how many volts are available from your wall socket (usually 120V). The wattage and amperage readings display the energy presently being used by the appliance. The maximum amperage and maximum wattage readings display the highest recorded readings. These readings will be held until higher readings are recorded or the recorded maximums have been cleared by the user.

ENERGY READINGS

- **(V)** Volt = Line Voltage
- **(A)** Ampere = Load Current
- **(MAX A)** Ampere = Highest recorded current drawn by load
- **(W)** Watt = Wattage
- **(MAX W) Watt** = Highest recorded wattage used by load
- **(OVERLOAD)** Overload setting mode **(W or A)**

CLEAR MAXIMUM READINGS

To clear the maximum current and maximum wattage readings, press and hold the **↓** and **OVERLOAD** buttons together for 3 seconds. A beep will sound to indicate that the readings are cleared.

OVERLOAD

The overload warning allows the user to detect an increase or an overuse of electrical current to their appliance. Any electrical device is tested and rated for an electrical current and power threshold . Setting the overload value on the energy meter to the maximum rating on your appliance will enable the overload alarm in the event of a power surge or overdraw by the appliance.

ATTENTION: This energy meter is NOT a surge protector.

SET OVERLOAD

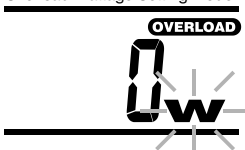
ENTER THE OVERLOAD VALUE

- 1) Press **↓** until the **OVERLOAD** symbol displays.
- 2) Press **PRICE**
- 3) Press **↑** or **↓** to toggle between wattage or amperage mode.
(a flashing **W** symbol indicates “Overload Wattage” setting mode)
(a flashing **A** symbol indicates “Overload Amperage” setting mode)
- 4) Press **PRICE** to select the first digit (the first digit will flash)
- 5) Press **↑** or **↓** to modify the first digit
- 6) Press **PRICE** again to select the next digit (the next digit will flash) etc.
- 7) After all digits have been entered, press **PRICE** again to confirm.
(The **A** and **W** symbols will stop flashing) (⚡ = flashing)

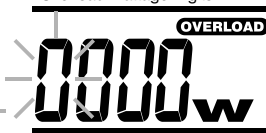
Overload Mode



Overload Wattage Setting Mode



Overload Wattage Digits



Overload Amperage Mode



Overload Amperage Setting Mode



Overload Amperage Digits



ENERGY USAGE AND COST

This energy meter calculates the total energy costs of the appliance plugged into the unit, by multiplying the total KWh used with the electricity price per Kilowatt. The user must manually enter the price per Kilowatt-hour, charged by their local power compagy.

Press the **OVERLOAD** button to scroll through the readings on the bottom pane of the screen.

READINGS:

KWh: Total Energy consumed

Total usage time: The accumulated "ON TIME"

Price/KWh: Price of electricity per KWh

Total \$: Total energy cost of the appliance

Clear Totals: KWh / COST/ ON TIME

Press and hold **↑** and the **OVERLOAD** buttons together for 3 seconds; a beep will sound; the KWh reading, total COST and the total ON TIME are now all reset to zero.

Note: If the total on time is less than 100 hours, the usage time display will be in Hour/Minute/Second format. After 100 hours, the usage time display will be in Hour/Minute format.

TOTAL ENERGY CONSUMED (KWh)

This displays the total accumulated energy use of the appliance in KWh.
1 Kilowatt hour (KWh) = 1000 watts x 1 hour or 1000 watts of power used over the period of one hour.

Example of the total Kilowatt hours:

For example, if you had used 38.76 Kwh it would appear on screen as:

KWh

38.76

TOTAL USAGE (ON TIME)

This display the total accumulated usage(on time)of the appliance.

- The total time that the appliance plugged into the meter is turned on, is in Hour/Minute/Seconds.
- Minimum increments are 1 second for total time less than 100 hours.
- When the time reaches 99:59:59, the format will switch to Hour/Minute and the Maximum is 9999:59.
- Minimum increments are 1 minute for total time on more than 100 hours.

Example of the total usage (on time): 16 hours / 25 minutes / 38 seconds

TOTAL TIME
16:25:38

SET THE ENERGY PRICE PER KWh

The price per KWh is listed on the electricity bill and must be entered manually by the user.

SETTING RANGE

- The price setting range is from \$0.001/KWh to 999.999/KWh
- The price/KWh reading increases in increments of \$0.01/KWh

SETTING THE ENERGY PRICE PER KWh

- 1) Press **OVERLOAD** until the **PRICE/KWh** symbol displays
- 2) Press **PRICE** (the first digit will begin to flash)
- 3) Press **↑** or **↓** arrow to set the first digit of the price
- 4) Press **PRICE** (the second digit will begin to flash)
- 5) Press **↑** or **↓** arrow to set the second digit of the price
- 6) Repeat steps 4 and 5 until all digits of the price are entered
- 7) Press **PRICE** again to exit (the Digits will stop flashing)

For example: Enter \$0.14/KWh (14 cents per KWh)

Price / KWh Mode

PRICE/KWh \$
0000

Price / KWh Setting Mode

PRICE/KWh \$
000000

Price / KWh Setting Mode

PRICE/KWh \$
000.140

TOTAL ENERGY COST (\$)

This displays the amount of money it has cost you to run your appliance. The accumulated energy cost is calculated by multiplying the total KWh, used by the energy price per KWh.

The total cost can be shown up to \$9999.99. The total cost is based on the price set in Price/KWh mode and will change automatically if the user changes the Price/KWh.

Example of the total \$ energy cost: \$85.72

TOTAL \$
85.72

TROUBLESHOOTING

Problem

Solution

The display is blank or dim when the energy meter is unplugged from the outlet.

Replace old batteries with fresh batteries.
Battery type = button-cell (AG13 or LR44)

If the energy meter shows an abnormal display or if the buttons no longer function (i.e. unit becomes “frozen”)

Remove the batteries for 3 minutes and then re-insert them to return the unit to normal function. The energy meter should resume normal function but please note that all settings will be lost.

TECHNICAL SPECIFICATIONS

Operating Voltage	120V ~ 60Hz
Maximum Load	1800W / 15A
Voltage Display	90V - 140V
Current Display	Up to 15A
Current Resolution	0.01A
Power Resolution	1 W
Wattage (in Watt)	Up to 1800W
KWh Display (in KWh)	0.00KWh - 9999.99KWh
Batteries	2 x Button-cell (AG13 or LR44)

LIMITED ONE-YEAR WARRANTY

This product is warranted, excluding battery, to be free from defects in the materials or workmanship, under normal use and service, for a period of one (1) year from the date of purchase by the consumer.

If the product is defective, return it, with a dated proof of purchase, to the retailer from which you purchased it.

This warranty shall not apply if the defect or malfunction was caused by damage which occurred while the product was in the possession of the consumer. This includes accidental dropping or abuse of the product.

THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT.

If you have any questions concerning this warranty, please call our customer service centre at 1-888-468-6876, Monday to Friday, from 8:00am to 5:00pm MST

www.upm-marketing.com