CAREEP

CARILEC Resiliency and Energy Efficiency Project

# Electricity Usage Monitors

## A Quick User Guide

**ConserVE-2-SaVE**

CARILEC

An Association Of Electric Energy Solution Providers

Funded by the European Union

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# CARILEC Resiliency and Energy Efficiency Project (CAREEP)

The CARILEC Resiliency and Energy Efficiency Project (CAREEP) aims to strengthen economic resilience and reduce the financial vulnerability of the Caribbean's electricity sector. CAREEP was designed to address two critical threats facing the region: i) the vulnerability towards climate change and ii) the financial impacts of global economic crises on Caribbean power sectors.

CAREEP operates in six territories, including Anguilla, British Virgin Islands, Cayman Islands, Montserrat, Sint Maarten and Turks and Caicos Islands. The project specifically targets energy affordability for residential customers. This is done by raising awareness and building knowledge about the financial and environmental benefits, as well as the technical requirements for implementing energy efficiency measures in households. In addition, CAREEP supports the preparation of a pathway for innovative energy services. These services aim to reduce energy costs for electricity consumers, thereby strengthening the overall financial resilience of the sector.

CAREEP facilitates improvements in the standard of living throughout the region and is a critical initiative at this time, considering the region's vulnerability toward climate change and its significant untapped potential for renewable energy and energy efficiency. Predictably priced energy is crucial to the reliable functioning of economic processes across the Caribbean.

The project is being implemented by the Caribbean Electric Utility Services Corporation (CARILEC) supported by the RESEMBID Programme with funding from the European Union (EU).

# What is the difference between energy conservation and energy efficiency?

Energy conservation is the practice of using less energy by avoiding a task or function that requires energy consumption to lower costs and reduce environmental impact. Energy efficiency on the other hand means to use less energy to perform the same task, e.g. by using more energy efficient technologies. For example, turning lights off in an unused room is energy conservation while switching from incandescent lightbulbs to LEDs, that produce the same quality of illumination, is energy efficiency.

## Manage your own electricity budget without decreasing your comfort!

## Monitor your energy consumption, monitor your household's budget!

# Disclaimer

Please be aware that this manual is intended to serve as a general, model-agnostic guide for basic electricity monitoring devices or watt meters, outlining their most common functions and operations. The authors do not endorse any specific model or manufacturer of these devices. Given the slight variations in their usage and operation, users may need to modify the provided instructions based on the specific model they are using.

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# What are Electricity Usage Monitors?

We're all looking for ways to save money, and reducing our electricity bills is one way we can do that. Whether through turning off light switches, unplugging devices, or shutting down unused appliances, every small action counts. However, to truly make a significant impact, we must determine where in the household our energy is being utilized or squandered the most.

Devices which monitor electricity usage go a long way in helping to reduce energy costs in your home. Devices like the Electricity Usage Monitor measures usage and provides data on where the electricity is consumed and any sudden fluctuations in consumption.

Electricity Usage Monitors are relatively easy to use and even easier to understand. The devices are used to measure the power, power factor, current, and voltage used within a household and provide data about energy consumption. Understanding your consumption habits is the first step towards taking control of your energy bills.

Electricity Usage Monitors can be installed by anyone on most standard power points and plug in appliances. Simply plug the meter into a power outlet and you're ready to measure. This device is designed to measure one plug-in appliance at a time or several smaller appliances attached to a power board.

There are many different producers of electricity monitoring devices, but no matter the brand, the devices work very similarly. This booklet will provide a step-by-step guide on how to utilize energy monitoring devices in your home.

## Overview of Device Buttons

### FUNCTION/MODE
Briefly press or tap to turn on the display and select the monitoring results to be shown. You can change the selection by tapping one or more times.

### COST
For the configuration of the electricity rate. To start the configuration, hold down the button until the numbers on the display start to blink.

### RESET
Hold the button down for several seconds to reset both the time and consumption to '0'. This action will also reset the configured tariff rate to its default setting.

### DOWN
Tap this button to decrease the value of the selected number or decimal.

### UP
Tap this button to increase the value of the selected number or decimal.

## Power Demand

### POWER
Shows the applied power demand rating of the connected appliance in Watts (W)

### FUNCTION/MODE
Briefly press/tap to turn on the display and to select the view that centrally displays the current power demand rating in Watts.

### TIME
Shows the duration of connection to the power outlet in hours and minutes, in addition to the number of days indicated further below, until the system is reset.

### COST
Shows the total cost (in a currency-neutral manner) that have been incurred from the moment of connection to the power outlet until the system is reset.

## Electricity Consumption

**ELECTRICITY CONSUMPTION**
Shows the total electricity consumption in kWh that has been incurred from the moment of connection to the power outlet until the system is reset.

**FUNCTION/MODE**
Briefly press/tap to turn on the display and to select the view that centrally displays the consumed electricity in kWh.

**TIME I**
Shows the duration of connection to the power outlet in hours and minutes until the system is reset.

**TIME II**
Shows the duration of connection to the power outlet in days until the system is reset.

## Voltage

**VOLTAGE**
Shows the prevailing network voltage in Volts (V), once connected to power outlet.

**FUNCTION/MODE**
Briefly press/tap to turn on the display and to select the view that centrally displays the prevailing network voltage in V.

**TIME I**
Shows the duration of connection to the power outlet in hours and minutes until the system is reset.

**FREQUENCY**
Shows the prevailing network frequency in Hertz (Hz), once connected to power outlet.

## Current

### CURRENT
Shows the measured current or Amperage in Ampere (A) once connected to a power outlet and to a switched-on electrical device.

### FUNCTION/MODE
Briefly press/tap to turn on the display and to select the view that centrally displays the measured current in A.

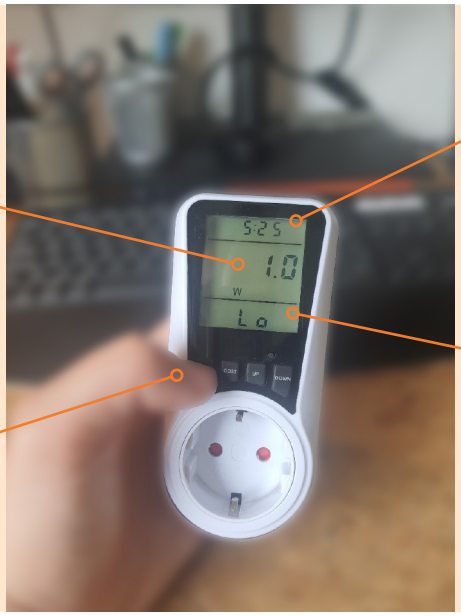

### TIME I
Shows the duration of connection to the power outlet in hours and minutes until the system is reset.

### POWER FACTOR
Shows the measured power factor once connected to a power outlet and to a switched-on electrical device.

## Minimum Power Demand

### MIN. POWER DEMAND
Shows the lowest/minimum measured power demand of the connected appliance in W until the system is reset.

### FUNCTION/MODE
Briefly press/tap to turn on the display and to select the view that centrally displays the min. measured power rating in W.



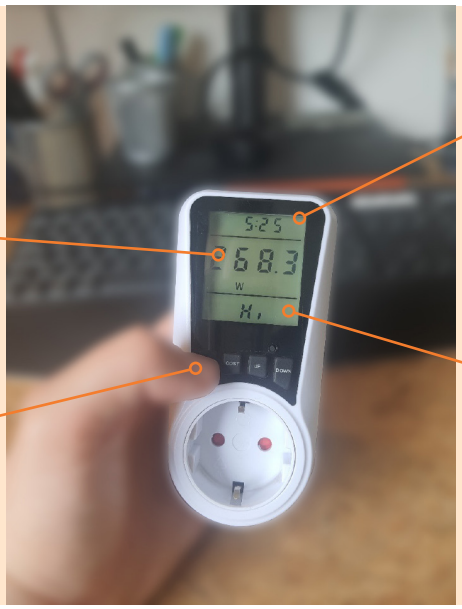

### TIME I
Shows the duration of connection to the power outlet in hours and minutes until the system is reset.

### TEXT
Indicates the minimum measured power demand for reference (Lo → Low).

## Maximum Power Demand

**MAX. POWER DEMAND**
Shows the highest/maximum measured power demand of the connected appliance in W until the system is reset.

**FUNCTION/MODE**
Briefly press/tap to turn on the display and to select the view that centrally displays the max. measured power rating in W.




**TIME I**
Shows the duration of connection to the power outlet in hours and minutes until the system is reset.

**TEXT**
Indicates the maximum measured power demand for reference (Hi → High).

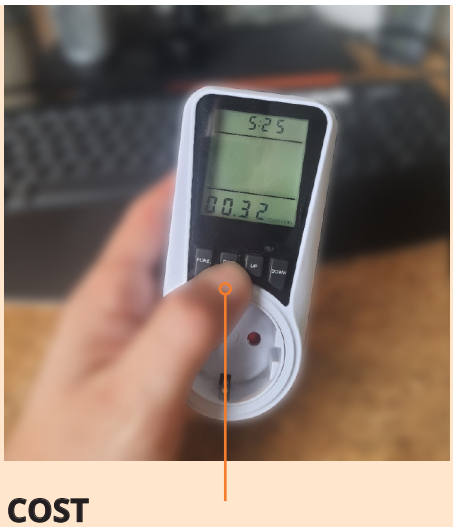
## Cost Setting

**FUNCTION/MODE**
Briefly press/tap to turn on the display and to select the view that centrally displays the electricity tariff rate in Cost per kWh.


**TIME I**
Shows the duration of connection to the power outlet in hours and minutes until the system is reset.

**ELECTRICITY TARIFF RATE**
Shows the configured electricity tariff rate (currency neutral) per kWh.

## Cost Configuration I



### COST

To start the configuration of the prevailing electricity rate, e.g. US$ per kWh, hold down the “COST” button until the numbers on the display start to blink.

## Cost Configuration II

### SELECTION OF NUMBER/ DECIMAL TO CHANGE

When the units start to blink, tap the ‘Function’ button to select the desired number or decimal, that you want to adjust.

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## Cost Configuration III

### UP

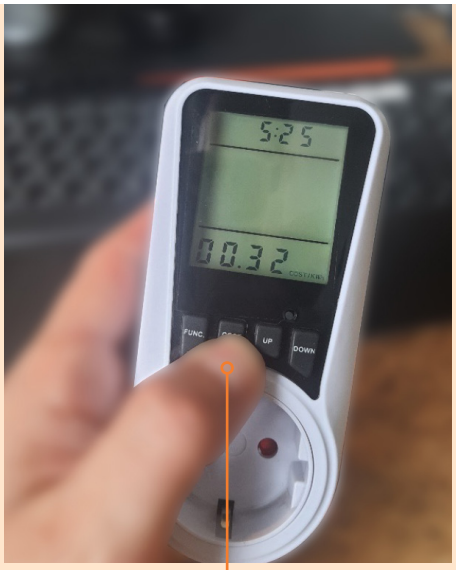
Tap the “UP” button to increase the value of the selected number or decimal.

## Cost Configuration IV

### DOWN

Tap the “DOWN” button to decrease the value of the selected number or decimal.

## Cost configuration V




**COST**
To save the cost configuration, tap the button “COST”.

Visit careep.carilec.org for more information on CAREEP, to get access to learning material, and to learn more about how to undertake an energy self-audit and reduce energy cost at home.

# CAREEP

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# ConserVE-2-SaVE

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