

Sentilla Energy Manager for Data Centers

Proactively manage energy

The Sentilla Energy Manager for Data Centers measures and monitors electricity at the equipment level providing fine-grained analyses of how and when energy is used. This critical insight is actionable, enabling your IT staff to get ahead of energy problems instead of merely reacting to them.

A common problem in accurately monitoring electricity is knowing precisely where and when energy is consumed. The Sentilla Energy Manager for Data Centers analyzes energy at the equipment level. Whether it is servers, storage, routers or any other data center equipment, the Sentilla Energy Manager for Data Centers enables your IT staff to know the energy consumption of all this equipment.

With an automated system for reading and analyzing electricity usage, your IT staff can optimize the usage of data center equipment and validate the energy consumed in real-time.

Web Interface

The web-based dashboard is the primary integration point for interaction with the Sentilla Energy Manager for Data Centers. This customizable dashboard displays summaries and detailed analyses of the energy usage of your data center equipment. Some of these analyses include:

- current and historical energy consumption
- performance of individual or grouped equipment, such as by customer or by server brand
- trend analysis including ranked charts of consumers and groups of equipment

Decision Framework

With this fine-grained information, your data center manager then sets thresholds for alerts and posts them to the dashboard. These alerts are then used to manage and balance load, identify health of equipment, correlate performance with energy consumption or aggregate consumption for a specific date range, such as a billing cycle.



Through a customizable web-based dashboard, IT staff can glean detailed analyses of energy consumption of data center equipment.

Some of the ways that energy can then be optimized are:

- Ensuring that energy consumption is below desired target
- Ranking and identifying equipment consuming the highest and lowest energy
- Adjusting load when outside of normal conditions
- Verifying that changes optimize energy consumption
- Predicting future consumption based on previous performance

The data needed for these analyses are obtained by measuring RMS current, RMS voltage, aggregate energy, power factor, apparent power, and reactive power at individual data center equipment with the Sentilla Power Analysis Unit. This data and analysis is also available for integration through web services. Both the dashboard and web services are generated by a management server.

Metrics

The Sentilla Power Analysis Unit (PAU) is a wireless appliance that meters and analyzes the electricity consumption characteristics of each piece of equipment. Equipment is plugged into the PAU that provides measurements from every port. With these measurements, periodic reports and alerts are wirelessly transmitted through the gateway to the management server and displayed on the dashboard.

Specifications Summary

- Supports full spectrum of voltage 110-240V
- Complete IP infrastructure
- Smooth integration through web services
- Rack mounted
- Easy-to-use web-based dashboard
- Meets compliance standards

Product Components

Dashboard—web-based graphical user interface, the primary integration point for interaction with the product

Management Server—hosts decision framework, energy data and web interfaces

Power Analysis Unit (PAU)—this device meters and analyzes energy consumption of individual assets at each rack

Gateway—a wireless access point that connects PAUs to the Ethernet infrastructure



By metering and analyzing current and voltage, the Sentilla PAU sends periodic reports summarizing the energy consumption of equipment to the dashboard allowing data center managers to proactively manage energy.

Business Issue	Benefit
Energy-hungry data center	<ul style="list-style-type: none"> • Reduce energy costs • Optimize energy consumption • Minimize carbon footprint and increase social awareness
Power constrained data center	<ul style="list-style-type: none"> • Improve business processes • Add more computing capability without increasing energy consumption • Reduce energy costs
Inaccurate customer billing	<ul style="list-style-type: none"> • Validate customer invoices with precise electricity consumption • Pass on energy management capability to customer <ul style="list-style-type: none"> -Ensure energy consumption is within the bounds specified by their SLA -Re-balance load based on consumption and trends

For additional information, please email sales@sentilla.com or visit www.sentilla.com