WIRELESS Energy Monitor
- Smart Meter
Monitors your electricity use and cost in real time

Instruction Manual
EW4500
IMPORTANT

Please retain your Instruction Manual for future use.
If you need some assistance with your Watts Clever WIRELESS Energy Monitor – Smart Meter, please email us at support@wattsclever.com or visit our support website at http://support.wattsclever.com

OVERVIEW

The WIRELESS Energy Monitor – Smart Meter helps you conserve electricity by showing you how much you use, and what it costs, as you use it. This feedback will help you take steps to reduce your consumption and save money.

The WIRELESS Energy Monitor – Smart Meter will show you:

• Your current electricity usage
• Your accumulated electricity usage over any time period
• Your per hour usage

And when you program the WIRELESS Energy Monitor – Smart Meter with your electricity billing rates, it will show you:

• Your electricity cost per hour
• Your accumulated electricity cost over an hour, a day, weeks or months
• Your estimated monthly bill

It is important to understand that the Watts Clever WIRELESS Energy monitor - Smart Meter is only a tool, the actual saving is up to you. By keeping the values in the display as low as possible you can contribute in saving energy and money for your household.

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What elements does your package contain?

Your package contains all of the elements shown below. If any item is missing, please contact your installer immediately.

What are the different parts of the Energy Monitor for?

The wireless energy monitor consists of a display unit (wireless receiver), a wireless transmitter and a sensor.
How do I replace batteries?

**IMPORTANT:** For initial set up, it is important to place batteries in the transmitter before batteries are placed in the receiver.

1) **Power Transmitter**

When the batteries in the transmitter are low on power, an indicator on the display will be shown (Fig.1).

Remove the battery cover of the power transmitter by loosening the screws with a screwdriver (Fig.2).

Place the 2 x AA batteries in the battery housing. The Power Transmitter will now begin to transmit a signal. Finally the battery cover is again screwed on carefully but firmly.

An ID code will be shown on the display of the transmitter (Fig.2) after replacing new batteries.

**NOTE:** Make sure the + and – of the batteries are placed as indicated inside the battery housing.

**IMPORTANT:** Do not change the preset channel of the channel switch when replacing batteries (Fig.3).

2) **Display Unit**

When the batteries in the Display Unit are low on power, an indicator will be shown on the display (Fig.4).

Remove the battery cover at the back of the Display Unit, after 2 x AA 1.5V batteries are placed in the battery housing, put the battery cover on again (Fig.5). Full segments on the display will light up for a short moment.
How do I install and set up the wireless energy monitor correctly?

Watts Clever Energy Monitors fit all newer electronic meters with a so-called impulse LED. This is a small LED lamp indicating how much electricity you are using, with few blinks you use a little, with many blinks you use more. Normally these meters are set up to blink 1,000 – 10,000 times (imp) per kilowatt hour (kWh)(some meters will show as imp/unit).

**Power Transmitter**

**Step 1.) Channel selection**
Open the battery compartment, select the desired channel, and then press the [RESET] button with a pin to confirm your selection. The CHANNEL is now been stored in memory.

![Fig.6](image)

**IMPORTANT:** Do not change the default channel of the channel switch, unless you have any difficulty in Channel pairing (Fig.6). Please contact your installer or contact us at support@wattsclever.com for assistance.

**Step 2.) ID Code**
An new ID will be generated and shown upon the display (Fig.7).

![Fig.7](image)

**NOTE:** Write down the CHANNEL number you selected and the ID number displayed. You will need this information later to pair the Display Unit with Transmitter during setup.

How do I install and set up the wireless energy monitor correctly?

**Display Unit**

**Step 1.) Display menu set up**
Press-and-hold [Menu Set](Fig.8) for 3 seconds to enter the menu setting.

![Fig.8](image)

**3 seconds**

**NOTE:** For initial use you will enter the menu set mode automatically after installing the batteries.

**IMPORTANT:** The Display must be set within 15 minutes of the transmitter being powered up, otherwise, the display cannot link up with the Transmitter even after entering the correct ID shown on the Transmitter Display.

If you cannot finish the setup in 15 minutes, reset the Transmitter to generate a new ID, redo the setup process for the Display within 15 minutes.

**IMPORTANT:** DO NOT connect the LED Optical Sensor with Power Transmitter until the pairing is done and the LED sensor is attached to the meter.
### How do I install and set up the wireless energy monitor correctly?

**Step 2.** Procedure of Menu set up as below:

<table>
<thead>
<tr>
<th>Display Blinks</th>
<th>Image</th>
<th>Setting procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hour (24 hours mode) /Minutes</td>
<td><img src="image1.jpg" alt="Image" /></td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>2. Day / Month of date</td>
<td><img src="image3.jpg" alt="Image" /></td>
<td><img src="image4.jpg" alt="Image" /></td>
</tr>
<tr>
<td>3. Year of date</td>
<td><img src="image5.jpg" alt="Image" /></td>
<td><img src="image6.jpg" alt="Image" /></td>
</tr>
<tr>
<td>4. Currency</td>
<td><img src="image7.jpg" alt="Image" /></td>
<td><img src="image8.jpg" alt="Image" /></td>
</tr>
<tr>
<td>5. Transmitter Channel</td>
<td><img src="image9.jpg" alt="Image" /></td>
<td><img src="image10.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

**Display Blinks**

- **Image**

**Setting procedure**

1. **Display Blinks**
   - 1. Hour (24 hours mode) /Minutes
     - ![Image](image1.jpg)
     - ![Image](image2.jpg)
   - 2. Day / Month of date
     - ![Image](image3.jpg)
     - ![Image](image4.jpg)
   - 3. Year of date
     - ![Image](image5.jpg)
     - ![Image](image6.jpg)
   - 4. Currency
     - ![Image](image7.jpg)
     - ![Image](image8.jpg)
   - 5. Transmitter Channel
     - The channel you selected on the transmitter (Default: Ch 1)
     - ![Image](image9.jpg)
     - ![Image](image10.jpg)

**NOTE:**

- **If the setup is already in tiered-rate, press or in menu set up mode while setting up electricity price to change the value to flat-rate.**

- **The last hour and minute (TIME STAMP) will be stored in the memory after installing new batteries. The date and time can only be moved forward unless the memory is cleared and time can be set.**

- **If you are using Tiered-rate, skip this by press and enter tiered-rate mode with the procedures shown under “How do I set the tiered-rate?” section.**

**Display Blinks**

- **Image**

**Setting procedure**

1. **6. Transmitter ID**
   - The ID shown on the transmitter display
   - ![Image](image11.jpg)
   - ![Image](image12.jpg)
   - Using and to adjust the value, and press [Select ] to confirm.

2. **7. Meter Impulse**
   - This is shown on the front of the Smart Meter on imp/kWh
   - ![Image](image13.jpg)
   - ![Image](image14.jpg)
   - Using and to adjust the value, and press [Select ] to confirm.

3. **8. Electricity price per kWh**
   - You may take a look at your electricity bill to see what you pay kWh inclusive of taxes. Or call your electricity supplier and ask them.
   - ![Image](image15.jpg)
   - ![Image](image16.jpg)
   - (Default as Flat-rate tariff)
   - Using and to adjust the value, and press [Select ] to confirm.

**NOTE:**

- **If you are using Tiered-rate, skip this by press [Select ] and enter tiered-rate mode with the procedures shown under “How do I set the tiered-rate?” section.**

- **If the setup is already in tiered-rate, press or in menu set up mode while setting up electricity price to change the value to flat-rate.**

- **The last hour and minute (TIME STAMP) will be stored in the memory after installing new batteries. The date and time can only be moved forward unless the memory is cleared and time can be set.**
How do I install and set up the wireless energy monitor correctly?

**Optical Sensor**

Step 1.) Determine the LED port (LED light) of the electricity meter and determine the impulse rate indicated by imp/kWh or imp/unit.

**NOTE:** Write down the impulse rate as this information may not be visible after installing the sensor.

Step 2.) Installing the sensor

Use the mounting materials or sticker provided to stick the sensor base hole over the flashing LED found on your electricity meter. Attach it firmly in place (Fig.9).

It is important that the LED diode of your meter is exactly in the middle of the sticker/mounting plate.

**i-Credit 500 / i-Credit 500 PRI**

Use the i-Credit mounting plate provided to mount the sensor base hole over the flashing LED found on your electricity meter. Carefully place the sensor eye onto the mounting plate. Turn the sensor eye clockwise until you hear a click to ensure it is locked (Fig.10).

**Landis GYR E350**

Use the E350 mounting plate provided to mount the sensor base hole over the flashing LED found on your electricity meter (Fig.11).

Cover the left and bottom glass frame edge of the meter with the provided strip tapes. Also cover around the bracket to avoid any light interference.
How do I install and set up the wireless energy monitor correctly?

**Sprint 200**
Use the double sided adhesive round sticker provided to mount the sensor base hole over the flashing LED found on your electricity meter, carefully place the sensor eye onto the adhesive sticker (Fig.12).

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**Step 3.** Connect sensor to the Power Transmitter
After mounting the sensor to your electricity meter, connect the mini jack of the sensor to the Power Transmitter (Fig.13).

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**IMPORTANT:** Avoid direct light to the sensor when it is operating as this may cause errors in readings.

**IMPORTANT:** DO NOT connect the LED sensor until the pairing is done and the LED sensor is attached to the meter. This will stop inaccurate readings occurring from the LED sensor detecting normal light and indoor lighting.

---

**How do I set the tiered-rate?**
Exit menu set up mode and set your tiered-rate.

**Step 1.** Press-and-hold [TARIFF] for 3 seconds (Fig.14)
At the top of the display it will say TARIFF.

**Step 2.** Press or to select FULL WEEK mode or WEEKDAY/END mode, and press [Select] to confirm (Fig.15).

---

**NOTE:** FULL WEEK tariff means, you have same rate during the week.
WEEKDAY / END tariff means, you have different rate on weekends and weekdays.
How do I set the tiered-rate?

**FULL WEEK MODE**
Enter T1 electric cost (Fig.16) and the tariff period starting time (Hour only) (Fig.17).

```
<table>
<thead>
<tr>
<th>Cost</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>$0.2</td>
</tr>
<tr>
<td>T2</td>
<td>$0.27</td>
</tr>
<tr>
<td>T3</td>
<td>$0.12</td>
</tr>
</tbody>
</table>
```

**NOTE:** User with only 2 tiered-rates, please enter same value & time in T3 as T2.

Using ▼ and ▲ to adjust the value, and press [ Select ] to confirm. Repeat the same procedure for setting up T2, and T3 accordingly.

For Example:
- Shoulder Tariff: 05:00 - 07:00 at 20 cents
- Peak Tariff: 07:00 - 23:00 at 27 cents
- OFF Peak Tariff: 23:00 - 05:00 at 12 cents

**FULL WEEK MODE**
Enter T1 electric cost (Fig.16) and the tariff period starting time (Hour only) (Fig.17).

```
<table>
<thead>
<tr>
<th>Cost</th>
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<td>$0.27</td>
</tr>
<tr>
<td>T3</td>
<td>$0.12</td>
</tr>
</tbody>
</table>
```

**NOTE:** To change TARIFF MODE back to FLAT RATE MODE, please go back to the Menu setup by press-and-hold [MENU SET ] for 3 seconds, press [Select ] until in electricity cost set up mode, then press ▼ or ▲ to return the flat-rate mode. The Display will change into flat-rate mode (Fig.20).

**WEEKDAY / END Mode**
Set the Weekday T1..T3 (Fig.18), follow by the Weekend T1…T3 (Fig.19)

**NOTE:** To change TARIFF MODE back to FLAT RATE MODE, please go back to the Menu setup by press-and-hold [MENU SET ] for 3 seconds, press [Select ] until in electricity cost set up mode, then press ▼ or ▲ to return the flat-rate mode. The Display will change into flat-rate mode (Fig.20).
How do I use the wireless energy monitor?

The Watts Clever wireless energy 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 monitor, switching appliances on and off, to see the difference that each one uses. Other useful data on the display includes:

- Accumulated energy / cost usage in the last 24 hours, 50 days, 7 weeks and 4 months.
- The maximum & minimum energy / cost usage in real time and in the last 24 hours, 50 days, 7 weeks & 4 months.
- Energy usage analysis bar chart.
- Power consumption level indicated bar.

1. Check historical usage
Press [History ] (Fig.21) to check the record of HOUR, DAY, WEEK, and then MONTH.

Press or to scroll through the past history of HOUR, DAY, WEEK and MONTH. Press-and hold or to fast forward the data.

For hour history, it shows the selected HOUR of the DATE.

For day history, it shows the selected DATE.

For week history, it shows the selected WEEK starting date.

For month history, it shows the selected month.

How do I use the wireless energy monitor?

Press or to scroll through the past history of HOUR, DAY, WEEK and MONTH.

Press-and hold or to fast forward the data.
How do I use the wireless energy monitor?

2. Check records of a specific date
At the DAY mode (Fig.23), select a date by \( \bigtriangledown \) and \( \bigtriangledown \) button.

[Image of a digital display showing kWh]

Press-and-hold \( \bigtriangledown \) for 3 seconds (Fig.24) to check the detail of each hour in the selected day.
Press \( \bigtriangledown \) and \( \bigtriangledown \) to scroll the data.

3 seconds

[Image of a digital display showing a history mode]

Press \( \bigtriangledown \) to return back to the DAY mode(Fig.25).

3. Check tiered-rate of the selected date
Simple press \( \bigtriangledown \) to check the tariff rate of the hour of the selected day (Fig.27).

[Image of a digital display showing tariff rates]

4. Check maximum and minimum record of the selected date
Simply press \( \bigtriangledown \) to show the Max kWh and press \( \bigtriangledown \) to show the Min kWh of the SELECTED date. Press \( \bigtriangledown \) to switch between kWh or cost (Fig.28).

[Image of a digital display showing maximum and minimum records]
How do I use the wireless energy monitor?

5. Max / Min of the Day / Week / Month

Press [Max/Min E] to exit the Maximum and Minimum mode (Fig.32).

**NOTE:** For HOUR max/min, it only shows the max/min of the CURRENT DAY.

Press [History B] to check for the record of HOUR, DAY, WEEK, MONTH (Fig.29).

**NOTE:** Press [Cost · kW/kWh A] to switch between kWh and cost (Fig.33).

Press [Max/Min E] to go the Max value checking no matter at the history HOUR, DAY, WEEK, and MONTH (Fig.30).

**NOTE:** If there are two or more MIN or MAX figures, it is only show up the closest MAX or MIN record to the current time.

Press [Max/Min E] again to Min record checking no matter at the history HOUR, DAY, WEEK, and MONTH (Fig.31).

6. Check the current Tariff

Press [Tariff D] to check for current tariff rate, it will show up for 3 seconds (Fig.34).

**NOTE:** Press [Tariff D] to check for current tariff rate, it will show up for 3 seconds.
Press-and-hold [Cost · kW/kWh] (Fig.35) for 3 seconds to force search the signal.

If there is still no signal received, reset the Transmitter and the Display by reinstall the batteries if necessary, and follow the Power Transmitter set up procedure. A new ID will be generated on the transmitter, please enter the ID into display. Make sure the Display is not out of the transmitter wireless transmission effective area.

**How do I clear the historical data?**

Press-and-hold [Clear Mem] (Fig.36) for 5 seconds to clear up all the past 50 days record, and all MAX. MIN records.

**Full Reset**

Press-and-hold [Select] (Fig.37) for 10 seconds to reset the Display Unit, all memory, channel record, ID code will be clear completely. You will then enter the Menu set up mode as initial use.
Watts Clever believes that the safe performance of your product is the first priority. We ask that any electrical appliance that you use should be operated in a sensible fashion with due care and attention placed on the following points:

- Carefully read all instructions before operating the Wireless Energy Monitor – Smart Meter for the first time and save for future reference.
- Do not expose the unit to exaggerated impact, shaking, dust, extreme temperatures, or air humidity, as this may result in malfunction, shorter electronic life, damaged batteries, and damaged parts.
- Do not tamper with the internal components of the unit. This will make the warranty of the unit invalid and may result in unnecessary damage. There are no parts in the unit which will require service on the part of the user.
- Only use new batteries as described in the instruction manual. Do not mix new and old batteries, as the old batteries may leak.
- Do not locate the Display Unit, Power Transmitter and Optical Sensor within reach of children.
- Do not open the product other than to replace the batteries and Channel reset.
- Periodically check all components to ensure there is no damage.
- Keep the Display Unit, Power Transmitter and Optical Sensor away from source of heat, water and any other liquid.
- Use a dry cloth to clean. Don’t use solvents, abrasive cleaners or water.
- Don’t rely on the displayed information to calculate the cost of your electricity bill. The WIRE-LESS Energy Monitor - Smart Meter is an educational device and is NOT intended to replace your energy supplies energy meter.
- Don’t use this product where the use of radio frequency products can cause malfunction in other equipment (for instance hospitals, aircraft, etc.).
1 YEAR FULL REPLACEMENT WARRANTY

One year replacement warranty offered with proof of purchase. If you have any question about your warranty coverage, please contact your installer.

Product Specifications
Model • EW4500

Dimensions •
Display Unit 117 (W) x 127 (H) x 27.8 (D) mm
LCD Display: 79(W) x 48.5 (H) mm
Power Transmitter: 59 (W) x 110 (H) x 26 (D) mm

Wireless transmission • 433.93 MHz | Transmission cycle • App. 30 sec
Transmission Distance • 80m

Made in China

For product support, please visit http://support.wattsclever.com
For further assistance please contact us on support@wattsclever.com

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