e2 wireless electricity monitor

INSTRUCTIONS

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CE RoHS N16354

Designed for Windows® XP
Windows Vista™ Capable

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INTRODUCTION

Energy metering and monitoring are at the heart of energy management: you need the information to tell where and when you're saving money.

The e2 wireless electricity monitor shows the amount of energy that a household is consuming at the time the display is read. The display can also give the user a reading showing usage in financial terms. You can walk around the home with your display device, switching appliances on and off, to see the difference that each one makes.

Ask George

If you have any questions about using your efergy monitor or if you'd like further advice on monitoring electricity at home, please feel free to contact us, or visit the website for up to date information, downloads and frequently asked questions.

Email your questions to: info@efergy.com

Tech questions: askgeorge@efergy.com

We aim to answer all your emails within 48 hours.

efergy Customer Service. T +44 (0) 8450 177 769

SAFETY

IT IS IMPORTANT THAT YOU OBSERVE SOME SIMPLE PRECAUTIONS BEFORE USING THIS PRODUCT.

When installing the efergy monitor you should find that everything is relatively straightforward. However, there are a number of important health and safety issues which you need to be aware of.

Please read and act upon the important information on the following pages. Remember the device is not intrusive and does not require rewiring.

In some countries (i.e Australia) the live cable can only be accessed by a qualified electrician.

If you notice anything unusual about the electricity supply such as loose wires, exposed cabling, burn marks, holes in the insulating materials or damage to the meter, stop immediately and report the findings to your supply company.

Do not force or bend the cables at any point during installation. If you are worried or have any concerns about the installation, please contact a qualified electrician immediately.

The user does not need to remove the sensor through the working life of the unit. Battery changes are performed on the transmitter and on the display. There are no batteries to change in the sensor.

IN THE BOX

Your e2 Pack contains the following elements:

1 x Sensor
1 x Transmitter
1 x Monitor Display Unit

You will need to attach the sensor to the live feed cable which connects the meter to the consumer unit. Any power you use in your home will pass through this cable. The clip on sensor acts as a current sensor, and relays the amount of current being drawn in the home to the transmitter. From there it is sent wirelessly to the monitor display unit, which shows how much power is being consumed.

It also includes:
-1 x USB cable
-1 x Energy saving guide
-1 x elink software
-1 x Instruction manual for the monitor
-1 x Instructions manual for the software

Sensor   Transmitter

Monitor Display Unit
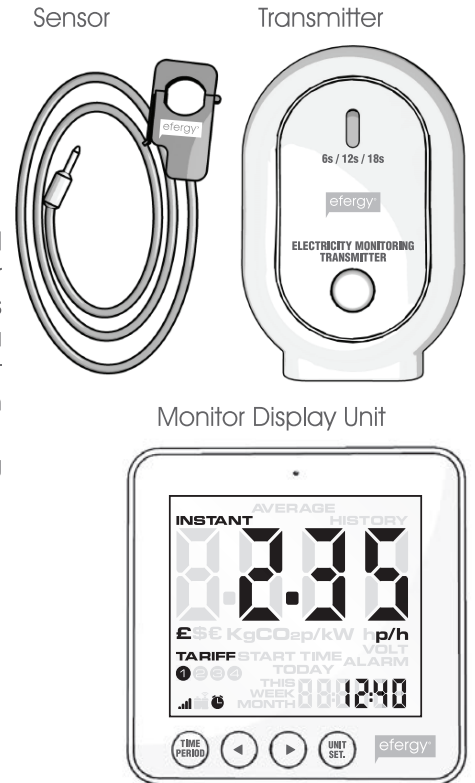
FIND THE FEED CABLE

The e2 monitor is installed by clipping the sensor around the feed cable of your electricity meter.

Locate Your Electricity Meter

Locate your electricity meter and determine its type. You can normally find this on an outside wall, in the garage, basement or utility room. If you live in a flat, it can often be found outside your front door, in the communal stair case, or in the basement. Ensure there is enough of accessible cable coming from the bottom of your electricity meter.

Modern office blocks and apartments may have safety panels to protect wires entering the meter. It is recommended that professional electricians be contacted where this is the case.

Find The Feed Cable

You should find four cables exiting the meter. The feed cable (Cable 4) is the live cable exiting from the meter to the fuse box. Connect the sensor to Cable 4 (Cable 4 will generally be on the right hand end of the meter, see Diagram 1).

Some installations will have Cable 1 and Cable 2 covered, or partially covered to prevent any tampering with the supply (see Diagram 2). Attach the sensor to Cable 4 (far right cable).
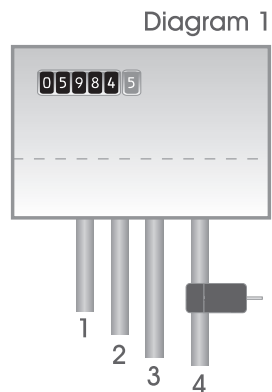
Diagram 1

Diagram 2

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Dual Tariff meters (Diagram 3) will often have an auxiliary cable running between Cable 3 and Cable 4. Auxiliary cables will be smaller in diameter than the feed cables, and will run into an adjoining metering device.

Newer installations will normally have two cables exiting from the bottom of the meter. One is the earth cable, the other the live feed cable. The sensor should be clipped around the live feed cable (this is normally brown coloured).

If you have a three phase supply, or economy 7 meter, then you may require additional sensors. These can be simply plugged into the additional sockets at the base of the transmitter. Please contact your supplier for additional sensors.

**Diagram 3**

Cable 4

Auxiliary Cable
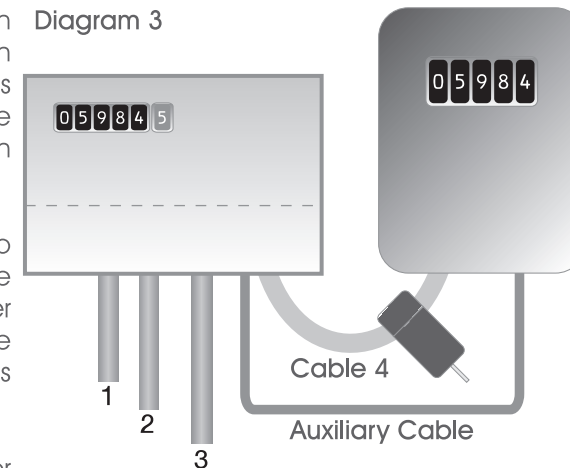
SAFETY

UNDER NO CIRCUMSTANCES SHOULD YOU TRY TO ATTACH THE SENSOR IF THERE IS ANY DAMAGE TO THE ELECTRIC METER CABLES. NO CABLES NEED TO BE CUT. DO NOT CUT ANY CABLES.

CONTACT YOUR LOCAL ELECTRICITY SUPPLIER IF YOU HAVE ANY CONCERNS ABOUT CLIPPING THE SENSOR ONTO THE CORRECT CABLE.

1. Fit The Sensor

The sensor needs to be fitted to the live feed cable. Sensors are suitable for cables up to 12mm in diameter. You should not force the cable to fit. The sensor should fit loosely around the cable and there should be no packing used.
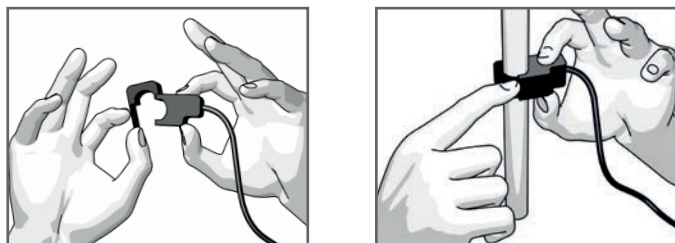
1. Pull the release clip to open the sensor.
2. Select the correct feed cable, then place the sensor aroudn the feed cable.
3. Close the sensor. The sensor is secure when a "click" is heard.

2. Plug The Sensor Cable Into The Transmitter

Insert the jack on the end of the white wire into any of the three input sockets on the transmitter. The clip-on sensor acts as a current sensor and relays the current being drawn into the home to the transmitter.

If your cables are too big for the sensor you can order XL-sensors at www.efergy.com
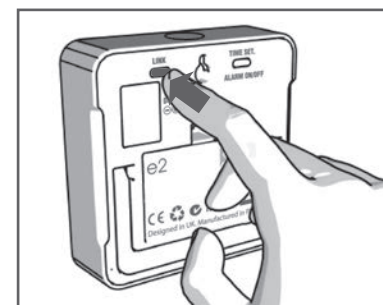
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1. Ensure three AA batteries are inserted in the transmitter and three AAA batteries inserted in the display unit.

2. Push the **Link Button** on the reverse of the display unit for 2 or 3 seconds. The transmission signal symbol will flash for one minute.

3. While the transmission signal in the display flashes push the **Link Button** on the back of the transmitter and wait until the transmission signal symbol becomes solid.

Note: The default value for the transmission frequency is six seconds. This means the transmitter is sending information every six seconds. You can change the frequency from 6s (red flashing light) to 12s (orange flashing light) and to 18s (green light) pushing and holding the transmitter button.
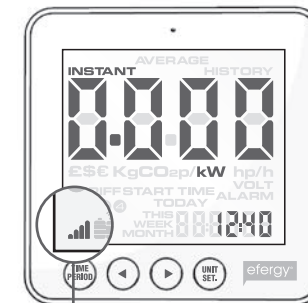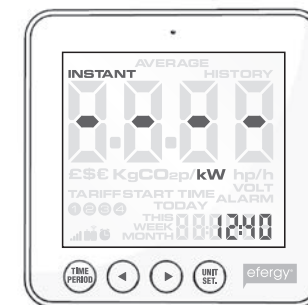
If the LINK is COMPLETED you will see the transmission signal

• Transmission Signal

If the LINK is NOT COMPLETED you will see dashes on the display

Portable Display Unit Link Button

Transmitter Link Button

SETTING TIME AND DATE

The efergy monitor needs to know the time and date in order to provide you with the correct information.

Set the time and date as follows:

STEP 1
On the reverse of the display you will find the **Time Button**. Press and hold for two seconds. Time set up will flash in the display.

STEP 2
Set the hour to the correct time by using **Backwards** and **Forwards Buttons**. Press **Unit Set. Button** once to save the hours. Repeat for minutes, using the **Unit Set. Button** to confirm.

STEP 3
Set the date by using the **Backwards** and **Forwards Buttons**. Press Mode Button to confirm and move to month set up. Repeat the process to set the year. Once the correct time and date have been set, push **Time Period Button** to save and exit.
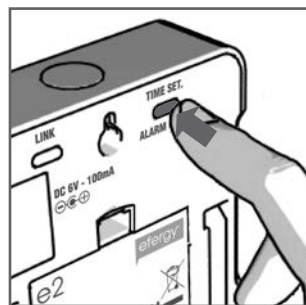
hold for 2 seconds

date button to exit

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SET-UP INSTRUCTIONS

The efergy monitor needs to know unit cost per kWh charged by your electricity supplier, along with voltage and alarm settings. The following four steps will move through each of these settings. If you have a dual or multiple rates meter, please see overleaf.

Press and hold down **Unit. Set Button** for two seconds, this will enable you to enter the setting mode.

Step 1. Voltage
Press and hold **Unit. Set Button** for two seconds. Default voltage is set at 240V. Use **Backwards** and **Forwards Buttons** to change the voltage. Press **Unit. Set Button** to save your setting and move into currency selection setting.

step 2. Currency Selection
Select the currency using **Backwards** and **Fowards Buttons**. Default currency will be "£". Push **Unit. Set Button** to confirm and to move onto tariff selection set up.

Note: 20 seconds of inactivity in setting mode will return the unit to normal display mode without saving changes.
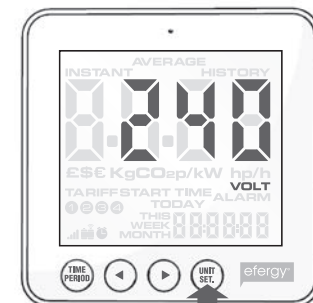
hold for 2 seconds

Step 3. Single Tariff Set Up

On release you will see the symbol "TARIFF 1" flash. If you are charged one single tariff push **Unit. Set Button** to confirm. If you have dual tariff rate, please see the following page.

> Throughout the set-up process, push **Time Period Button** at any time, your settings will be saved & you will exit the function setting mode.
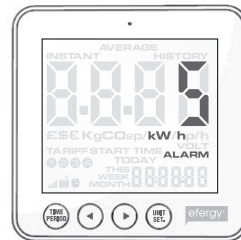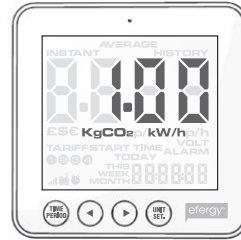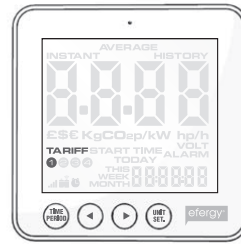
Step 4. Electricity Cost

Default cost is set at 0.14 £/kWh. This is the average price per kWh electricity that suppliers charge in South Africa. Use **Backwards** and **Forwards Buttons** to change the cost per kWh. Press **Unit. Set Button** to save your setting and to move onto alarm setting.

Step 5. Carbon Emissions Ratio

Now set your carbon emissions ratio. This value can be increased or decreased using **Backwards** and **Forwards**. Press the **Unit. Set Button** to store the value. We assume an average of 0.5 kg.CO_2/kWh, this is the default value.

Step 6. Alarm

Default Alarm is set at 5kW. If the alarm function is switched on, and you are using more than 5kW, the alarm will sound. This value can be decreased or increased using **Backwards** and **Forwards Buttons**. Press **Unit. Set Button** to store the value. Press **Time Period Button** to exit the function setting mode. To activate and deactivate the Alarm at any time push **Alarm Button** on the reverse of the display.

DUAL TARIFF MODE

If you have a dual or multiple tariff rate meter you may want to set-up the dual tariff function.

Step 1. Activation Of Dual/Multiple Tariff

Press and hold **Unit. Set Button** for two seconds. On release you will see the voltage setting flash. Press **Unit. Set Button** twice and you will move onto the tariff selection setting. Now you will see the symbol "TARIFF 1" flash. Press **Backwards** or **Forwards Buttons** to select dual or multiple tariff set up (you can select up to 4 tariffs). Push **Unit. Set Button** to confirm. Now you have to set START and END time periods for each tariff.

hold for 2 seconds

Step 2. Set Start & End Time For Tariff 1

Set the start time for TARIFF 1 first using Up or **Down Buttons**. Set the hours and press **Unit. Set Button** to save and move to minute set up. Set minutes using **Backwards** or **Forwards Buttons** and pushing **Unit. Set Button** to confirm. Repeat the process for third and fourth tariffs if you have multiple tariff settings. You will always set one period of settings less than the number of tariffs you have selected as the remaining period will be saved automatically.

Step 3. Electricity Costs - Tariff 1
Use **Up** and **Down Buttons** to input the cost per kWh. **Unit. Set Button** to save your setting. Tariff 2 set up will flash.

Step 4. Electricity Costs - Tariff 2
Use **Backwards** and **Forwards Buttons** to input the cost per kWh. Press **Unit. Set Button** to save your setting.

Step 5. Electricity Costs - Tariff 3 & 4
Use **Backwards** and **Forwards Buttons** to input the cost per kWh. Press **Unit. Set Button** to save your setting. Repeat the process for tariff 4.
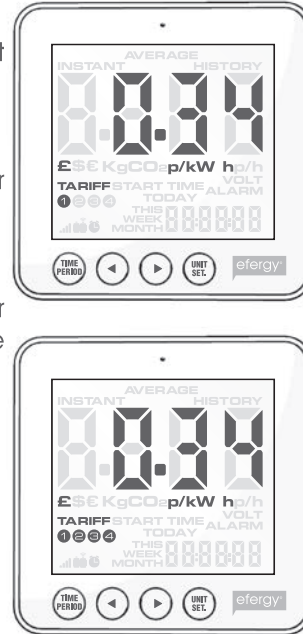
Example: If you are on an tariff which starts at 1am and finishes at 8am, set start time at 01:00 and end time at 08:00. Push the **Unit. Set Button** to confirm. Select the currency and set the cost per kWh you pay for each tariff, approx £0.10/kWh and £0.35/kWh for night and day time rates respectively.
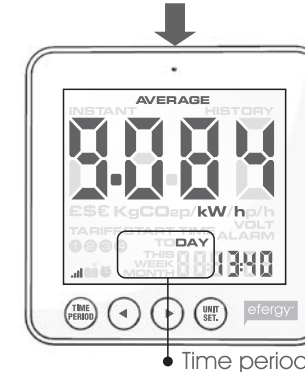
Unit. Set Button: Press the top **Unit. Set Button** to change the information displayed from instant to average and to history.

Time

Time period

Date

Instant
The display unit shows instant power (kW), estimated electricity costs per hour (£/hour) and carbon emissions per hour (kg.CO2/hour).

Average
The information shown is the average calculated since the monitor was switched on for the first time. It shows daily, weekly and monthly average consumption in kWh, £ and kg.CO2.

History
In this mode the monitor shows consumption of the last 7 days, last 7 weeks and last 24 months in kWh, £ and kg.CO2.

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HOW TO CHANGE MODES

Unit. Set Button: Press **Unit. Set Button** to change the unit displayed

Power
Shows the power of your whole house at any instant, in kW.

Energy
At average and history modes the display shows energy consumption, in kWh.

Cost Per Hour
Estimates the electricity cost of your home at that current moment in time, in £/hour.
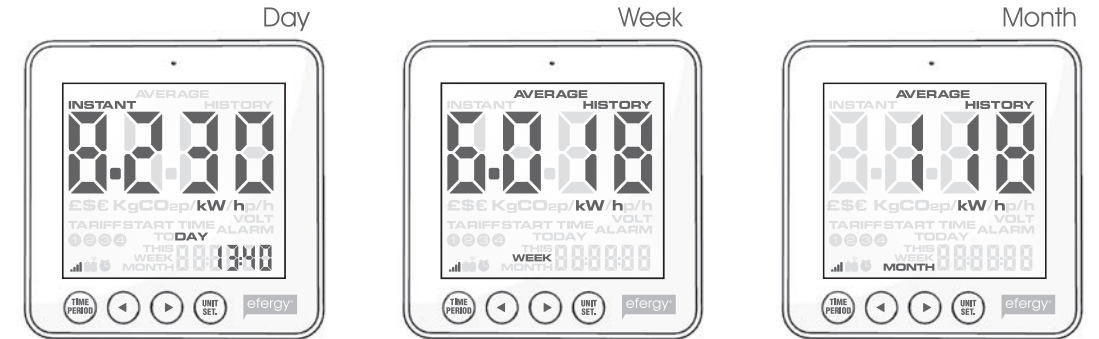
Carbon Emissions
Estimates the indirect carbon footprint for electricity consumption at that current moment in time, in kg.CO2/hour.

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HOW TO CHANGE THE DATE

Time Period Button: Press **Time Period Button** to change from daily, to weekly and to monthly data.

Day   Week   Month

Backwards and **Forwards Buttons:** During history mode the **Backwards** and **Forwards Buttons** are used to scroll between date, weeks and months.

FAQS

If I remove the batteries will I lose the information on the display?
If you need to change or remove the batteries, the display has an internal memory, so information stored on the display will not be lost.

How do I reset the display (clear the data and start again)?
Press **Mode** and **Date Buttons** simultaneously and hold for two seconds 'clr' will be displayed on the screen.

How far does the device transmit?
Transmitters work up to around 40 meters within the home. The 433MHz range is well suited for in home use. This can cover three floors, and also well suited to buildings where meters are outside the main building.

I have three dashes (- - -) showing on the display. What does this mean?
Move the display closer to the transmitter and press the **Link Button**. If the dashes remain on the display this would indicate the transmitter and receiver are not communicating. Please contact efergy Customer Service to help locate the problem.

Backlight appears to work sometimes, and not other times. Is my display broken?
No. The backlight is on a timer to save battery life. The display should work at darker periods of the day, when any buttons are pressed.

For more information about the e2 and the elink software, go to www.efergy.com

SPECIFICATION

Model Name/Number: efergy e2 1.0
Frequency: 433MHz
Transmission Time: 6s, 12s, o 18s.
Transmission Range: 40m-70m
Voltage Range (in the sensor): 110V-400V
Measuring Current: 50mA-95A
Accuracy: >90%
The LED backlight will be activated from 18:00Hrs to 6:00Hrs.
Carbon ratio: 0.5kg. CO2 / kWh

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