



2save energy plc

CM119 Product Overview

Marc Bowden

Version 1.0

CM119 Wireless Energy Monitor



CM119 Component Parts



CM119 Wireless Energy Monitor



- **3 Display Modes**

- **Cost / Energy /Greenhouse Gas**

- **Real-Time**→ Cost, Power, CO2

- Current is a Factory Set display that toggles every 10secs with Power

- **Accumulative**→ Cost, Energy, CO2

- **Wireless Communications**

- **Proprietary 433MHz**

- **Refresh Rate ~6secs**

- Tx has auto power save mode:- only transmits data when counter at power bit or current usage has changed.

- **Sensor**

- **Inductive Coupling**

- **Current Transformer**

- **RMS Current**

OWL Specification



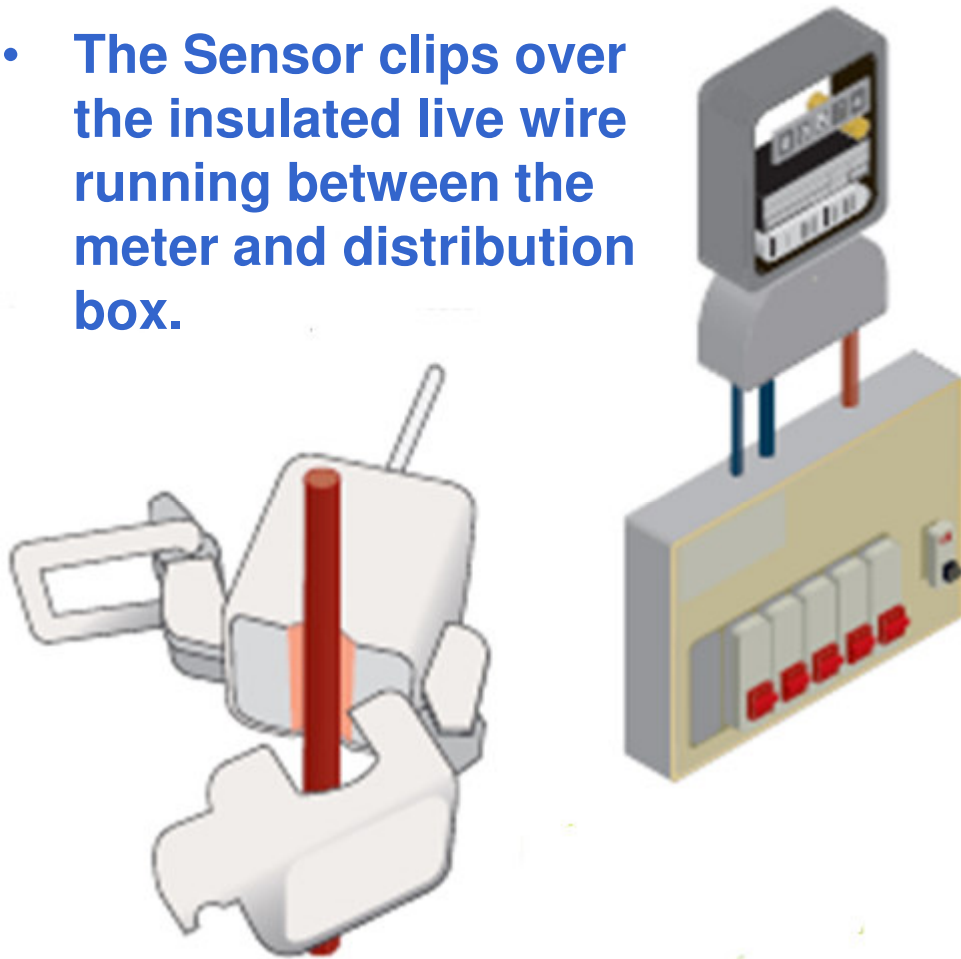
Dimensions	Width	Height	Depth	Weight (No Battery)
Display	107mm (4.2 in)	117mm (4.6in)	30mm (1.2in)	164gm (5.8oz)
Sender Unit	78mm (3.1in)	113mm (4.5in)	40mm (1.6in)	110gm (3.9oz)
Sensor	50mm (2.0 in)	50mm (2.0in)	30mm (1.2 in)	66gm (2.3oz)

Accuracy	<1A	1A to 3A	3A to 71A
Current RMS	Not Specified	Better than 10%	Better Than 5%

Wireless Link	433MHz Radio Frequency
Wireless Range	30 metres in open area [walls, partitions and electrical appliances may affect reception range]
Display Power Supply	3 x AA / LR6 / UM-3 1.5V batteries or 6V AC/DC adaptor
Sender Box Power Supply	3 x AA / LR6 / UM-3 1.5V batteries
Operating Temperature	5°C ~ 45°C (41°F ~ 113°F) at 85% relative humidity
Storage Temperature	-5°C ~ 60°C (23°F ~ 140°F) at 85% relative humidity

Connecting the Sensor

- **The Sensor clips over the insulated live wire running between the meter and distribution box.**



Cost Display Mode



- 1. Cost of current Electricity Consumption**
 - £ → Pence/hour (If ≥ 100 pence/hour then displayed in £/hour)
 - € → Pence/hour (If ≥ 100 cents/hour then displayed in €/hour)
 - \$ → Cents/hour (If ≥ 100 cents/hour then displayed in \$/hour)
- 2. Total Cost of Electricity usage**
 - £/Pence; €/Cents; \$/Cents
- 3. Accumulated Data Value (ie Last Week)**
- 4. Time & Date (Toggles every 10secs)**
- 5. Room Temperature**
- 6. Current Tariff**
- 7. Wireless Channel**

Energy Display Mode



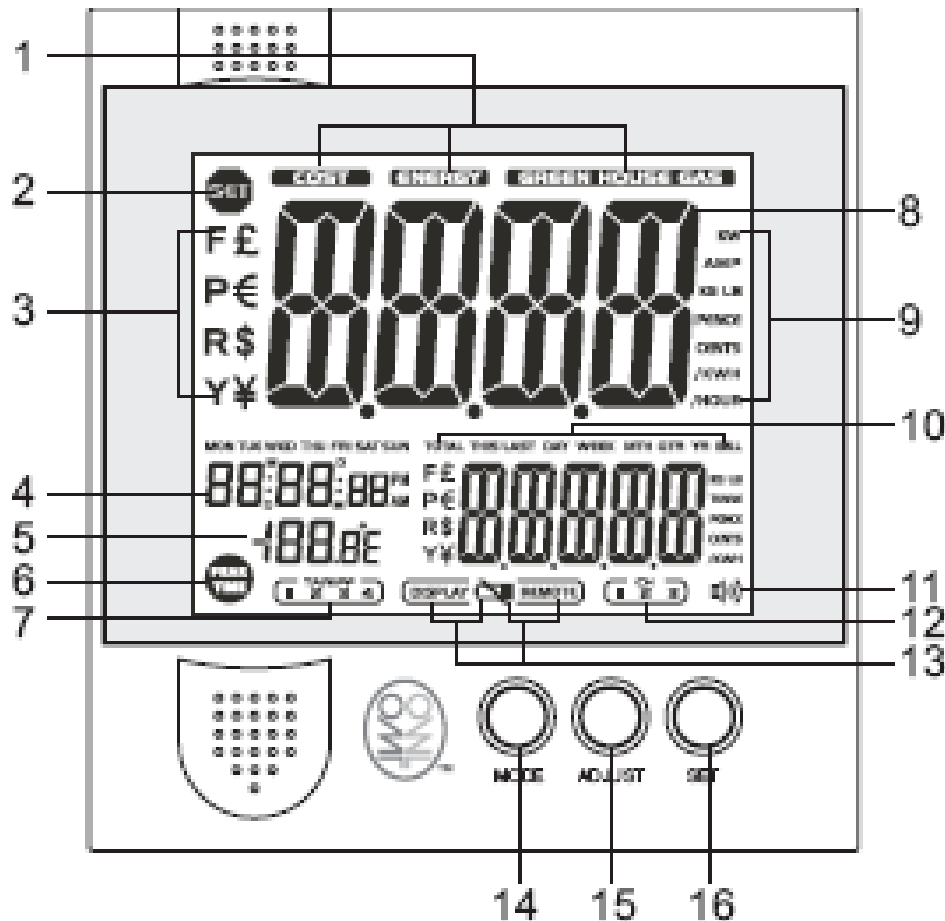
1. Calculated CO2 being released by Power Utilities to generate current electricity consumption (kg/hour)
2. Total Energy Consumption for a fixed period (KWh)
3. Accumulated Data Value (ie Last Week)
4. Time & Date (Toggles every 10secs)
5. Room Temperature
6. Current Tariff
7. Wireless Channel

Greenhouse Gas Display



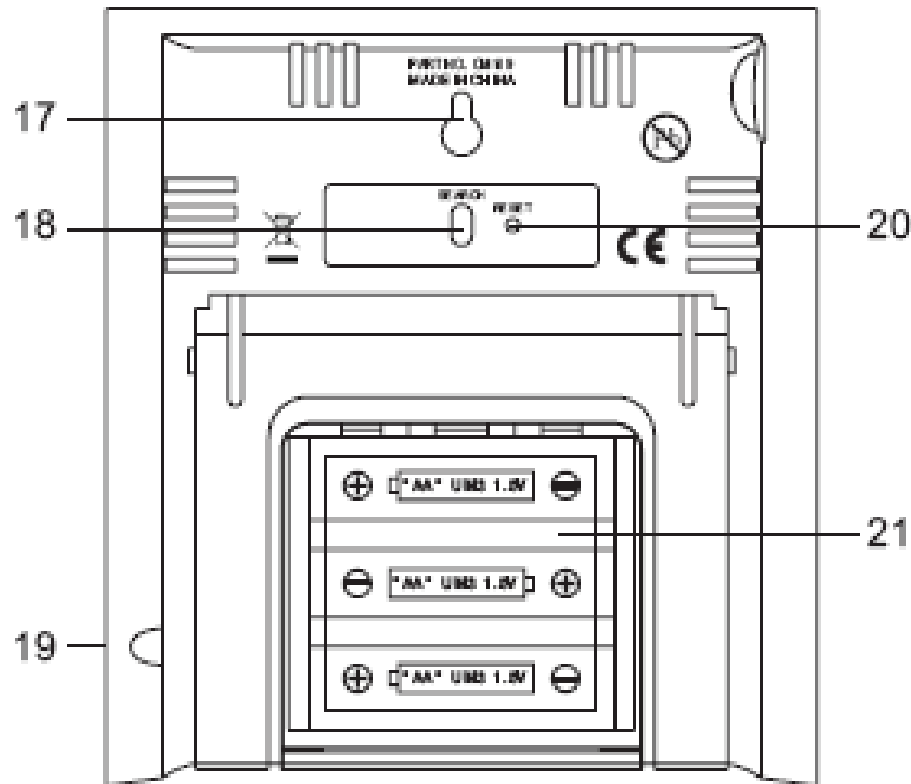
1. Calculated CO₂ being released by Power Utilities to generate current electricity consumption (kg/hour)
2. Total Calculated CO₂ released (kg or tonnes)
3. Accumulated Data Value (ie Last Week)
4. Time & Date (Toggles every 10secs)
5. Room Temperature
6. Current Tariff
7. Wireless Channel

Remote Monitor Features...1



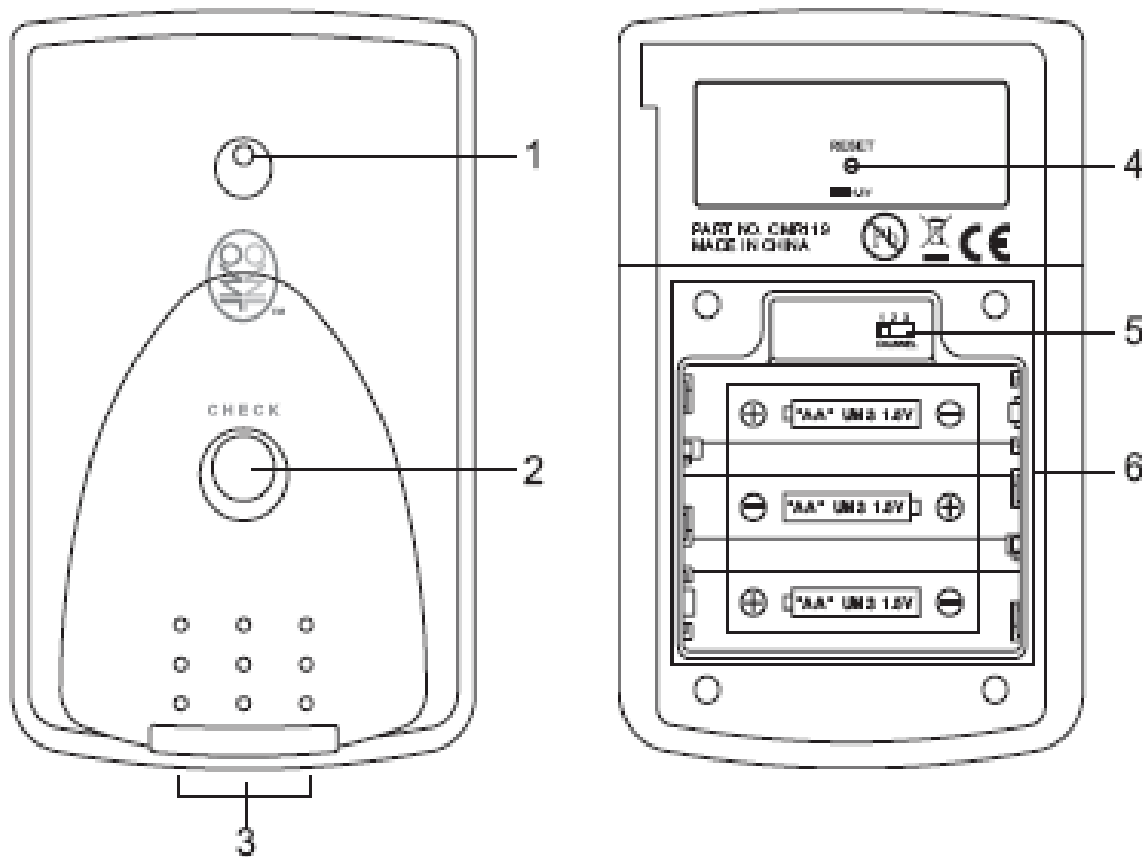
1. Indicates Display Mode the Monitor is in:
 - COST
 - ENERGY
 - GREENHOUSE GAS
2. Indicates Monitor is in SET mode
3. Currency Units for Cost Display Mode
4. Clock /Date Display (Toggles ~10secs)
5. Room Temperature Display
6. Indicates when Peak Time Tariff is in operation
7. Indicates which Tariff is in use (up to 4)
8. Real Time Data Display
9. Measurement units for Display Modes
10. Accumulative/Historical Data Display
11. Indicates Cost Alarm is ON
12. Channel indicator
13. Battery low indicator: Display (Monitor) / Remote (Sender Box)
14. MODE key
15. ADJUST key
16. SET key

Remote Monitor Features...1



- 17. Wall mount hole
- 18. SEARCH key: search for transmitter
- 19. AC / DC power adapter socket.
(Power pack is optional)
- 20. RESET Key
- 21. Battery compartment

Sender Box Features



1. Flashes to indicate data transmitted from Sender Box
2. CHECK key:- Forces transmission every 2 seconds (for 30 Seconds)
3. Sensor Cable Sockets (x3)
4. RESET key:- Resets the Sender Box and clears all data held in memory
5. CHANNEL switch (1,2,3)
6. Battery Compartment

Accumulative Function



Total	Total Cost/Energy/GHG since the unit first started or was RESET.
This Day	Total Cost/Energy/GHG that Day → [00:00 to 23:59hrs].
Last Day	Total Cost/Energy/GHG during previous Day → [00:00 to 23:59hrs].
This Week	Total Cost/Energy/GHG that Week → [Monday to Sunday].
Last Week	Total Cost/Energy/GHG during previous Week → [Monday to Sunday].
This Month	Total Cost/Energy/GHG that Month → [1st Day to Last Day in Month].
Last Month	Total Cost/Energy/GHG during previous Month → [1st Day to Last Day in Month].
This Quarter	Total Cost/Energy/GHG that Quarter → [Jan-Mar; Apr-Jun; Jul-Sep; Oct-Dec].
Last Quarter	Total Cost/Energy/GHG during previous Quarter → [Jan-Mar; Apr-Jun; Jul-Sep; Oct-Dec].
This Year	Total Cost/Energy/GHG that Year → [Jan to Dec].
Last Year	Total Cost/Energy/GHG during previous year → [Jan to Dec].

Tariffs



- **4 Individually Settable Tariffs**
 - **Tariff On/Off (Tariff 1 always enabled)**
 - **Tariff Rate**
 - In Pence or Cents (00.00 → 99.99)
 - **Tariff Start Time**
 - 12/24hr clock
 - **Peak Time**
 - Flag as peak time tariff
 - **Alarm Trigger Level**
 - Turn On/Off
 - In £ / \$ / € (00.00 → 99.99)

Other Factory Set Options

- **Non- Accumulative Function**
 - Removes accumulation function for Cost & Energy
 - Displays current Tariff Rate in place of Accumulative Value
 - Still shows Accumulated CO2 Emissions
- **Display Real-time Current Consumption**
 - Shown in Energy Display mode, toggles with Power reading every 10 seconds.
- **Additional Currencies**
 - 3 Currencies → £ / \$ / €
 - 8 Currencies → F / Kr / ¥ / R / P
- **Country/Regional Generic Settings**
 - Basic Monitor setup to reflect country of sale (ie Volts / Currency / etc).