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Quick Start Guide - ZOE®-RE Model # 5010R
Smart Energy HAN Range Extender

Product Brief

The ZOE-RE provides the means to easily extend the range of your ZigBee® Smart Energy devices as well as increase the strength of your ZigBee SE wireless network.

The built-in high power ZigBee SE certified radio joins the SE network as a ZigBee Pro router and then facilitates the joining of devices that may not be within range of the Energy Service Portal (ESP-usually the smart meter.) Use of the ZigBee SE Profile ensures compatibility with the emerging standards for smart homes/buildings being deployed around the world.

Always ON Outlet

Program Button

Status LED

Installation

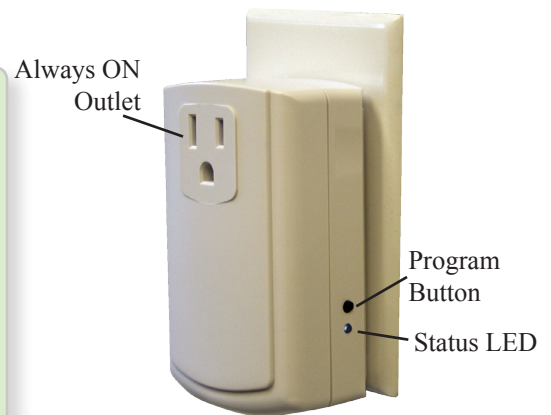The ZOE-RE must be installed indoors or in a weather proof enclosure

1. **Register ZOE-RE with Utility**

   • Register the device with your electric utility using the included installation code and the instructions provided by the utility. Each code is unique to a particular controller, so please ensure the provided numbers are entered correctly.

2. **Reset to Factory Defaults**

   • Press and hold the Program Button while plugging the ZOE-RE into a 120V* AC receptacle and release after 1-2 seconds.
   • The Status LED will blink rapidly indicating the ZOE-RE has been reset and is searching for an open SE network to join.

   (*240VAC input is acceptable, but the unit is equipped for North American receptacles)

Set-up

Attaching device to the Home Area Network (HAN)

The ZOE-RE must be joined to the HAN so it can communicate with the electric utility to receive load events and price information. Ensure the device is powered and that the HAN coordinator or a router is open for joining. Then proceed as follows:

1. Once the ZOE-RE is plugged in and reset, it will begin searching for a an open network. LED is flashing rapidly.

2. After the device completes the joining process, the Status LED will be lit solid unless the coordinator (ESP or Smart Meter) requests the device to open permit join. The LED will remain flashing fast if the device is unable to join the HAN. (Refer to LED pattern chart on pg.2)

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Open Permit Join

In addition to extending the range of ZigBee SE devices, the ZOE-RE also serves as a router and allows other ZigBee SE devices to join the HAN. After the ZOE-RE has already joined the network (LED is solid), proceed as follows:

1. Press and hold the Program Button for 6 seconds. The Status LED will begin to flash once per second. The ZOE-RE will allow joining of other devices for up to 4 minutes. Pressing the Program button for ~3 seconds while in permit join mode will close join.

2. Join the new ZigBee SE device to the network according to the join method of that device.

3. When the ZOE-RE has timed out for join permission, the Status LED will return to solid.

Rejoin

If the ZOE-RE loses power or needs to be moved to a new location, the device will rejoin the network automatically once power has been restored. The Status LED will flash fast until the device re-establishes communication with the network. After the ZOE-RE rejoins the network, it will go into Open Permit Join mode, and flash once for second for ~4 minutes.

If the device cannot establish connection with the network, the Status LED will blink two quick blips per second to indicate that it cannot find the network and will automatically try to rejoin again in 15 minutes. Alternatively, the Program Button can be held for ~3 seconds to force rejoin.

Program Button Additional Operation		
Desired Operation	**Action on Pushbutton**	**Device Behavior**
Leave Network	Press and hold for 15 seconds (works like a factory reset)	Status LED will begin Fast Flashing
Close Join	Press and hold for 3 seconds when device is in Open Join	Status LED will stop flashing
Request New Firmware via OTA	Tap 6 times	LED will quick blip off, once every second while OTA update is in progress
Soft Reset	Tap 10 times	both LEDs will go out for about a second and then device will rejoin network

Status LED Indication	
Pattern	**Indication**
Fastest flashing	Searching for open HAN
Solid	HAN joined and Permit Join is closed
Flash once per second	Permit Join is open
Two blips per second	Device cannot find "Parent Device" and/or network it was joined to

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