SS9006 Range Extender
Quick Reference

1. Overview

The SS9006 Range Extender enables Saturn Energy networks to be extended through large sites in which the site gateway cannot be placed in close proximity to all devices in the network. The SS9006 Range Extender uses mesh networking technology to improve network reliability and provide redundancy in ZigBee Home Automation networks.

2. LED Indications

The Range Extender has a single LED for indicating the status of the device

Blink Pattern	**Meaning**
Rapid Green/Red blinking	Device is in Factory Reset state
Solid green (for up to 10 seconds)	Device is scanning for a network to join to
Red with short green blink every 4 seconds	Device is paired to a network and functioning normally
Fast green blink for 4 seconds	Device has successfully paired or re-joined to a network
Fast red blink for 4 seconds	Device has attempted to pair to or re-join a network and has failed. If the device was previously paired this indicates that it is currently out of range.

3. Button Press Sequences

Feature Name	Button Action	Intention of press	Comments
Factory Reset	Press and hold button for 11 seconds	Performs factory reset	The Range Extender will leave the network it is paired to and will be returned to Factory Reset state
Pair Device	Press and hold button for 5 seconds	Pairs this device to a network that has Permit Joining enabled	This operation will only succeed when the device is in Factory Reset state
Enable Permit Joining	Tap the button once	Will enable Permit Joining mode on this device only, enabling other devices to be paired to the network	Tap again to disable

4. Usage Guidelines

The SS9006 Range Extender is commonly used to bridge the gap between the ESBox/Gateway and devices in the switchboard. In this scenario, it is best to place the Range Extender as close as possible to the switchboard to provide the best possible network link for switchboard devices.

Once the Range Extender is deployed to a site, it is recommended that a signal strength test be conducted between the ESBox and the Range Extender. This can be done using the 'Start Test' button in the Link Quality section of the Range Extender view on the ESBox's Devices page.

The signal strength result should be roughly symmetrical, as in the example above, and ideally the Range Extender – ESBox connection should have a consistent reported signal strength of at least 35% to ensure long term stability of the network.

If it is determined that a Range Extender needs to be added to a network that is already deployed (e.g. a Mini CT Meter is paired to an ESBox but the quality of the connection is not good enough), the following process is recommended:

1. Factory reset all devices in the network
2. Pair the Range Extender to the ESBox and perform a Link Quality test as described above
3. Enable Permit Joining mode on the Range Extender, either by pressing the button on the Range Extender once, or by enabling Permit Joining on the ESBox again once the Range Extender is paired
4. Pair the meter to the network

This will ensure that the meter is communicating via the Range Extender for the purposes of accelerating the installation and verification process.