OWL®

Micro Wireless Electricity Monitor

Keep an eye on your electricity bills.

Save money and the environment.

the owl.com

UK

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GENERAL SAFETY & CARE GUIDELINES

To ensure that you use your product safely and correctly please read the Warnings & Safety Precautions, Caring for Your Product and the User Manual sections before using this ONNL® Micro Wireless Electricity Monitor.

Please observe the following warning & safety precaution guidelines when setting up and using this product.

- **When fitting the sensor if in any doubt always contact a qualified electrician.**
- Do not immerse the unit in water or other liquids. If you spill liquid over it, dry it immediately with a soft, lint-free cloth.
- Do not use this product where the use of radio frequency products can cause malfunction in the control devices of other equipment ie:- hospitals, aircraft, etc.
- Do not use or store the product in locations that could adversely affect the product such as rain, snow, desert, and magnetic fields.
- Do not subject the unit to excessive force, shock, dust, temperature or humidity.
- The LCD panel behind the display lens is made of glass, and may break if the unit is dropped, impacted or subjected to shock.
- Take special care when handling a damaged Display, as the liquid crystals can be harmful to your health.
- Keep the product away from heat sources ie radiators, stoves, heaters, etc.
- Do not use the product in or near water or in high moisture areas ie Bathroom
- Do not cover the ventilation holes with any items such as newspapers, curtains etc.
- Do not tamper with the units internal components. This invalidates the warranty.
- Do not attempt to repair the product yourself. Contact the retailer or our customer service department if it requires servicing.

- Take care when handling all battery types. Batteries can cause injuries, burns or damage to property if they come into contact with conducting materials, heat, corrosive materials or explosives. Remove the batteries before storing the product for extended periods of time.
- Only use fresh batteries. Do not mix new and old batteries.
- Do not dispose of old batteries as unsorted municipal waste, do so in accordance with your local waste disposal regulations.
- When disposing of this product do so in accordance with your local waste disposal regulations.

Caring for your product

To ensure you receive the maximum benefit from using this product, please observe the following guidelines.

- Cleaning - Disconnect the sensor and remove batteries from the sender box and Display before cleaning. Use a damp cloth. Do not use liquid or aerosol cleaning agents, benzene, thinners, abrasive or corrosive materials.
- Do not scratch hard objects against the Display as this may cause damage.
- Do not leave discharged batteries in either the display or sender units for any length of time as they may leak and cause corrosion.

NOTE The technical specifications for this product and the contents of the user manual are subject to change without notice.

- The contents of this manual may not be reproduced without the permission of the manufacturer.
- Images shown in this manual may differ from the actual display.

HOW THE OWL MICRO WORKS

Overview

This product uses current transformer sensing technology to detect and monitor a tiny magnetic field around your household electricity power cable. It measures the current (Amps) being used and, by reference to the system voltage, calculates the amount of power being used and the cost. It then transmits this information from the Transmitter wirelessly to the Display on a radio frequency of 433MHz, from up to 30 metres (100 feet) away (unbroken transmission).

NOTE The intention of this OWL® product is primarily as an educational device to aid understanding of the cost of operating electrical appliances in the home. Hence, there is no intention for the OWL® Micro Wireless Electricity Monitor to replace your accurate electricity revenue meter.

Household Power Cables And Phase

Most UK household electricity supplies use single-phase, but some use three phase. In single-phase supplies, the current flows to and from your household appliances using a neutral and power line. The neutral line has a voltage close to zero while the power line carries a fluctuating voltage or phase. The difference between these two lines makes the current flow through your appliances.

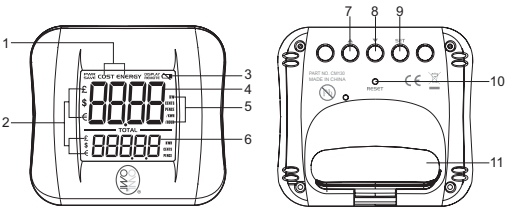
In three phase supplies, current flows to and from a device through a group of three lines - each one carrying a fluctuating voltage or phase. For three phase supplies our OWL® Micro Wireless Electricity Monitor is required with a sensor connected to each of the three phase lines..

Accuracy

The OWL® Micro Wireless Electricity Monitor has a fixed voltage - 230v and used with the monitoring of current by the sensor clip enables a calculation of KWH. Generally the device is accurate within 10%. The OWL® Micro Wireless Electricity Monitor is not designed to replace homes electricity meter - they are aimed to provide a very visual and accessible way for users to see the impact of different devices and usage patterns around the home. This we hope will assist in educating users to adopt more beneficial consumption habits, reduce their costs and reduce their carbon emissions.

DISPLAY FEATURES

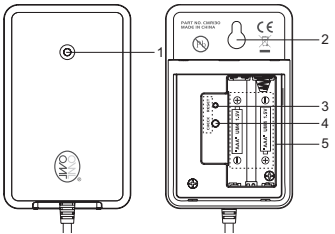
1. Indicates which Display Mode the Monitor is in: **COST / ENERGY**
2. Currency Units for Cost Display Mode
3. Battery low indicator: Display (Monitor) / Remote
4. Display current **COST / ENERGY**
5. Measurement units for Display Modes
6. Acummulative/Historical Data Display
7. **[▲]** key
8. **[▼]** key
9. **SET** key
10. **RESET** Key
11. Battery compartment



Display Key Functions

KEY	MODE	ACTION	OPERATION
[SET]	Non **SET** mode	≥ 2s	Place Display into **SET** mode ➔ Adjust **COST**
	SET mode	Pressed	Selects adjusted **COST** value
[▲]	Non **SET** mode	Pressed	Change to next display modes: **COST ➔ ENERGY ➔ COST**
		≥ 2s	Enable sensor searching. Typical search time is ~30secs
	SET mode	Pressed	Adjusts the **COST ➔** Increment
[▼]	Non **SET** mode	Pressed	Change to next display modes: **COST ➔ ENERGY ➔ COST**
		≥ 2s	Enable/Disable Power Save
	SET mode	Pressed	Adjusts the **COST ➔** Decrement
[▲] + [▼]	Non **SET** mode	≥ 2s	Clear **TOTAL COST** and **TOTAL ENERGY** to 0

TRANSMITTER FEATURES



1. Flashes to indicate data transmitted from Sender Box
2. Wall mount hole
3. **RESET** key: Resets the Sender Box and clears all data held in memory
4. **CHECK** key: Forces transmission every 2 seconds (for 30 Seconds)
5. Battery Compartment

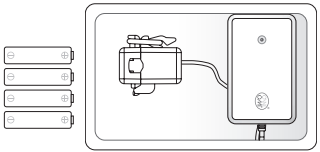
Transmitter Key Functions

KEY	KEY PRESS	OPERATION
[CHECK]	Press and Hold until Red Light flashes	Places transmitter into increased transmit rate to help speed up synchronisation with Display
[RESET]	Press <2s	Resets the transmitter and allocates new synchronising address

GETTING STARTED

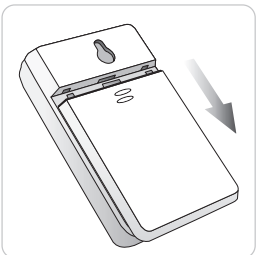
What's in the box

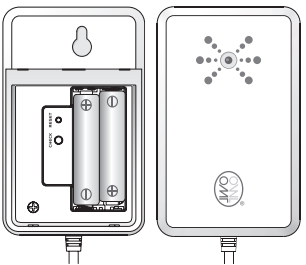
- Display Unit
- Transmitter unit with attached sensor
- 4x AAA Batteries
- User Manual



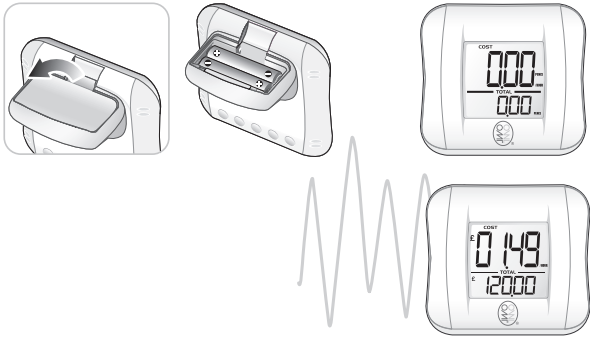
Synchronising the Display and Transmitter

1. Remove the battery cover from the back of the transmitter
2. Insert 2xAAA batteries into the battery compartment ensuring that the batteries are the correct orientation.
3. Press the reset button in the Transmitter battery compartment.
4. Press and hold the Check key in the Transmitter battery compartment until the Red light starts to flash slowly.



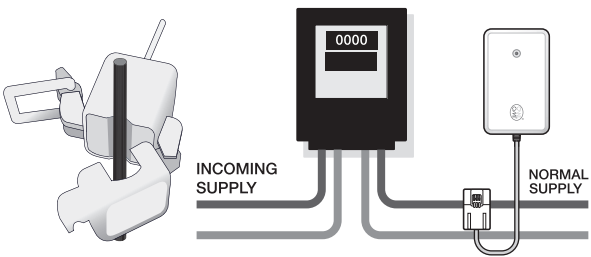


5. Remove the battery cover from the base of the Display.
6. Press and Insert 2xAAA batteries into the battery compartment ensuring that the batteries are the correct orientation.
7. Press the reset button on the back of the Display.
8. Replace the battery cover of the Display
9. Replace the battery cover of the Transmitter



Connecting the Sensor

1. Locate your electricity supply cables between your meter & consumer unit (fusebox).
2. Fit the sensor clip over the insulated Live cable running into the meter (furthest left cable) or running out from the meter (furthest right cable). Note the sensor clip can be fitted anywhere along the live cable from the meter to the consumer unit.
3. At no time should force or undue pressure be applied to any wiring or connections.



SWITCHING BETWEEN DISPLAY MODES

Electricity use can be viewed in a Cost or Energy Display. Press **[▲]** or **[▼]** to switch between the Display Modes.

In the Cost display view current cost of electricity per hour in the upper screen and accumulated cost since last reset in the lower screen.

In the Energy display view current kW in upper screen and accumulated Energy (kWh) since last reset in the lower screen.

SETTING THE COST

The cost of electricity per hour can be set from 00.00 to 99.99 pence. Press and hold the [**SET**] key to enable the **SET** Mode to adjust the cost of electricity per hour (Default 10.00).

The “Main Units” will flash slowly (“10”). Press **[▲]** and/or **[▼]** to adjust the cost of electricity per hour “Main Units”. Press [**SET**] to confirm Main Units value. The “Sub Units” will flash slowly (“00”). Press **[▲]** and/or **[▼]** to adjust the cost of electricity per hour “Sub Units”. Press [**SET**] to confirm Sub Units value. The cost of electricity per hour has been set and returns back to display mode.

PLACE DISPLAY INTO POWER SAVE MODE

The display unit has a power save mode to extend the life of the batteries, by changing the receive rate from every 6 seconds to every 60 seconds.

Note that the Transmitter has an auto power save as it transmits every 6 seconds only if there is a change in the electricity usage otherwise transmits every 60 seconds.

Press and hold **[▼]** key to place Display into or to take Display out from Power Save Mode.

RESET ACCUMULATED VALUES

Press and hold **[▲]** + **[▼]** keys simultaneously for greater than 2 seconds to reset the accumulated cost & energy values to 0.

LOW BATTERY WARNING

A low battery warning icon will appear in top right hand corner of the display when in either the **COST** or **ENERGY** display modes. This indicates that the batteries in the Display or Transmitter are coming close to the end of their usable life and should be replaced soon.

Replace batteries in the Display unit ➔

- Remove the battery cover from the base of the Display
- Replace the 2x AAA batteries in the battery compartment with new/ fresh batteries ensuring that the batteries are inserted in the correct orientation.
- Replace the battery cover of the Display
- Press and hold [▲] key for greater than 2 seconds to place the display into Search mode to resynchronise with the transmitter unit.

Replace batteries in the Transmitter unit ➔

- Remove the battery cover from the back of the Transmitter
- Replace the 2x AAA batteries in the battery compartment with new/ fresh batteries ensuring that the batteries are inserted in the correct orientation.
- Press and hold the Check key in the Transmitter battery compartment until the Red light starts to flash slowly.
- Replace the battery cover of the Transmitter
- Press and hold **[▲]** key for greater than 2 seconds to place the display into Search mode to resynchronise with the transmitter unit.

HINTS, TIPS & TROUBLESHOOTING

Cost of Electricity:- Price per kWh of electricity as shown on your electricity bill.
Tiered Cost of Electricity:- Where the first number of kWh are at one value and everything else used is another. We recommend that you enter an average value, calculated from your billed kWh usage (monthly/quarterly) and assuming that quarterly usage is 900kWh then Total cost of kWh would be 210kWh @ 20.90p & 690kWh at 10.00p equalling £125.43. The average value would be £125.43 divided by 900kWh giving 7.03p.

Multiple Timed Tariffs (ie Economy 7):- are not supported with OWL Micro. We recommend that you enter an average value, calculated from your billed kWh usage (monthly/quarterly) and assuming that quarterly usage is 900kWh for day rate and 1500kWh for night rate, then Total cost of kWh would be 900kWh @ 10.90p & 1500kWh at 4.70p equalling £168.60. The average value would be £168.60 divided by 2400kWh giving 13.94p.
Cable Size- The sensor is suitable to connect over a cable up to 10mm in diameter including the insulation. It is ok for the sensor to be loose over the cable.

Display is blank:- Ensure that the batteries are inserted the correct way around and that the batteries are not exhausted. If the batteries are exhausted replace with new batteries. If the display does not return then contact customer.services@theowl.com.
Four dashes (----) flashing on the upper part of the Display:- The Display is in a search mode looking for a Transmitter to synchronise with.

Four dashes (----) fixed on the upper part of the Display:- The Display and Transmitter have not synchronised. Repeat the "Synchronising the Display and Transmitter" process in the manual.

0.00 Reading on the Display:- The sensor is not able to measure the electricity flow through the Twin/Three Core cables so will return a reading of 0.00 if the sensor is connected over the cable of an appliance.

0.00 Reading on the Display: Possible that the Sensor has a damaged Ferrite Core. To check to see if the sensor is damaged, you will need to unclip the sensor from the cable and inspect the Ferrite Core (U-Shaped Black Material) in the sensor lid is still in one piece and that the corresponding faces in the sensor body are in position. If this is damaged then contact customer.services@theowl.com.

Lower reading than expected:- If the cable is a very tight fit for the sensor then it is likely the sensor is unable to be closed properly as in the 2 halves of ferrite core within the sensor do not make a flush contact then the reading will be lower than measured.

COMPLIANCE

Manufactured to ISO-9001 Quality Assurance Standards & tested for compliance relative to configuration for intended market. Product tested by Intertek Testing Services HK Ltd:- European CE, FCC, UL (USA), IC (Canada), C-tick Aus & NZ.

EU - Declaration of Conformity
Hereby, 2 Save Energy plc, declares that the OWL Micro Wireless Electricity Monitor (CM130) is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the signed and dated Declaration of conformity is available on request.

WARRANTY

Limited One Year Warranty
2 Save Energy plc warrant this product for a period of 1 year from date of purchase for all defects in workmanship or materials. All defective parts will be repaired free of charge or replaced.
The following exclusions do not exclude the purchaser from those statutory rights consumers have under Consumer Laws that exist in the UK.

Warranty Conditions

1. The product must be installed and operated in strict accordance with instructions provided. 2 Save Energy plc will not accept liability for any damage or injury caused by mis-use or non-compliance to the instructions.
2. Warranty will only be given where proof of purchase date is provided. eg Original Invoice/Receipt
3. This instrument must not be modified in any way
4. Batteries are specifically excluded from this Warranty
5. 2 Save Energy plc will not be liable for indirect, consequential or incidental damages.
6. 2 Save Energy plc reserves the right to change specifications or designs described in this manual without notice or obligation.

RETURNS PROCESS

Contact customer.services@theowl.com to report the issue and reason for wanting to return product. Upon agreement to return the product, Customer Services will allocate a returns reference number that should be used in all correspondence relating to the return. Customer Services will provide a return address to return the product along with Purchaser Name & Address, Supplier Name & Address, and Date of Purchase, which should be sent with the proof of purchase.

Save Money with the OWL 10-step Plan

Install OWL and reduce your electricity consumption by following our ten-step plan for saving electricity

✔	1) Change light bulbs to energy saving versions
✔	2) Switch off electronic goods such as TV's, videos and games consoles at wall sockets when not in use
✔	3) Remove all telephone chargers from mains when not in use
✔	4) Use tumble dryers less and if possible dry using a washing line
✔	5) Fill washing machines and dish washers to maximum for each cycle
✔	6) Wash clothes on cooler temperatures (ie 40°C → 30°C)
✔	7) Only boil the amount of water necessary when making tea or coffee
✔	8) Put all outside lights on "proximity switches"
✔	9) When changing appliances, ensure that you purchase the best Energy Rating
✔	10) Check your OWL for the background level before going to bed at night

Patents pending, Product tested by Intertek Testing Services HK Ltd
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