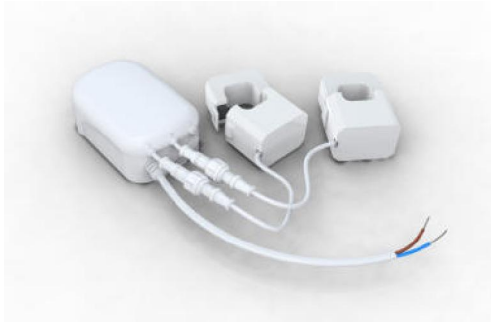# Aeotec Home Energy Meter

Z-Wave Home Energy Meter – 2nd Generation

You hear a lot about energy use these days. About how if we reduce the amount of energy we use we can not only save money but also save the environment. But saving money by using less electricity is only possible if we understand when and how we use it. That's what the Aeotec Home Energy Meter's provides you with – understanding.

Installed in an electricity box, the energy meter will monitor the total consumption of electricity used by an entire building. And its intelligent clamps will report that energy use back to your Z-Wave gateway or controller, in watts or kilowatt-hours, and in real time. So you can see how much electricity you really use and when you use it.
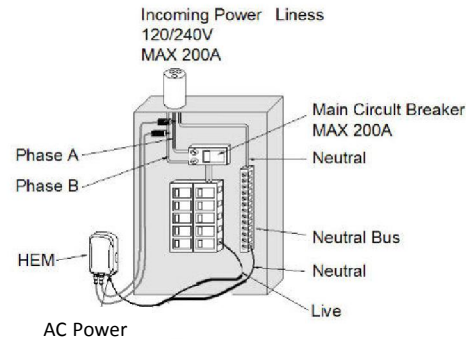
Quick Start

The installation of your Aeotec Home Energy Meter has two major parts: the installation of the meter into your Z-Wave network, and the installation of it into your AC mains electricity box. What follows are the instructions for both parts. The electrical installation of your meter into your circuit box should only be done a licensed electrician with knowledge and understanding of electrical systems and electrical safety. You can perform the second half of the installation process, linking the meter with your Z-Wave network, yourself.

AC Power

Unless otherwise stated, the circuit box's main breaker should be turned off to perform these installation steps.

1. Turn the main breaker off.
2. Open the main circuit box panel.
3. Clip both clamps of the meter around the incoming electricity cables that connect to the main circuit breaker.
4. Insert one of AC Power exposed wires into one of the neutral bus terminals and the other exposed wire into the live terminals coming from the main circuit breaker.
5. Replace the main circuit box panel.
6. Turn the main breaker back on.

It is now time to place the main body of the Home Energy Meter. Inside the meter is a radio antenna used for communications, and this must be taken into consideration when selecting a location for the meter.

If the circuit boxes is made of metal the radio signal strength may be reduced. In this situation it is recommended that the main body of the meter be affixed outside the circuit box. This will improve the radio signal strength. The Home Energy Meter has been weatherized to the international IP43 standard so that it is resistant to rain and snow when placed vertically with the wires protruding from the bottom of the unit.

To place the Home Energy Meter:

1. Unslot the backing plate from the back of your meter.
2. Affix the plate to the selected wall space using the provided screws.
3. Attach your meter to the backing plate.

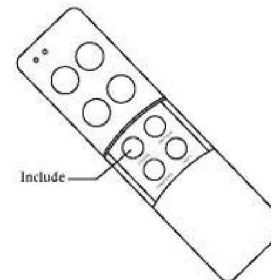**Link meter with an existing Z-Wave network**

After an electrician connects your Home Energy Meter to your electrical mains, you should link the meter to your Z-Wave network. The following instructions tell you how to do this using Aeotec's Z-Stick and Minimote controllers. If you are using other products as your main Z-Wave controller, please refer to the part of their respective manuals that tells you how add new devices to your network.

If you're using a Z-Stick:
1. If your Z-Stick is plugged into a gateway or a computer, unplug it.
2. Take your Z-Stick to the electricity box in which your meter has been installed.
3. Press the Action Button on your Z-Stick.

If you're using a Minimote:
1. Take your Minimote to the electricity box in

   which your meter has been installed.
2. Press the Include button on your Minimote.

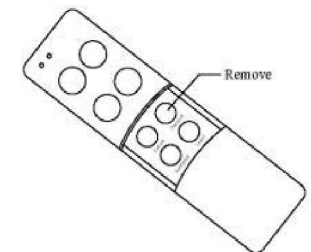For either the Z-Stick or Minimote:
1. Press the Action Button on your meter.
2. If your meter has been successfully linked to your network, its light will remain solid for 1 second. If the linking was unsuccessful the light will blink after pressing your meter's Action Button.
3. Press any button on your Minimote or the Action Button on the Z-Stick to take it it out of installation mode.

Removing your meter from a Z-Wave network

Your meter can be removed from your Z-Wave network at any time. You'll need to use the main controller in your Z-Wave network to do this. The following instructions tell you how to do this using Aeotec's Z-Stick and Minimote controllers. If you are using other products as your main Z-Wave controller, please refer to the part of their respective manuals that tells you how remove devices from your network.

If you're using a Z-Stick:
1. If your Z-Stick is plugged into a gateway or a computer, unplug it.
2. Take your Z-Stick to the electricity box in which your meter has been installed.
3. Press the Action Button on your Z-Stick.

If you're using a Minimote:
1. Take your Minimote to the electricity box in which your meter has been installed.
2. Press the Remove button on your Minimote.

For either the Z-Stick or Minimote:
1. Press the Action Button on your meter.

2. If your meter has been successfully removed from your network its light will blink for 1 second. If the removal was unsuccessful the light will be solid after pressing your meter's Action Button.
3. Press any button on your Minimote or the Action Button on the Z-Stick to take it it out of removal mode.

Waking the Home Energy Meter to Receive Commands

Tap the button located near the batteries – The Home Energy Meter will stay awake for 10 seconds.

Alternatively, the Home Energy Meter is always communicable to commands sent by the latest Z-Wave protocols (4.51 and newer).

Associating the Home Energy Meter to Report Automatically

Please refer to "Engineering Spec – Aeotec Home Energy Meter.pdf" (Only 1 Association Group).

Monitoring Energy Consumption

The Aeotec Home Energy Meter can report wattage energy usage or kWh energy usage to a Z-Wave gateway or controller when requested. If this function is supported by the gateway/controller, the energy consumption will be displayed in the user interface of the gateway/controller. (The specific Z-Wave commands supporting energy monitoring are the Meter Command Class and Multilevel Sensor Command Class.) Please consult the operation manual for these gateways/controllers for specific instructions on monitoring the Home Energy Meter.

Technical Specifications

USA Version:
Model number: DSB28-ZWUS
Input: 120V~, 60Hz, 0.01A.
Measure range of voltage: 0VAC-to 150VAC.
Measure range of current: 0A to 200A.
Ambient temperature: -4F° to 140F°.

Warranty

Aeotec warrants to the original purchaser of Products that for the Warranty Period (as defined below), the Products will be free from material defects in materials and workmanship. The foregoing warranty is subject to the proper installation, operation and maintenance of the Products in accordance with installation instructions and the operating manual supplied to Customer. Warranty claims must be made by Customer in writing within thirty (30) days of the manifestation of a problem. Aeon Labs' sole obligation under the foregoing warranty is, at Aeon Labs' option, to repair, replace or correct any such defect that was present at the time of delivery, or to remove the Products and to refund the purchase price to Customer.

The "Warranty Period" begins on the date the Products is delivered and continues for 12 months.

Any repairs under this warranty must be conducted by an authorized Aeotec service representative and under Aeon Labs' RMA policy. Any repairs conducted by unauthorized persons shall void this warranty.

Excluded from the warranty are problems due to accidents, acts of God, civil or military authority, civil disturbance, war, strikes, fires, other catastrophes, misuse, misapplication, storage damage, negligence, electrical power problems, or modification to the Products or its components.

Aeotec does not authorize any person or party to assume or create for it any other obligation or liability in connection with the Products except as set forth herein.

Aeotec will pass on to Customer all manufacturers' Material warranties to the extent that they are transferable, but will not independently warrant any Material.

Customer must prepay shipping and transportation charges for returned Products, and insure the shipment or accept the risk of loss or damage during such shipment and transportation. Aeotec will ship the repaired or replacement products to Customer freight prepaid.

Customer shall indemnify, defend, and hold Aeotec and Aeon Labs' affiliates, shareholders, directors, officers, employees, contractors, agents and other representatives harmless from all demands, claims, actions, causes of action, proceedings, suits, assessments, losses, damages, liabilities, settlements, judgments, fines, penalties, interest, costs and expenses (including fees and disbursements of counsel) of every kind (i) based upon personal injury or death or injury to property to the extent any of the foregoing is proximately caused either by a defective product (including strict liability in tort) or by the negligent or willful acts or omissions of Customer or its officers, employees, subcontractors or agents, and/or (ii) arising from or relating

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THE INDEMNITY AND WARRANTY IN ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER INDEMNITIES OR WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

FCC NOTICE (for USA):

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This device complies with Part 15 of the FCC Rules. 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. 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. These limits are designed to provide reasonable protection against harmful interference 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.

Warning:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

Certifications Note:

symbols	
C	This product has been tested to the requirements of CAN/CSA-C22.2 No. 61010-1, second edition, including Amendment 1, or a later version of the same standard incorporating the same level of testing requirements
▢	Double insulation
⚠	Caution, risk of danger
ETL us Intertek 4005555	CONFORMS TO UL STD 61010-1, IEC 61010-2-032; CERTIFIED TO CSA STD C22.2 NO. 61010-1, IEC 61010-2-032

Harmonizing the Smart Home.
Aeon Labs LLC.
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