

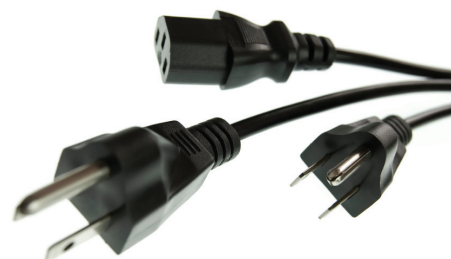
# Enmetric**Systems** ENTERPRISE PLUG LOAD MANAGEMENT

[www.enmetric.com](http://www.enmetric.com)



**Plug loads are the fastest growing segment of commercial electrical demand, consuming 20% to 60% of all electricity in offices.**

Enmetric's revolutionary plug load management system provides a practical solution for increasing electrical efficiency by measuring, controlling, and managing electrical plug loads individually.



Enmetric provides insight into plug load demand throughout your entire organization to save energy strategically.

Enmetric's flexible, rule-based enterprise system can work in the background and automate savings:

- Spot unnecessary electricity use to reduce base loads
- Manage peak loads to lower demand charges
- Control discretionary plug loads during demand response events
- Stop wasting electricity outside of business hours
- Educate managers and employees to promote efficiency
- Establish and disseminate best electrical efficiency practices

With Enmetric, saving electricity in offices becomes easy and profitable.

**Begin managing plug loads throughout your enterprise today.**



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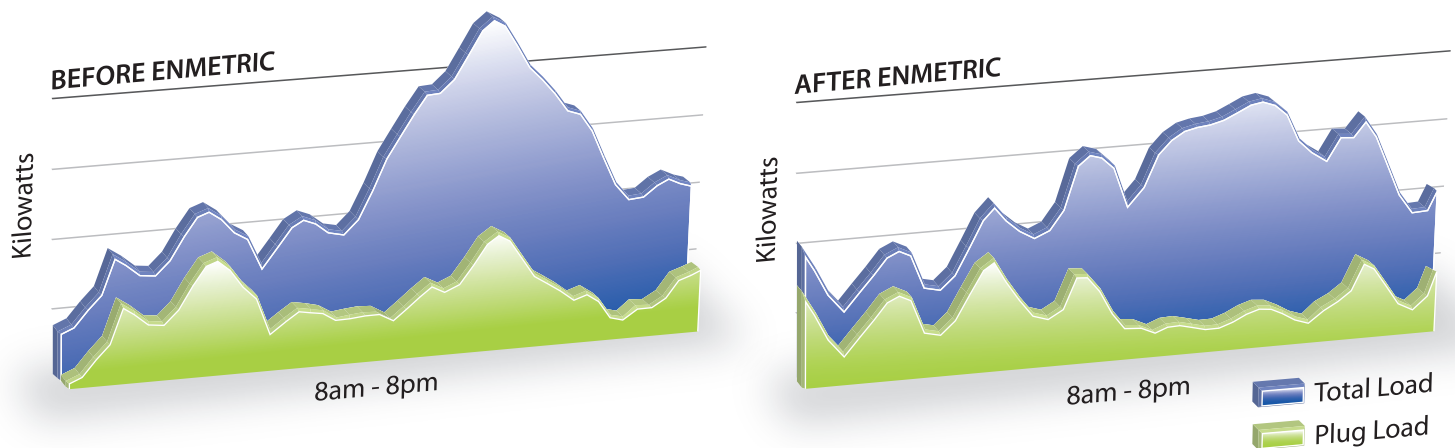
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# Features & Benefits

## Plug Load Management Saves Energy

The Enmetric system employs multiple strategies to reduce base-load, peak demand, and off-hours plug load energy consumption.

By taking advantage of demand response (DR), peak-daily (PDP), and time of use (TOU) pricing structures, Enmetric's plug load management can reduce your plug load costs by up to 50%, resulting in system payback-periods of less than 3 years.



## Key Features

### Rules-based control automation

Set energy use policies to automatically reduce peak- and base-load consumption

### Cloud-based Web services

Rapidly scalable service for even the largest enterprise; requires no on-site server hardware

### 4-Channel Power Port

Economical solution that meets typical office needs; simple, intuitive installation

### API Extensions

Fully integrate with existing building management systems

### Device-level monitoring and control

Each outlet is independent; delivering unprecedented data granularity and control

### 802.15.4 Wireless Communication

Reliable, low-power wireless communication is cost-effective and easy to deploy

### OpenADR Compliant

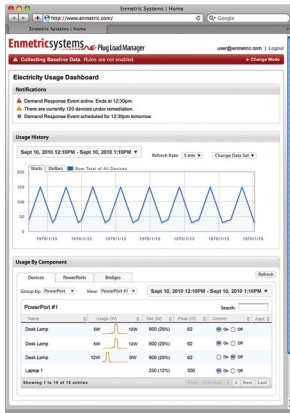
Automate load-shedding with OpenADR Demand Response for plugloads

### Administrative Tools

Generate informative management reports, and rapidly identify critical data

# System Description

## Software



### The Enmetric Enterprise Management Software

The Enmetric Enterprise Plug Load Management Software enables you to set and administer energy use policies across your entire campus:

#### *Measure and Control*

Gain unprecedented insight into your plug load energy expenditures. Quickly identify unnecessary loads, and automatically shut them off.

#### *Administrative Tools*

Generate detailed reports on plug load consumption and demand. Track progress towards efficiency goals.

#### *Rules-based Automation*

Set simple rules to automatically curtail peak demand, reduce base-load demand, and minimize unnecessary off-hours consumption.

## Hardware



### The Enmetric Power Port

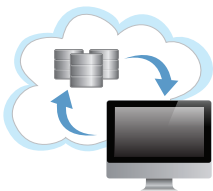
The Enmetric 4-channel Power Port provides high-resolution measurements and control capabilities on each outlet. The Power Port communicates wirelessly, using an internal antenna, to transmit electrical power characteristics (including wattage, voltage, amperage, frequency, and power factor), and to respond to control signals. Each Channel includes a manual override switch, for added flexibility. The Power Port can monitor any standard electrical appliance up to 15 amps.

### The Enmetric Wireless Bridge

The Enmetric Wireless Bridge conveys encrypted data between the Enmetric Power Ports and the Enmetric Data Services. The Bridge may communicate with up to 50 Power Ports, at distances of up to 1000 feet (unimpeded line-of-sight), and connects with the LAN via a standard 10/100 Ethernet port. Each Bridge may be easily configured as a "Repeater" when even greater coverage is needed.



## Services



### The Enmetric Data Service

The Enmetric cloud-based Data Service ensures that your site's data will be available and accessible at all times via any Web-enabled device. The Enmetric Data Service scales rapidly, to accommodate even the largest enterprise installation. The Enmetric Data Service includes our extensive API, to facilitate direct integration with your existing building management systems.

# Technical Specifications and Requirements

**Enmetric**Systems

## Power Port Specifications

|                                    |   |
|------------------------------------|---|
| Data Measurement Frequency:        | Once per plug per second                                |
| Number of Power Outlets:           | 4   |
| Input Voltage:                     | 120V 60Hz   |
| Total Maximum Power:               | 1800 Watts  |
| Total Maximum Current:             | 15 Amps   |
| Maximum Current per Outlet:        | 15 Amps each. Total of 4 outlets cannot exceed 15 Amps. |
| Fuse Rating:                       | 15 Amps   |
| Dimensions:                        | 10" x 4" x 2"   |
| Plug-To-Plug Distance (c-to-c):    | 2 3/8" (60 mm)  |
| Cord Length:                       | 6 feet  |
| Certifications:                    | UL 244A and UL 1363 (pending), FCC Class A+B            |
| Wireless Communication Frequency:  | 2.4Ghz  |
| Antenna Type:                      | Internal  |
| Standby Power Draw:                | ~1 Watt   |
| Vrms Resolution:                   | 0.01V   |
| Irms Resolution:                   | 2mA   |
| Power Resolution:                  | 0.1W  |
| Power Factor Range:                | 0-1.0   |
| V and I Measurement Sampling Rate: | 4096 samples per second                                 |

## Bridge (Gateway) Specifications

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Power Use:                        | 1-4 Watts                             |
| Range of Wireless Communication:  | 1000 feet (unimpeded line-of-sight)   |
| PowerPorts per Bridge:            | Up to 50, subject to site limitations |
| Certifications:                   | UL, FCC Class A+B                     |
| Wireless Communication Frequency: | 2.4Ghz                                |
| Antenna Type:                     | External whip                         |
| Dimensions:                       | 2"L x 3"W x 1"H                       |
| Mounting Options:                 | Mounting tabs, double-sided tape      |
| External Ports:                   | RJ45 Ethernet<br>MMC memory slot      |

## Energy Management Software Requirements

Enmetric's web-based Plug Load Manager software requires a computer or mobile device with an internet connection and an HTML 5 compliant web browser.



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