Energy & DCIM Management Software/Web GUI
eco Sensors / eco DC

ATEN's eco Sensors and eco DC perfectly synergize with NRGence™ Energy Intelligence PDUs to provide the mechanisms to optimize your energy needs. eco Sensors / eco DC and PDU can measure the Dynamic Rack Cooling Index (RCI) and Return Temperature Index (RTI). This allows data centers to analyze the operational efficiency of equipment versus the cost of cooling, in order to better manage power allocation. These indexes have been incorporated into the U.S. Department of Energy DC Pro software tools for data center energy assessments and the Data Center Energy Practitioner program.

Using ATEN's NRGence™ Energy Intelligence PDU and eco Sensors / eco DC, an administrator's data center is equipped with real time monitoring, measurements and EnPIs analysis that produce reports of power usage, PUE, RCI and RTI to meet the ISO 50001 requirements. With these critical indexes, you can generate customized reports about your data center's energy usage that include energy saving suggestions. Following these suggestions allows you to optimize energy usage and save energy without harming the IT equipment's reliability.

Eco DC is the new Web-based GUI that allows users log in to manage and control PDUs through web browser. No additional install or setup needed. Eco DC can run under any platform and OS. Users can easily manage the power consumption of the data center through intuitive interface and graphics.

ATEN's eco Sensors is available in a Server and Client version. The Server version offers the full functionalities and is capable of managing the PDUs through SNMP and managing client nodes through TCP/IP. This allows multiple users to log in to the server node and manage PDUs in different authorized zones, making distributed PDU management much more efficient under one centralized environment. With the Client version, users can log in to a server node to monitor PDU status and control each outlet on the PDUs. Having the eco Sensors Server and Client version allows data centers to optimize their performance and centralize management with ease.

Server Version
• Offers full functionalities of eco Sensors
• Manage clients through TCP/IP
• Manage PDUs through SNMP

Client Version
• Users are allowed to log in to the Server version
• Real time functions: Dashboard / Power Control / Group Control
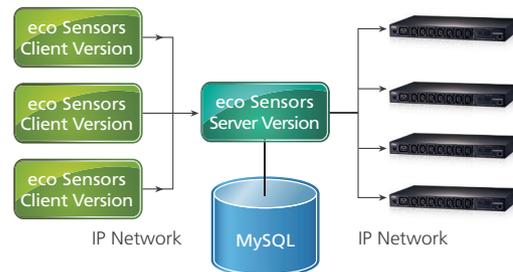
eco Sensors Server & Client Version
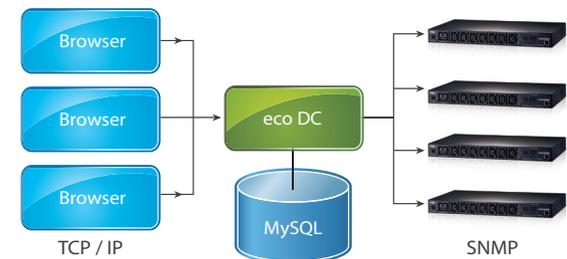
eco DC Structure

Real-time Rack Status Monitoring
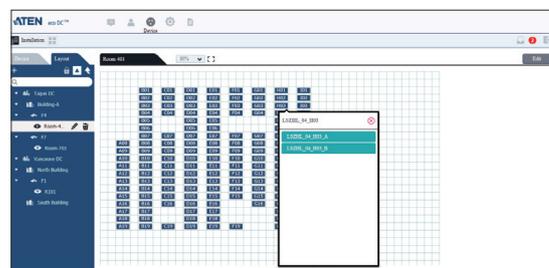
eco DC: Real-time Rack Status Monitoring

Features

- Automatic discovery of all PE devices within the same intranet
- Remote real-time power measurement and monitoring
  - PDU level current / voltage / power dissipation / power consumption
  - Outlet ON / OFF / Recycle status
- Second window to monitor a data center's PUE, RTI, RCI, Power, Carbon Footprint and rack status
- Remote real-time power outlet management*
  - Power outlet ON / OFF / Cycle switching by outlet or user-defined group
  - Power outlet ON / OFF / Cycle switching with pre-defined schedule
  - User-defined outlet level delays for sequential power up
  - Current / Voltage / Power Dissipation / Power Consumption threshold level settings
  - User access assignment for every outlet
  - Name assignment to individual outlets
- Remote real-time environment sensor monitoring
  - Temperature / Temperature + Humidity / Temperature + Differential Pressure readings
  - Temperature and Humidity threshold level settings
- Plotting / Monitoring of all PE devices
  - Add data center server racks
  - Add PE devices for each server rack
  - Manage device/device outlet status for each plot
- Offers essential data center indices including Rack Intake Temperature, Rack Exhaust Temperature, Rack Equipment Temperature Difference, RCI (Rack Cooling Index), RTI (Return Temperature Index), RHI (Rack Humidity Index), RPI (Rack Pressure Index), RAI (Rack Airflow Index)
- Power analysis report for optimizing data center energy management – including power usage, power load, power cost, CO2 cost, power capacity and trends
- Exceed threshold alert through SMTP and System log
- 1024 line event log
- System log provision
- Two-level password security
- Strong security features include password protection and advanced encryption technologies – 128 bit SSL
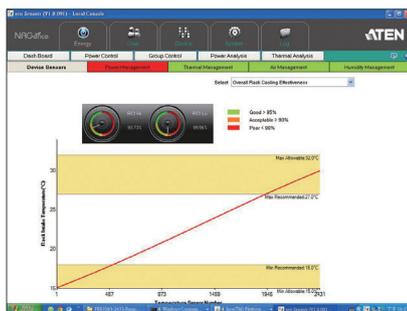

Overall Rack Cooling Effectiveness
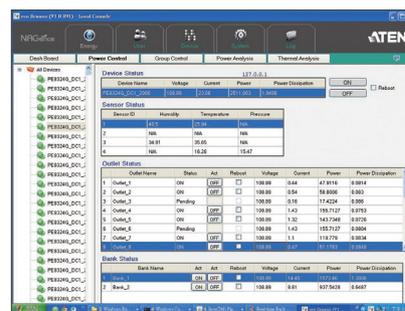
Power Control

eco DC: Overall Rack Cooling Effectiveness
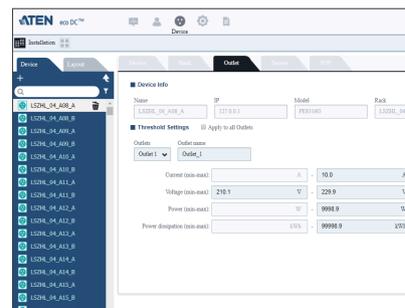
eco DC: Power Control

* Not all functions are supported by all eco PDU PE models. Please visit www.aten.com for more details.

Highlights

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Power Measurement and Scheduling by Zone	eco Sensors and eco DC allow you to group racks in up to 128 zones and define specific areas that you wish to get readings for. Administrators can schedule power on & off by zone and monitor real-time stats with data such as peak and average power usage per zone.
Power Analysis Report	eco Sensors and eco DC offer comprehensive power analysis reports which can be segmented by departments and locations. Both display trending charts in real-time or according to the day, month, year, or grasp the power consumption needs of each season. By knowing the actual power consumption trends with easy to read charts, you can allocate energy resources and prevent wasted power capacity.
Optimum Data Center Energy Management	When used in conjunction with Sensor-enabled eco PDUs, eco Sensors and eco DC provide administrators with a real-time Rack Cooling Index® and dynamic power analysis to protect IT equipment from excess heat or insufficient power capacity.
Fan Energy Saving & Chiller Energy Saving	eco Sensors and eco DC provide real-time power measurements and environmental monitoring of a data center from a variety of locations including: at the zone, rack, device or outlet level. By generating customized reports about your data center's status, administrators can evaluate the Fan Energy Saving & Chiller Energy Saving potential. With this information, administrators can quickly analyze and confirm how long it will take to recover the cost of investing new energy resources, and confirm the return on investment.

Energy Saving Estimates
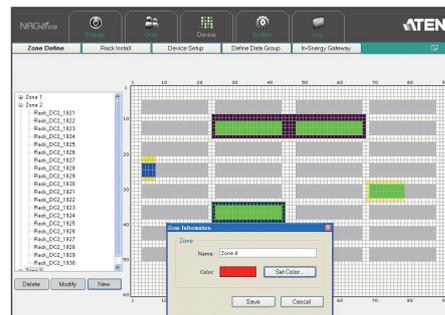
Zone Setting
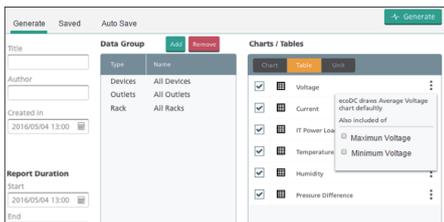
eco DC: Energy Report

eco DC: Zone Setting

Temperature Sensor

Differential Pressure Sensor

Internet/LAN

IT Office

IT Office

eco PDU Sensor Probes

Server Storage
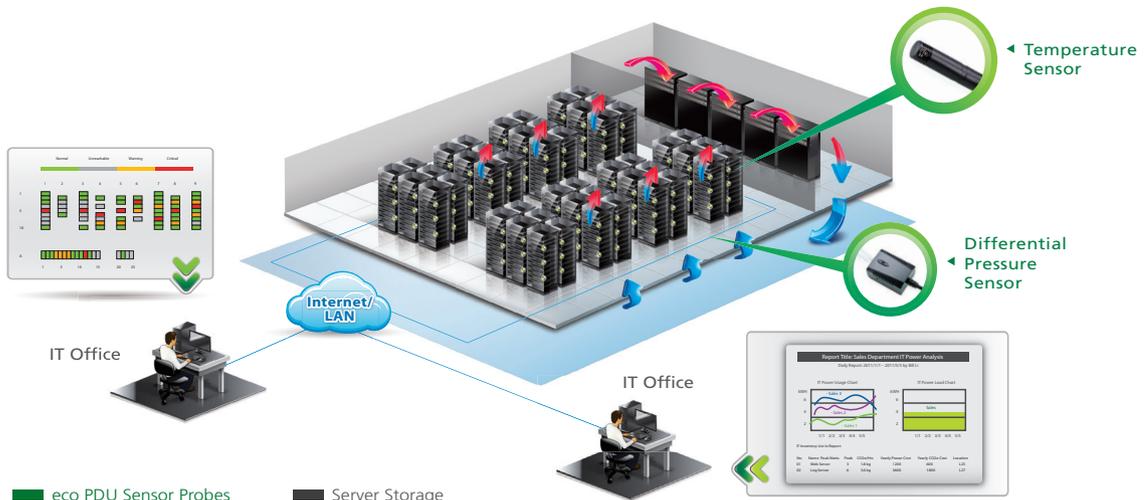
Functions

			eco Sensors		eco DC
			Server Version	Client Version	
Energy	Dash Board	Real-time monitor of power usage, temperature and humidity	•	•	•
	Power Control	Monitor PDU status and control power outlets	•	•	•
	Group Control	Control power outlet by group	•	•	•
	Power Analysis	Power usage analysis by hour, day, month or quarter year	•	N/A	•
	Thermal Analysis	Thermal analysis by hour, day, month or quarter year	•	N/A	•
User	Account	Account management, access rights by function, device and group	•	N/A	•
Device	Zone Define	Define data center zone	•	N/A	•
	Rack Install	Install server rack in data center	•	N/A	•
	Device Setup	Setup PDU or Energy Box in data center	•	N/A	•
	Define Data Group	Define data group for report analysis, group control and schedule control	•	N/A	•
	In-Synergy Gateway	Support external gateway for CT meter	•	N/A	N/A
System	Sys Settings	System parameters, SNMP and SMTP Settings	•	N/A	•
	Maintenance	PDU and Energy Box firmware upgrade	•	N/A	•
	Database	Database settings, capacity management, import/export, configuration, backup/restore	•	N/A	•
	Task	Scheduling group outlet control and configure backup	•	N/A	•
	Billing	Electricity billing report	•	N/A	•
Log	System Log	View system log	•	N/A	•
	Log Options	Log settings	•	N/A	•
	Events	Event settings	•	N/A	•

Hardware Requirements

	eco Sensors		eco DC	
	Server Version	Client Version	Server Version	Client Version
Operating System	Windows 7 / Windows Server 2003 and later		Windows 7 / Windows Server 2008 and later	
CPU	2.5 GHz Quad Core	2.0 GHz Dual Core	2.5 GHz Quad Core	2.0 GHz Dual Core
Display	Larger than 1024 x 768		Larger than 1440 x 900	
Memory	4 GB	2 GB	8 GB	4 GB
Disk	500 GB	100 GB	1 TB	NA
Network	10/100 Mbps Ethernet		1 Gbps Ethernet	

System Parameters

	eco Sensors Server Version	eco DC
(Max) Accounts	128	1024
Concurrent Logins	8	32
(Max) PDUs	2500	3000
Data Center Layouts	45 x 30 / 72 x 48 / 90 x 60	45 x 30
(Max) Racks	1250	3000
(Max) Zones	128	NA
Power Report History	At least 3 years	At least 3 years
Real Time Dashboard Data	300 GB	NA