

EnviroGrid™ Demand Controllers

Automated Demand Management & Demand Response Solution



Plug Into The SmartGrid Today

- Integrated Demand Management and Demand Response Solution
- No Building Automation System Required
- Self Configuring, can be installed in minutes
- Generates savings in the first month installed
- Web based monitoring and control

Robust, Flexible, Easy To Use

REGEN Energy™'s EnviroGrid™ automated demand management and demand response controller can be installed onto any electrical heating, cooling or discretionary electrical load. The controllers will dramatically reduce peak electrical demand by up to 30% in commercial, industrial or multi-unit residential properties. EnviroGrid™ controllers are based on patented swarm logic that enables automated management of all loads connected to an EnviroGrid™ enabled building, able to implement a range of *smart grid* applications. The controllers provide on-going management of duty cycles and reduce energy to cut heating and cooling costs while maintaining occupant comfort.

EnviroGrid™ controllers are as easy to install as a thermostat and can be installed in minutes. Unlike traditional control systems, no special training is required, there is no need for an expensive

building automation system, and there is no expensive wiring required. Every EnviroGrid™ controller has a built-in self-configuring radio that establishes a wireless mesh network. Property managers and service firms can monitor the activity of all connected equipment from a secure web portal provided by REGEN Energy™; this feature comes bundled with all EnviroGrid™ enabled solutions.

REGEN™ EnviroGrid™ controllers can also be configured to run in Demand Response mode. Customers who wish to take part in regional demand response programs through load aggregators can easily reduce electrical consumption whenever a demand call is issued – and using EnviroGrid's swarm logic methods, the effect is very subtle so that occupants do not feel any significant change in comfort. REGEN Energy™ provides load aggregation services in partnership with local power authorities in various regional markets and U.S. states.

REGEN™ controllers are an ideal solution for new or existing buildings that have an electrical load that exceeds 200kW and square footage that ranges from 25,000 square feet to over 1 million square feet. To find out about other EnviroGrid™ applications visit www.REGENenergy.com.



EnviroGrid™ RM2-0001

Technical Specifications

Enclosure

- Weatherproof, flame retardant plastic
- Dimensions (in mm/inches – See figure)
 - A: 10.85/4.27
 - B: 15.89/6.25
 - C: 2.98/1.17

Installation

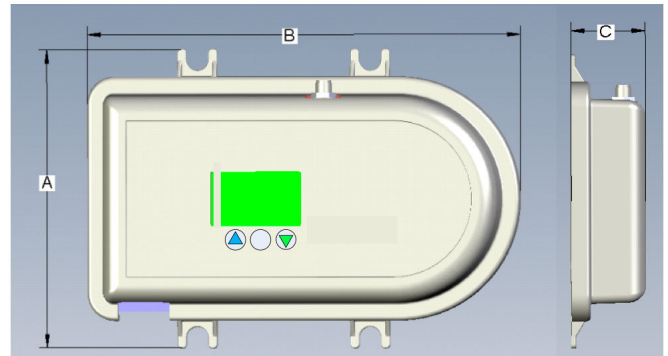
- Screw-mount using screw tabs
- Pre-kitted with 4'ft of 12 conductor cabling
- 2 Clamp-on current sensors (can attach up to 3)

Communications

- 2.4 GHz band (2405MHz – 2480MHz) channel selectable
- Microchip MRF24J40 ZigBee Transceiver
- External modem capability to send monitoring data or receive control requests
- Up to 800 metres (875 yards) communication distance between controllers
- Repeater functionality to extend range of network
- Available magnetic mount extension for antenna

Control

- Microchip PIC18LF8723 microcontroller
- 1 – 2 stage control of HVAC units (Internal relays 30VAC)
- 3 or more stage control of HVAC units (external relays)
- High voltage control of resistive heaters (external contactors)
- High voltage control of domestic hot water tanks (600VAC with external contactors)
- 1 – 2 stage control of heat pumps
- Thermostatic control of freezer units (Internal 30VAC)
- 0-100% duty cycle settings



Sensors

- Up to 3 phase 600VAC monitoring
- 0-15 Amps per phase low current monitoring
- 0-30 Amps per phase medium current monitoring
- 0-65 Amps per phase high current monitoring
- Custom designed very high current monitoring
- Custom designed sensors for other requirements

Certification

- FCC and IC Certified
- ULC and ULUS Certified

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