



# EC-100 Energy Controller User Guide

Congratulations on receiving your new EC-100 Energy Controller!  
Supported Models

- C4-EC100 Energy Controller
- C4-EC100EXT Energy Controller with External Antenna

Associated SKUs:

- C4-EC100-BL — EC-100 Energy Controller, Black
- C4-EC100-WH — EC-100 Energy Controller, White
- C4-EC100EXT-BL – EC-100 Energy Controller with External Antenna, Black

## Introducing the EC-100 Energy Controller

The EC-100 Energy Controller (EC-100) wirelessly connects to your home's smart meter and gathers information about how much electricity you are using and how much that electricity use is costing you. With this information, you will be able to make smart choices about how and when to conserve electricity and save money.

The EC-100 comes with a colorful touch screen on which you can view current and past data about your home's energy use in a clean, graphical format. Beyond that, the EC-100 provides an easy way to program and control your WT-100 Wireless Thermostat (provided separately), check your weather forecast, review your power bills, view messages about utility-driven energy savings events, and more!

### Key Features:

- Empowers You With Information:** The EC-100 wirelessly communicates with your home's smart meter to gather information about your electricity use. The display lets you see your energy use over time with enough storage for up to five (5) years of data, and it shows you breakdowns of your electricity use by major categories such as heating, cooling, refrigerator, and pool.
- Intuitive Color Touch Screen:** The Energy Controller's 4.7" capacitive touch screen puts your home's energy management at your fingertips by allowing you to interact with the data from your smart meter.
- Better Communication With Your Utility:** Using smart meters, your utility can send you important messages regarding incentive programs, conservation requests during periods of high demand and changes in pricing. Working together, utilities and their customers can improve energy efficiency and lower costs.
- Broadband-Connected (optional):** The EC-100 connects to your home's WiFi network to provide additional information including utility bills, messages from your utility company and your local weather forecast. By enabling the home area networking wireless network functionality, your utility can enable you to get better control over your electrical usage.
- Easy Thermostat Programming and Control:** The EC-100 makes it easy to program your WT-100 Wireless Thermostat (provided separately), turn your heat or air conditioner on or off, or change the temperature in your home. Also, you can easily set your wireless thermostat into a special energy-saving 'Vacation' mode when you leave town. All of this control allows you to reduce your electricity consumption. Ultimately, the EC-100 can become a gateway for controlling all your appliances to reduce the money spent on electricity.

## Terms

Term	Definition
EC-100	The EC-100 Energy Controller is a tabletop or counter top display that lets you view your home's energy usage data.
WT-100	The WT-100 Wireless Thermostat controls the heating and air-conditioning (HVAC) systems in your home.
Current Temp	The current temperature indicated on the thermostat inside your home.
Set Temp	The set temperature is your desired temperature. You can program your desired temperatures for different times of day using the programming feature on the EC-100 or manually adjust your set temperature on either the EC-100 or WT-100 Wireless Thermostat.
Hold	When you manually adjust your set temperature, your selection will automatically hold or maintain your new set temperature for two (2) hours. All holds are two hours except for Vacation hold which will hold your Vacation set temperature until you cancel the Vacation hold.
Mode	The WT-100 can operate in up to seven (7) modes (Heat + Fan Auto, Heat + Fan On, Cool + Fan Auto, Cool + Fan On, Fan On, Emergency Heat (Heat Pump only), and Off). In any mode that the Fan is selected as On, the fan will run continuously. In Fan only mode, the fan will run continuously without using your heating or air-conditioning. For more details and other modes, see "Changing the Thermostat Mode and Fan settings" section in the Control4 WT-100 Wireless Thermostat User Guide
Energy Event	Energy events allow you and your utility to manage your electricity use by making energy-efficient changes to your heating and cooling system.

## Install Batteries

Use a small Phillips screwdriver to remove the screws and cover. Insert the three (3) AA alkaline batteries (included with the product) into the bottom of the product (see figures next).

**Note:** The batteries are for temporary backup power only. The power cord should be plugged into a wall outlet at all times during use of the product. Ensure that you insert the batteries according to the diagram provided in the battery compartment (with the + and - terminals aligned correctly).

Figure A. Insert Batteries

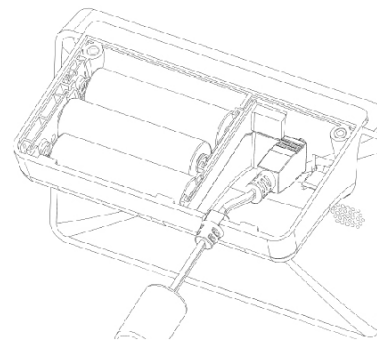
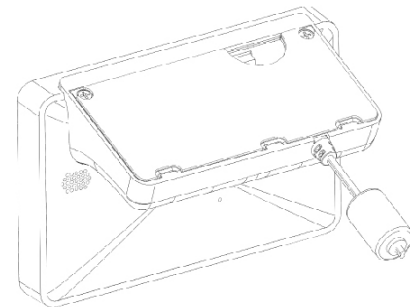


Figure B. Battery Cover



## Battery Installation and Replacement Safety Rules

**WARNING!** To prevent a battery short, leakage or rupture:

- Use typical AA alkaline batteries only.
- Do not mix battery types, such as alkaline and rechargeable NiMH batteries.
- Do not mix used batteries with fresh batteries.
- Do not attempt to recharge a battery unless the battery is specifically marked "rechargeable."
- Never dispose of batteries in a fire.

**ATTENTION!** Pour empêcher court-circuiter, fuite ou rupture de batterie:

- Utilisez les accumulateurs alcalins typiques d'AA seulement.
- Ne mélangez pas les types de batterie, tels que les batteries alcalines et rechargeables de NiMH.
- Ne mélangez pas des batterie frais avec des batterie ancien.
- N'essayez pas de recharger une batterie à moins que la batterie soit spécifiquement marqué « rechargeable ».
- Ne vous débarrassez jamais des batteries dans un feu.

## Battery Use and Care Tips

- Keep the battery contacts and compartment clean.
- Remove the batteries from the product if it is not going to be used for several months.
- Extreme temperatures reduce battery performance. Avoid putting the EC-100 in very warm places.

## Main Menu and Home Screen

Once the EC-100 has been completely set up per the *EC-100 Energy Controller Setup Guide*, the first screen to appear is the Main Menu. From this menu, you can access the following applications: Thermostat, My Energy, Utility Bills, Messages, Energy Events, Settings, Weather, and more.

The Home Screen was designed to be "at-a-glance" useful and you can view all types of information about your home's electricity use, current electricity cost, messages and energy events from the utility, current time, and current indoor temperature and weather (if available). This screen is the one most likely to be commonly displayed. Specific areas of the screen are selectable to enable you to navigate quickly into more details regarding available information. **Note:** The Home Screen layout can vary depending on the configuration supported by the utility and the connectivity and devices used by the EC-100.

The following is a more detailed description of these screens.

## Main Menu Screen

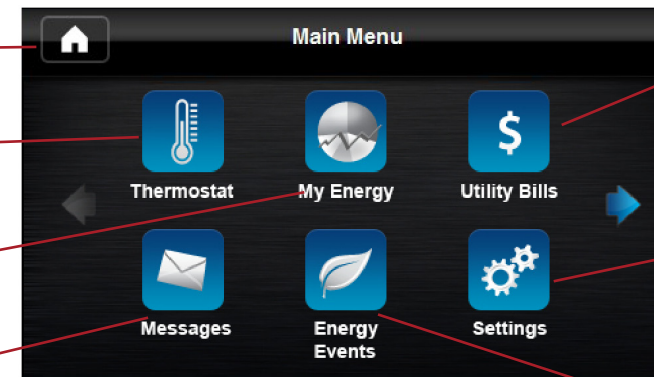
**Home Page button.** Tap to return to the Home screen.

**Thermostat.** Adjust the set temperature or change the thermostat's program.

**My Energy.** View real-time electricity use and total home electricity use.

**Messages.** View a list of messages from your utility company, such as information about Energy Events or rate changes.

**More Apps.** Find new applications here, as they become available.

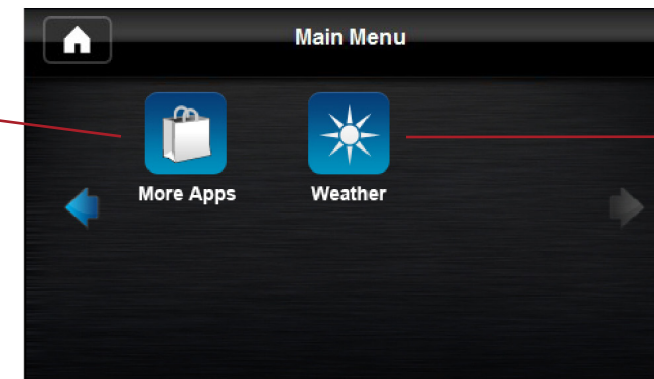


**Tip:** The touch screen is pressure sensitive. The best results are obtained by applying pressure with the tip of the finger or by using the your fingernail.

**Utility Bills** (if supported by utility). View and compare your monthly utility bills if available from your utility company (broadband connected).

**Settings.** View and modify the device, display and connectivity settings.

**Energy Events.** View information on future, current and past Energy Events, with the ability to opt out of future events.



**Weather.** View the current weather conditions, 36-hour forecast, or 5-day forecast (broadband connected).

## EC-100 Home Screen (varies depending on configuration)

**Main Menu.** Tap **Menu** on most screens to access the Main Menu screen.

**My Home Now.** This is the current electricity consumption in your home. This corresponds with kW currently being used.

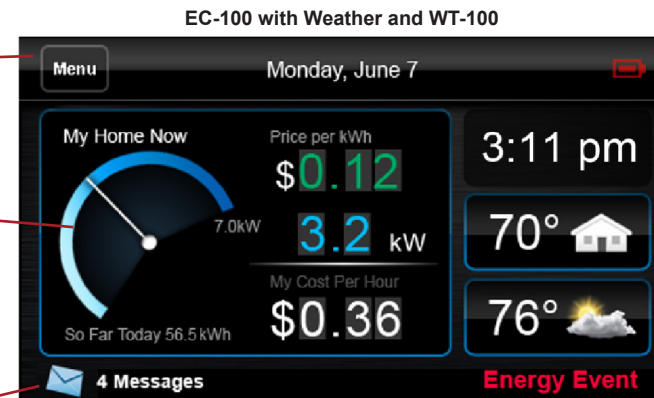
**Price per kWh.** The current electricity cost per kWh.

**kW.** The current electricity use in kW. Corresponds with **My Home Now**.

**My Cost Per Hour.** The hourly cost of electricity use based on the home's current demand measured in kW.

**Tip:** Tap this area to see more about your home's electricity consumption.

**Messages.** The number of new messages is displayed here. Tap to view a list of messages from your utility company.



**Tip:** Most areas on the Home Screen take you to other screens in the system.

**Notification Area.** View indicators, including when the unit is on battery power.

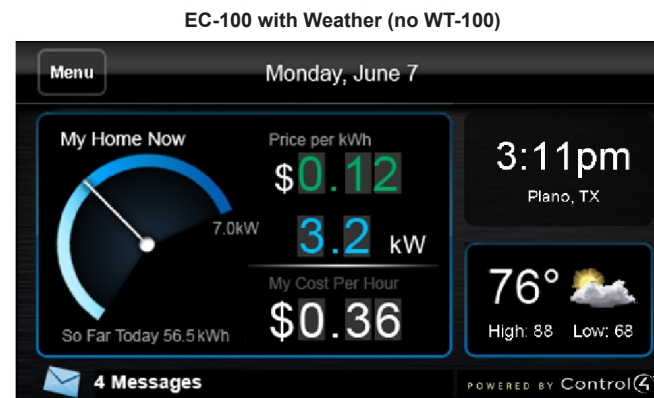
**Clock.** View the current time.

**Inside Temp.** View the current inside temp of the Main Thermostat. Tap to program your thermostat or change set temp.

**Weather.** View the current weather. Tap to access the Weather app.

**Note:** The Zip Code must be entered in Home Profile for the Weather app to work.

**Energy Event Indicator.** Appears during Energy Events initiated by your utility company. Tap to view a list of events.

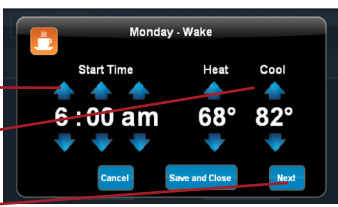
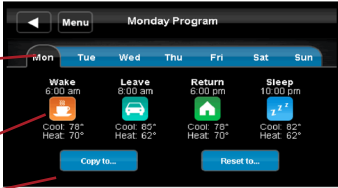
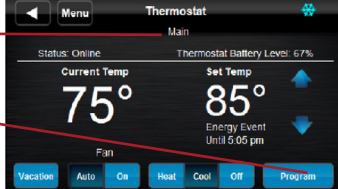




# Programming Your WT-100 Wireless Thermostat

Your WT-100 Wireless Thermostat comes pre-programmed with recommended heating and air conditioning settings from Energy Star. To modify this program:

- 1 From the Main Menu, tap **Thermostat**.
- 2 If you have more than one thermostat, select the one you want to adjust.
- 3 Tap **Program**. **Tip:** On the Program page, you will notice that there are four (4) Program Events (Wake, Leave, Return, Sleep) for each day of the week. You can set a different start time and temperature for each Event for each day of the week, or copy the same schedule to all days of the week.



- 4 Select the day you want to adjust.
- 5 Select the Program Event that you want to change (Wake, Leave, Return, Sleep).
- 6 Adjust the start time Event by tapping the **Up** and **Down** arrows on the screen. An Event ends when the next one begins.

- 7 Select your desired Heating and Cooling set temperatures for the Event.
  - The Heat set temperature is used when your thermostat is in Heat mode.
  - The Cool set temperature is used when your thermostat is in Cool mode.

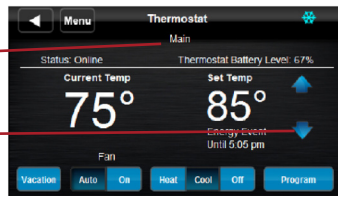
- 8 Tap **Next** if you want to adjust the temperature or start time for the next Event (repeat Steps 6 and 7 for any other Event you want to change), or tap **Save and Close** if you are finished adjusting the Events for that day.

- 9 To copy the schedule you have created to other days, tap **Copy To** and choose the days you want to copy the current schedule to.

**Note:** When you finish changing the program, the EC-100 will send the program wirelessly to the WT-100 Wireless Thermostat. This process may take several minutes to complete.

## Initiating a Two (2) Hour Hold

- 1 From the Main Menu, tap **Thermostat**.
- 2 If you have more than one thermostat, select the one you want to adjust.
- 3 Tap the **Up** and **Down** arrows to change your set temperature. The thermostat will automatically hold your new set temperature for two (2) hours.



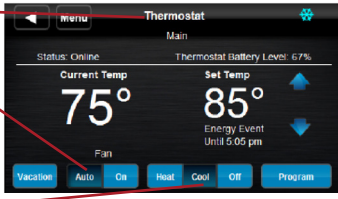
- 4 To return to your regularly-scheduled Thermostat Program Event before the end of the two (2)-hour hold, tap **Cancel**. See "Programming Your WT-100 Wireless Thermostat" if you want this to be a permanent change.

**Note:** By default, your set temperature and current temperature are displayed in Fahrenheit. You may change to Celsius in the Settings screen (access from the Main Menu).

## Changing Your Thermostat Mode

If you want to change your mode: Heat, Cool, Fan, follow these steps.

- 1 From the Main Menu, tap **Thermostat**.
- 2 At the bottom of the thermostat screen, set the Mode (Heat, Cool, or Off). **Tip:** In the Off mode neither the furnace nor the air conditioner will turn on regardless of the temperature of your home.
- 3 Set the Fan state (Auto or On).



## Vacation Hold

If you're going to be away from your home for an extended period of time, but you do not want to turn your thermostat off, you may set a "Vacation" hold.

- 1 From the Main Menu, tap **Thermostat**.
- 2 If you have more than one thermostat, be sure to select the one you want to adjust.
- 3 Tap **Vacation**.
- 4 Choose your Mode (Heat, Cool).
- 5 To apply Vacation hold, tap **Start**.
- 6 To end the Vacation hold, tap **Cancel**.



- 7 Repeat these steps for the other thermostats in your home.

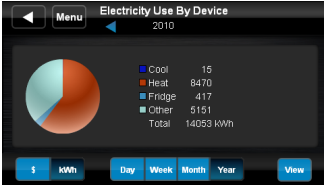
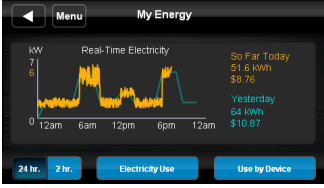
## My Energy

Your EC-100 lets you see how much electricity your home uses.

**Note:** It will take several days, weeks, and months for all charts to show valuable data, as the EC-100 gathers data over time.

From the Main Menu, tap **My Energy**.

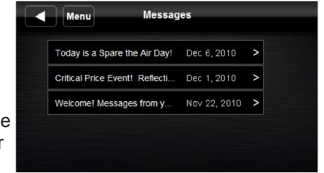
You can then view your current Real Time Electricity, or select either **Electricity Use** or **Use by Device** to see more detailed energy consumption data.



- View the data in terms of cost (\$) or electricity consumption (kWh).
- Select the unit of time (Day, Week, Month, Year), and review other time periods by tapping the arrows next to the displayed date range.
- Tap **View** to view different data, compare with different time periods, chart your home's electricity usage with other homes like yours or with the outside temperature, and more.

## Messages

From the Main Menu, tap **Messages** to view messages from your utility company.



Using the EC-100, your utility can use the smart meter and its connected advanced metering infrastructure (AMI) network to better communicate with you.

These messages can be helpful notices to encourage energy efficiency that include tips on lowering bills or simple "spare the air" reminders. The utility also can alert you with more critical information as demands on the electrical infrastructure change.

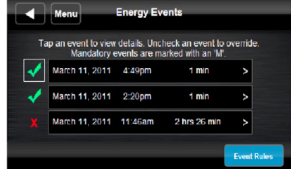
The messages can include Demand Response event notifications, potential service status alerts, critical peak demand times or changes in pricing.

Depending on the urgency of the messages, you can view a simple notification on the bottom left of the Home Screen (less critical) to pop up messages that take over the entire screen and require user confirmation (more critical).

Literally, your EC-100 can be used to keep you out of the dark when important changes in your electrical service are occurring.

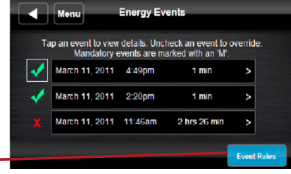
## Energy Events

Energy Events allow you and your utility to manage your electricity use by making energy-efficient changes to your heating and cooling system during peak times of electricity cost and/or use. Energy Events are initiated based on event rules, and cause a red "Energy Event" notice to appear on the Home Screen. It is possible to override all non-mandatory Energy Events by tapping the green check next to the event you wish to override.

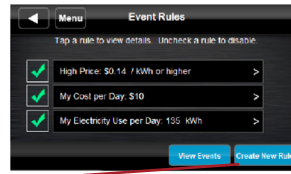


Some configurations of the EC-100 will enable you to create your own Energy Event rules to help you manage your electricity use based on your desired limit for price of electricity (where applicable), daily cost or electricity use:

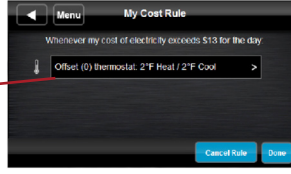
- 1 Start by tapping the **Event Rules** button. Initially, there may be no rules displayed, or one or more rules defined by your utility company which you can modify or disable. This screen will also list rules which you create.



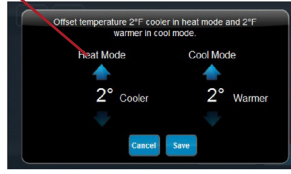
- 2 Tap **Create New Rule** and select from one of the available rule types: High Price (where applicable), My Cost, or My Electricity Use. Once you have selected a rule type, you will set your desired limit which initiates the energy event.



- 3 By default, an Energy Event will offset the temperature of your thermostat by 2 degrees from your set temperature in both Heat mode and Cool mode. If you wish to increase the temperature offset, tap the **Offset thermostats** button.



- 4 Increase the temperature offset for Heat mode and/or Cool mode by tapping the up arrows. Generally, the more you offset the temperature, the less electricity you will use, and the more money you will save.



**Note:** You may define only one of each type of rule. Rules may be modified, or deleted and then recreated with new limits for price, cost or use. In case rules initiate overlapping energy events, only one rule will be applied, based on the following order of priority:

1. Demand Response (utility-defined)
2. High Price (user-defined, where applicable)
3. My Cost (user-defined)
4. My Electricity Use (user-defined).

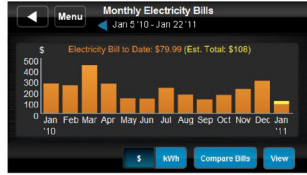
## Utility Bills

(if supported by your utility)

Your EC-100 lets you view your utility bills. **Note:** This billing information may not be available from your utility company.

From the Main Menu, tap **Utility Bills**.

View bill data over a specific time period, or tap **Compare Bills** to compare detailed use and billing.



	Jan 11 (Est.)	Jan 10	Change
Days in Billing Cycle	31	31	0
Total Electricity Bill	\$215	\$206.15	▲ \$9
Peak Time Rebate		\$0.00	
Total Cost of Electricity	\$190	\$194.52	▲ \$3.48
Avg. Cost per Day	\$11.92	\$10.08	▲ \$1.48
Total Use	3025 kWh	2852 kWh	▲ 173 kWh
Avg. Use per Day	120 kWh	92 kWh	▲ 22 kWh

## Troubleshooting

If the EC-100 is not working:

- Ensure that the power adapter is firmly plugged into the base of the EC-100.
- Move the EC-100 closer to the home's smart meter.
- Avoid placing the EC-100 near 2.4 GHz wireless phones and microwave ovens.

Refer to the *EC-100 Energy Controller Setup Guide* for additional information about setting up and configuring your new EC-100 Energy Controller.

## Regulatory/Safety Information

**IMPORTANT!** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

To review regulatory information for your particular Control4 products, see the information located on the Control4 website at: <http://www.control4.com/regulatory/>.

## Limited Warranty

For complete warranty information, including details on consumer legal rights as well as warranty exclusions, visit [www.control4.com/warranty](http://www.control4.com/warranty).

## Open Source Code

The GPL source code contained in this product is available as a free download from [www.control4.com/opensource/](http://www.control4.com/opensource/).

## Recycling

For information on recycling, please go to [www.control4.com/recycling](http://www.control4.com/recycling).



## About this Document

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Part Number: 200-00213 Rev C 3/1/2012



## **Regulatory Compliance & Safety Information for Control4 Model C4-EC100EXT-BL**

### **Electrical Safety Advisory**

#### **Important Safety Information**

Read the safety instructions before using this product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time. This equipment uses AC power which can be subjected to electrical surges, typically lightning transients which are very destructive to customer terminal equipment connected to AC power sources. The warranty for this equipment does not cover damage caused by electrical surge or lightning transients. To reduce the risk of this equipment becoming damaged it is suggested that the customer consider installing a surge arrestor.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Use the mains plug to disconnect the apparatus from the AC mains. The mains plug shall remain readily operable.
16. To completely disconnect unit power from the AC mains, disconnect the unit's power cord from the mains socket. To reconnect power, plug the unit's power cord into the mains socket following all safety instructions and guidelines.
17. Caution: Danger of explosion if lithium battery is incorrectly displaced. Replace only with the same or equivalent type. Battery should only be replaced by qualified personnel and is not intended as a user serviceable part. Do not expose batteries or battery pack to excessive heat such as prolonged sunlight, fire or other heat sources.

- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in fire or electric shock.
- This product can interfere with electrical equipment such as tape recorders, TV sets, radios, computers and microwave ovens if placed in close proximity.



The lightning flash and arrow head within the triangle is a warning sign alerting you of dangerous voltage inside the product



Caution: To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.



The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.

**See marking on bottom / back of product**



**Warning!** To reduce the risk of electrical shock, do not expose this apparatus to rain or moisture

**AVERTISSEMENT!** Pour réduire le risque de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

**WARNUNG!** Um das Risiko des elektrischen Schlages zu verringern, setzen Sie diesen Apparat nicht Regen oder Feuchtigkeit aus.

Save these instructions

## USA & Canada Compliance

### **FCC Part 15, Subpart B / ICES-003 Unintentional Emissions Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules and Industry Canada ICES-003. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



This device complies with part 15 of the FCC rules and Industry Canada ICES-003. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**IMPORTANT!** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

**IMPORTANT!** Tous les changements ou modifications pas expressément approuvés par la partie responsable de la conformité ont pu vider l'autorité de l'utilisateur pour actionner cet équipement.

Compliance of this equipment is confirmed by the following label that is placed on the equipment:



#### **FCC Part 15, Subpart C / RSS-210 Intentional Emissions Interference Statement**

Compliance of this equipment is confirmed by the following certification numbers that are placed on the equipment:

**Notice:** The term "FCC ID:" and "IC" before the certification number signifies that FCC and Industry Canada technical specifications were met.

FCC ID: R33EC100  
IC: 7848A-EC100

This equipment must be installed by qualified professionals or contractors in accordance with FCC Part 15.203 & IC RSS-210, Antenna Requirements. Do not use any antenna other than the one provided with the unit.

This device has been designed to operate with the antennas listed below, and has a maximum gain of 2.0 dBi. Antennas not included in this list or having a gain greater than 2.0 dBi are strictly prohibited for use with this device. The required antenna impedance is 50Ω.

Pulse Model WL1030  
Socaa Corp., Ltd. Model AS119-M

#### **RF Radiation Exposure Statement**

This equipment complies with the FCC/IC radiation exposure limits set fourth for portable transmitting devices operation in an uncontrolled environment. End users must follow the specific operating instructions to satisfy RF exposure compliance.

- The equipment should only be used or installed at locations where there is normally at least a 20cm separation between the antenna and all persons.



- This transmitter must not be co-located or operation in conjunction with any other antenna or transmitter.
- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

#### **About this Document**

Part Number 200-00284 Rev A, 11/3/2011