

The Cornerstone for an Evolved Electrical Grid

The ERMCO Grid Energy Router offers utilities a new set of tools to improve electrical distribution efficiency and reliability at the grid edge, while simultaneously integrating distributed generation resources.

The electrical distribution grid is facing new challenges that are far beyond the original intended design. Today's power challenges include highly variable electrical loads and distributed points of generation. These factors create stress on traditional grid equipment. The GER helps to solve many of those issues.

- ✓ **Demand Management**
- ✓ **New Rates & Services**
- ✓ **Feeder Knowledge with Capability**
- ✓ **Future-ready for DC Devices**



Precision Control:

Advanced electronics deliver precise power control to the grid edge.

Unparalleled Feeder Knowledge & Capabilities:

Offers real-time feeder information and controls issues locally without relying on additional equipment.

Readiness for Distributed Resources:

Enables seamless integration of distributed generation and energy storage.

Offload Substation Stresses & Increased Safety:

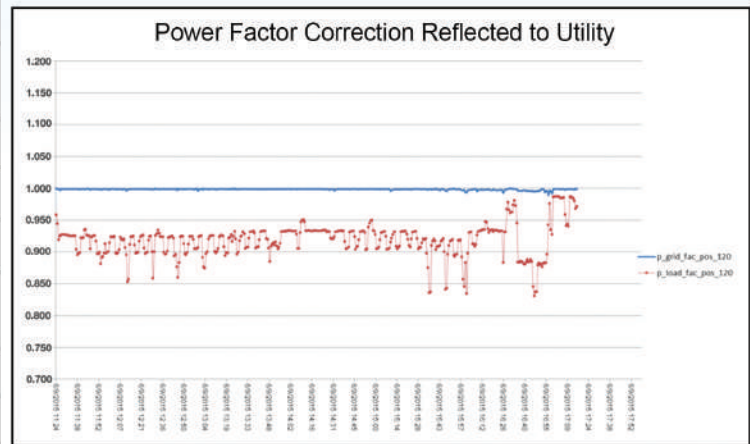
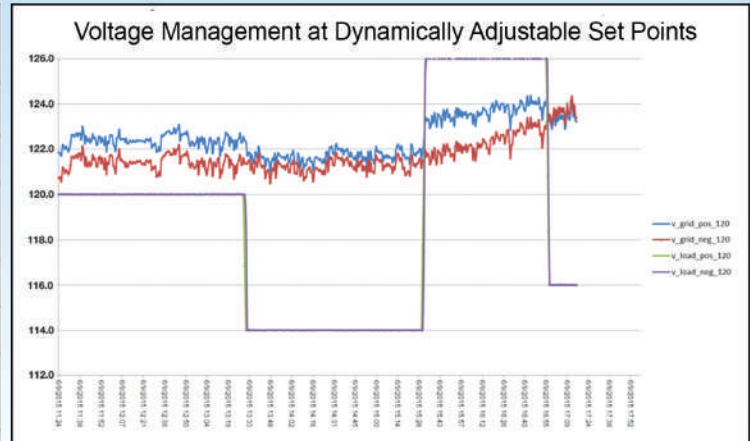
Avoids adding additional requirements to the over-stressed substation through local autonomous management at the distribution transformer.

Traditional Form Factor & Installation:

Follows the same connectivity and physical installation procedures as traditional padmount transformers.



Electronics Specifications	
Nominal Input/Output Voltage	120/240 VAC Split Phase
Rated Power	50kVA (240VAC @ 200A)
Operating Temperature Range	-40°C to +55°C
Efficiency	>99% at/or Near Full Load
VAR Compensation Range	Variable up to +/-5kVAR
Voltage Regulation	Independent Control on Each Leg, Buck or Boost
Output Voltage Regulation	Input +/-10VAC (exceeds ANSI C 84.1 range)
Voltage & Current Harmonic Distortion	<3% (per IEEE 519)
Management	Remotely Upgradeable Software
Remote Network Connection	Wireless Radio 2G (or greater)
Local Network Connection	802.11 a/b/g/n or Bluetooth Available
Interface	Graphic User Interface with Dashboard
Data Integrity	SSL & TLS Protocols
Dimensions	Approx. 26"W x 38"H x 39"D



USER INTERFACE: System Status - Configuration - Variable Graphing

The screenshot displays the Grid Energy Router GUI. On the left, there's a 'Summary Data' panel with various system metrics. The main area shows 'System in Bypass Mode' with a 'Load (V) Setpoint' of 120.0. Below this, there are several line graphs for 'v Grid', 'v Load', 'v I Load', and 'v Reactive', each showing data over a 24-hour period.

This screenshot shows the configuration and scheduling interface. The 'Grid Energy Router Parameters' section includes 'Load (V) Setpoint: 120.0' and 'Mode: Regulation with PFC'. Below this is a 'Daily Schedule' table with columns for 'Start Time (h:mm)', 'System Mode', and 'Load (V) Setpoint'. The schedule is set to 'Bypass' mode at a 'Load (V) Setpoint' of 120.0 for all 24 hours.

Operational Benefits

- ✓ Double digit efficiency improvement from voltage management delivers quick ROI.
- ✓ Manage peak buys and pursue Conservation Voltage Reduction with confidence.
- ✓ Create smaller, self-operating cells that offload demand on substation.
- ✓ Detailed Power Quality metering at the grid edge for precision insight and theft detection. Seamless integration of renewables and energy storage.

