

# ENERGY SWITCH

a smart product by Racktivity



Racktivity EnergySwitch Smart PDU's equips your data center with the industry's most advanced metering and switching capability.

All Racktivity EnergySwitch smart PDUs are built upon Racktivity's real-time operating system, EnergyOS™ to provide the highest degree of granular real-time PowerQuality type metrics. EnergyOS™ implements the hardware-related portions of Racktivity's EnergyDNA™ technology to provide **real-time remote PDU-level and outlet-level true RMS monitoring of current (A), voltage (V), power (VA, W), power factor (%) and energy consumption (kWh) with +/- 1% accuracy.**

All of this allows you to work with current, relevant and actionable power utilization data to make informed decisions on load balancing and managing IT assets based on event triggers and energy consumption to lower total cost of ownership.

The Racktivity PDU's provide you with a powerful system for energy and capacity optimisation with reliable IT asset protection, all in one unit.

## .benefits

- › Prevents complete racks to go down in case of a short circuit thanks to electronic fast fuse and inrush current protected relays
- › Fore-warned is fore-armed: pro-actively prevent downtime by creating customised alarms
- › Identify and eliminate idle servers
- › Identify failing power supplies
- › Plan capacity and avoid inefficient power usage
- › Compatible with the *E<sup>2</sup>Sensor*, Racktivity's environmental sensor which provides highly granular information regarding environmental status.
- › Full-feature and easy integration with our *DCPM* solution, ultimate server software to monitor, manage and optimise your power usage and environmental information
- › Know exactly how much energy each customer consumes, enabling you to provide correct billing information to your customers

.W [www.racktivity.com](http://www.racktivity.com)  
.M [sales@racktivity.com](mailto:sales@racktivity.com)  
.T +32 9 324 20 90

## .features

- › Real time, true RMS measurements at outlet level: power, apparent power, current, power factor, KiloVolt AmpHrs, Consumption
- › Individual power outlet-level switching
- › Server-based authentication
- › EnergyOS operating system, implementing Racktivity's EnergyDNA technology, which leverages Digital Signal Processing (DSP) chipsets including Fast-Fourier Transformations to provide the most detailed understanding about power you can get from any source
- › Detailed audit logging and event management
- › Horizontally or vertically rack mountable

# Racktivity

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## .technical specifications

### MEASURE

- › True RMS (25.000 samples/second/outlet)
- › Billing grade accuracy +/- 1%
- › Inlet - PDU totals: Voltage (V), Power (W), Apparent Power (VA), Current (A), Power Factor (%), Frequency (Hz), Energy Consumption (kWh), KiloVolt Amp Hours (kVAh)
- › Outlet: Power (W), Apparent Power (VA), Current (A), Power Factor (%), Energy Consumption (kWh), Kilovolt Ampère Hours (kVAh)
- › Internal temperature sensor
- › Event logging
- › Detailed logging: besides logging all measurements every 5 minutes, all power related behaviour deemed 'deviant' is logged for several seconds before & after occurring
- › Oscilloscope view: real-time wave form graph of voltage & current per outlet

### SECURITY & ALARMS

- › SNMP TRAPS, SETs, GETs support
- › Secure web site (HTTPS)
- › SSL certificate
- › Visible alarm indicator
- › Warning level for Voltage, Power, Current, Temperature & more
- › Programmable outlet startup sequence
- › Priority outlet overcurrent management
- › Programmable electronic soft fuse
- › Voltage micro interruptions & phase shift detection
- › Inrush current protection when toggling outlets on or off using zero cross switching
- › Server-based authentication/authorisation

### CONTROL & COMMUNICATION

- › Ethernet 10/100 Mbps auto detecting, half/full duplex connection
- › Racktivity R-BUS connector for connecting E<sup>2</sup>Sensors
- › Remote access web interface through web browser
- › CLI (Command Line Interface): directly and over Telnet
- › Display: control & monitor outlet states, warnings, voltage, current, power factor, network settings, oscilloscope view...



# ENERGY SWITCH

## ES2100 & ES6100

Rackactivity EnergySwitch ES2100 and ES6100 are the vertical 24-outlet components of Rackactivity's product offering.

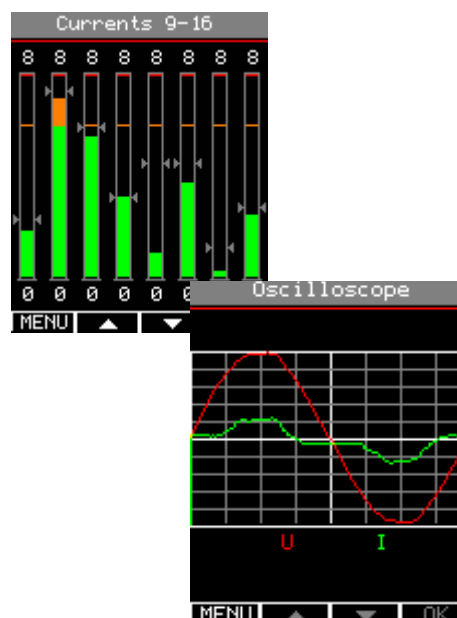
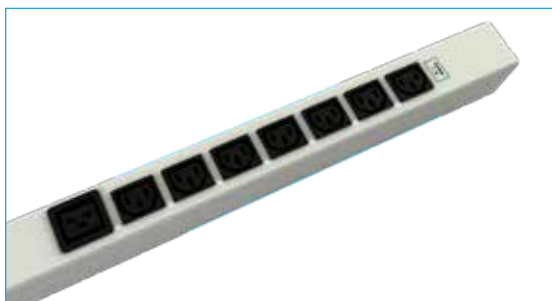
### .mechanical specifications

- › Form-factor: 0U
- › Dimensions (inch): H x W x D: 71.3 x 2 x 3.1
- › Dimensions (cm): H x W x D: 181 x 5 x 8
- › Rack mountable
- › LCD-TFT with control buttons
- › LED power ON/OFF and services status indicators at each outlet
- › Color: Signal white (RAL 9003)
- › Approval: UL 60950-1 (not all models)
- › CE/RoHS Compliant
- › Power cable: type H07RN-F, 3m long

### .configuration

| Model             | $\varphi$ | Input total | C13 (8A) | C19 (16A) | Circuit breaker |                |
|-------------------|-----------|-------------|----------|-----------|-----------------|----------------|
|                   |           |             |          |           | Type            | N° of breakers |
| <b>ES2124-32</b>  | 1         | 32A         | 21x      | 3x        | 16A - Magnetic  | 3              |
| <b>ES2124-30*</b> | 1         | 30A         | 21x      | 3x        | 16A - Magnetic  | 3              |
| <b>ES2224-32</b>  | 1         | 32A         | 18x      | 6x        | 16A - Magnetic  | 3              |
| <b>ES6124-16</b>  | 3         | 16A         | 21x      | 3x        | 16A - Magnetic  | 3              |
| <b>ES6224-16</b>  | 3         | 16A         | 18x      | 6x        | 16A - Magnetic  | 3              |
| <b>ES6124-32</b>  | 3         | 32A         | 21x      | 3x        | 16A - Magnetic  | 6              |
| <b>ES6224-32</b>  | 3         | 32A         | 18x      | 6x        | 16A - Magnetic  | 6              |

\* US model



# ENERGY SWITCH

## ES1000

Racktivity EnergySwitch ES1000 is the horizontal 8-outlet component of Racktivity's product offering.

### .mechanical specifications

- › Form-factor: 1U
- › Dimensions (inch): H x W x D: 1.75 x 19 x 5.6
- › Dimensions (cm): H x W x D: 48.55 x 4.45 x 14.20
- › Rack mountable
- › LCD-TFT with control buttons
- › LED power ON/OFF and services status indicators at each outlet
- › Color: Signal white (RAL 9003)
- › Approval: UL 60950-1
- › CE/RoHS Compliant
- › Power cable: shuko to C20, 2m long IEC lock

### .configuration

- › Input: 1 x IEC C20, 100V-240V, max 16A
- › Output: 8x IEC320-C13, max 8A/outlet

