



SmartZone™ Rack Energy Kits

Power and Environmental Monitoring
for Small Data Centers

PANDUIT®

3 Simple Steps to Success

Step 1: Order

Simple To Order

All necessary hardware and software for per/rack deployments is orderable under one single part number

+

Step 2: Install

Simple To Install

Install with little to no downtime using a single IP address to connect gateways, PDUs, and sensors. Devices use a maximum 1-2U per rack

+

Step 3: Monitor

Simple To Use

Utilize a simple, yet intuitive GUI to display live and historical views of monitored power, and environmental data readings to identify possible service issues and send alert notifications.

=

ROI

Simple ROI Payback

- Optimize operational efficiencies
- Reduce OpEx costs
- Increase data center resiliency

Complete Power and Environmental Monitoring

DCIM Designed for Small Data Centers

When it comes to efficiently and effectively running a data center, small data centers have many of the same concerns and challenges as their larger counterparts. The disadvantage for small data centers is that they typically have limited resources in terms of technology, staffing, and financial support. These limitations may leave small data centers more vulnerable to inefficiencies, inflexibility for growth, and the potential for system failures.

Panduit supports the needs of small data centers with SmartZone™ Rack Energy Kits, a DCIM solution specifically designed to provide cost-effective power and environmental monitoring for small data center environments with 30 or fewer racks and cabinets.

SmartZone™ Rack Energy Kits include all hardware, software, and accessories necessary to monitor and capture operational data such as:

- Current and historical views of power and temperature, enhanced with simple trending information displays
- Identification and alert of power or environmental levels exceeding pre-defined thresholds
- Documentation and reporting of operational metrics

With the information, facility and data center managers are armed with accurate and actionable information that they can use to better optimize operational efficiencies, reduce OpEx costs, and increase resiliency of their data center environments.

Unified Physical Infrastructure



communication



computing



control



power



security

A Complete Out-Of-The-Box Solution

SmartZone™ Rack Energy Kits were designed as simple out-of-the-box offerings, predefined for new (greenfield) data center builds and expansions or legacy (brownfield) retrofits. Each kit offers a unique power monitoring device, giving small data centers the choice of how they would prefer to capture data in their specific environment. Installation is simplified through non- and minimally-invasive device options that add and/or overlay intelligence into racks or cabinets (as shown below):

Power Monitoring

Collects Power Data and Sends to Gateway

- A SmartZone™ Rack PDUs**
Install like standard rack PDUs and allow accurate monitoring down to the outlet level.



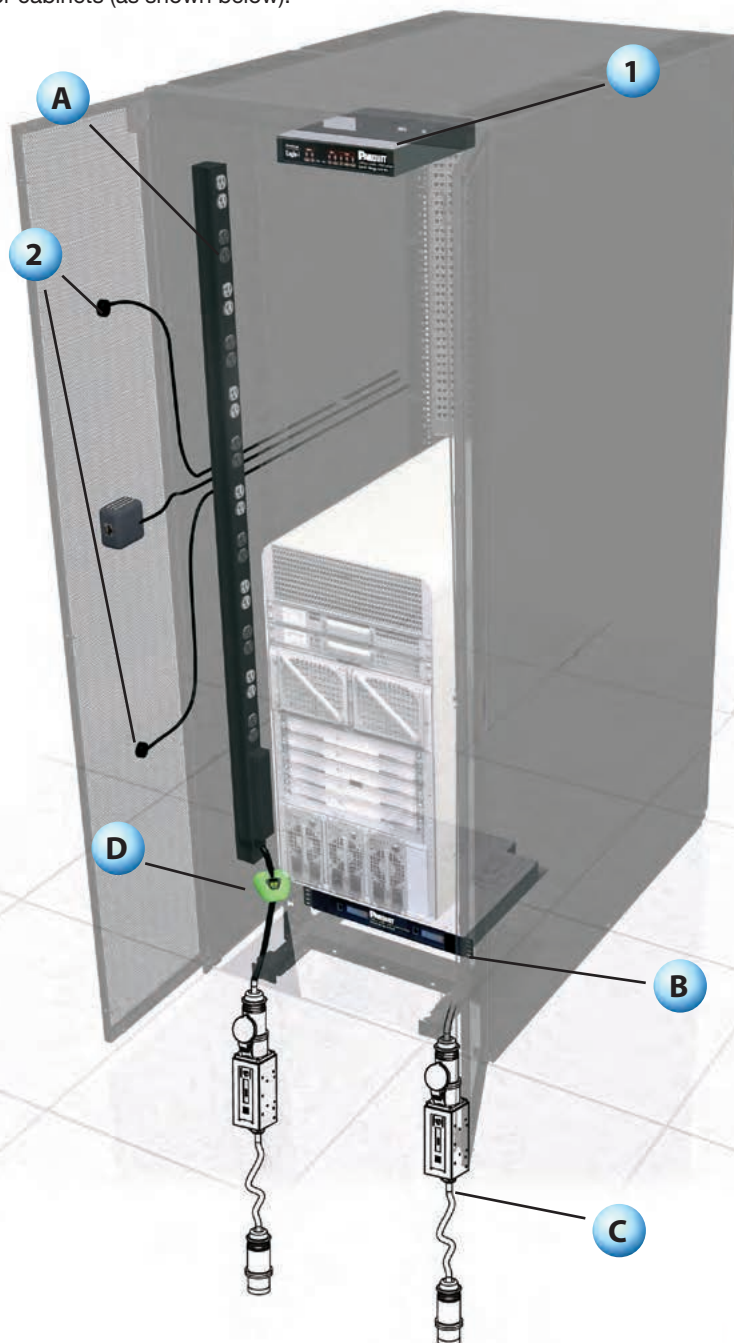
- B SmartZone™ 1RU Inline Meter**
Connects between a power source and two existing “dumb” rack PDUs to add intelligent monitoring of aggregate PDU power.



- C SmartZone™ Zero RU Inline Meter**
Connects between a power source and an existing “dumb” rack PDU to add intelligent monitoring of aggregate PDU power.



- D SmartZone™ Clamp Meter**
Installs directly over active power cables to monitor and measure electrical current of existing rack PDUs or devices, without power down interruptions.



1 SmartZone™ Gateway EP042

Processes and consolidates data captured from power monitoring devices and sensors, then sends to software.



2 Thermal Monitoring

Captures temperature data and sends to gateway.



3 SmartZone™ Rack Monitoring Software

Monitors, displays, and documents data.

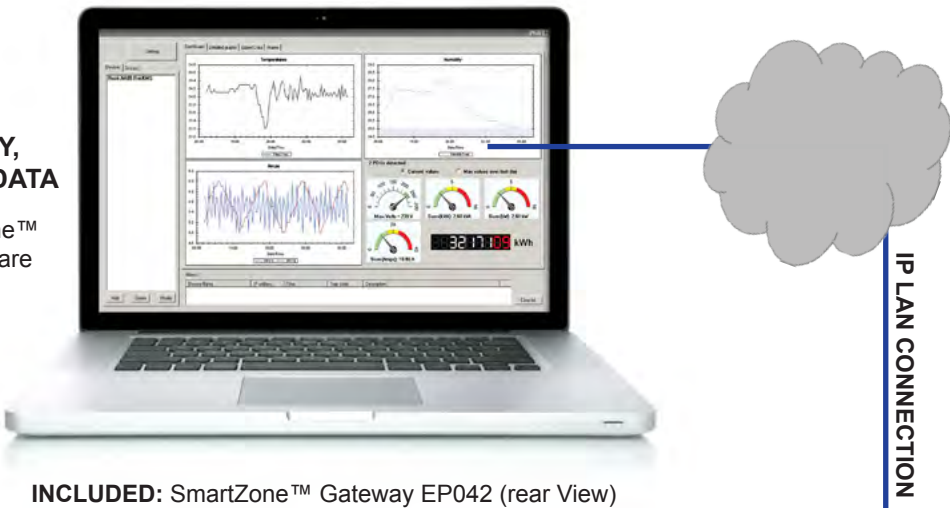


Gateway-Based Architecture

SmartZone™ Rack Energy Kits utilize a unique and cost-effective infrastructure topology that uses a SmartZone™ Gateway to supply monitoring intelligence and power to connected SmartZone™ Power Monitoring Devices and Sensors. This simplifies the network architecture by consolidating the monitoring and management of these devices through one single IP address, and displays the data via the SmartZone™ Rack Monitoring Software platform for monitoring and display, management, and documentation of operational metrics.

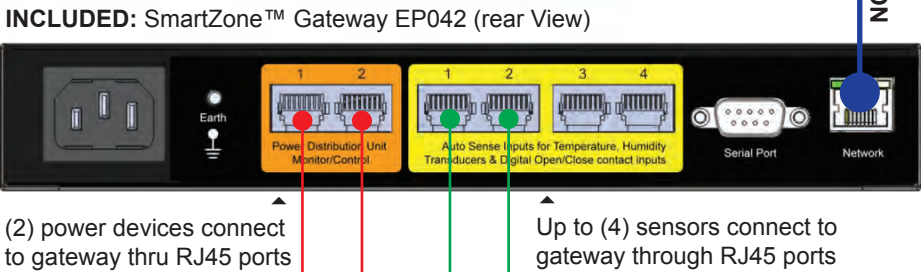
- 3

MONITOR, DISPLAY, AND DOCUMENT DATA
INCLUDED: SmartZone™ Rack Monitoring Software



- 2

PROCESS AND CONSOLIDATE DATA



- 1

CAPTURE DATA
Power Monitoring

CHOICE: Kits offer different power monitoring device options (below).

Environmental Monitoring

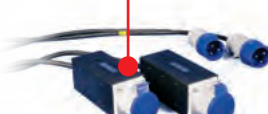
INCLUDED: (2) temperature sensors and patch cords.



CHOICE #1:
(2) SmartZone™ Rack PDUs



CHOICE #2:
(1) SmartZone™ 1RU Inline Meter



CHOICE #3:
(2) SmartZone™ Zero-RU Inline Meters



CHOICE #4:
(2) SmartZone™ Clamp Meters

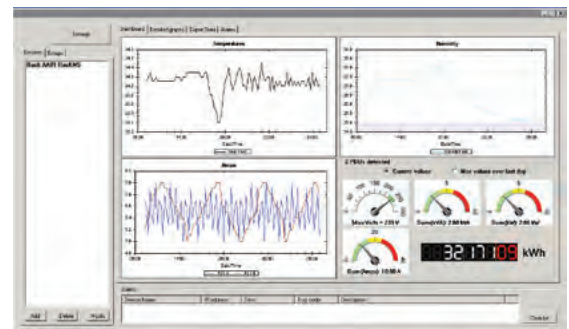
The Standard Foundation in Every Kit

SmartZone™ Rack Energy Kits were designed as “out-of-the-box” offerings that are simple to order, install, and use right away. Standard in each box is the following:

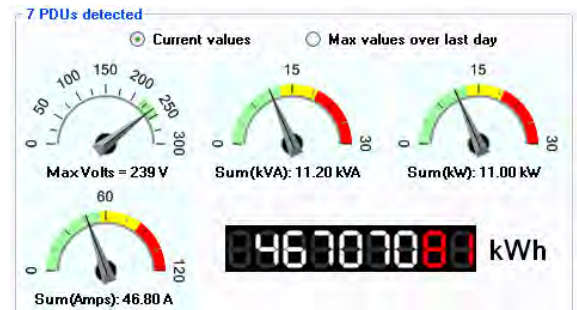
INCLUDED SmartZone™ Rack Monitoring Software

Included in each kit is the SmartZone™ Rack Monitoring Software that uses operational data consolidated by the SmartZone™ Gateway EP042 to monitor, document, and display live and historical views of power consumption and environmental conditions in a small data center.

With the ability to monitor up to 60 power devices (in addition to environmental sensors) across multiple data center racks, the software provides a precise and logical reflection of the “actual” data center and its operational analytics. This includes trending of power and environmental data that can be used to proactively identify rising temperatures or other issues that may negatively impact business resilience. Using an SNMP protocol, the SmartZone™ Rack Monitoring Software polls and logs gateway notifications of power or environmental levels reaching or exceeding unsafe thresholds and displays them as on-screen alerts to notify administrators and technicians. All of this information is then available to be easily exported into CSV formats and used for more informed decision making, or kept on file as a record for regulatory compliance or corporate sustainability programs.



The low clutter dashboard shows all power and environmental data as trend lines for selected devices over the last 24 hours.



Data being monitored is further detailed in the dashboard dials to show the values being recorded.

INCLUDED SmartZone™ Gateway EP042

This gateway consolidates operational data captured by a selection of power monitoring devices and environmental sensors and feeds that data to the SmartZone™ Rack Monitoring Software.

This gateway is designed to power, monitor, and control a maximum of two rack PDUs or inline meters and up to four sensors, all through one single gateway IP address, while offering the following features:

- HTTP/HTTPS web interface for remote device monitoring, control, and configuration
- SNMP-enabled to detect power and environmental concerns and send timely alerts

All of these capabilities are packaged into a zero-RU design that is easy to install. This makes the SmartZone™ Gateway EP042 the ideal device for individual rack or cabinet installations in legacy (brownfield) retrofits or new (greenfield) data center builds and/or expansions.



Ideal Brownfield Monitoring Choices

The SmartZone™ Rack Energy Kits are built with multiple power monitoring device package options to accommodate legacy (brownfield) retrofits or new (greenfield) data center builds and/or expansions.

SmartZone™ Rack Energy Kit with Clamp Meters

Each SmartZone™ Rack Energy Kit with Clamp Meters includes two unique non-invasive inline meters, which can be easily placed directly over operational power cables to simplify the addition of intelligent power monitoring without the need to power down equipment.

The included SmartZone™ Gateway EP042 supplies the monitoring power to the SmartZone™ Clamp Meter and processes the electrical current information captured by the device to be read and measured through the included SmartZone™ Rack Monitoring Software. This data is made available locally (or remotely) for operational monitoring and management.

This kit is an ideal solution for small legacy (brownfield) or retrofit data centers looking to quickly add power and environmental monitoring without the hassle or concern of powering down equipment.



Kit Includes:

- SmartZone™ Rack Monitoring Software
- (1) SmartZone™ Gateway EP042
- (2) SmartZone™ Clamp Meter 100
- (2) Temperature Sensors
- (4) Patch Cords

SmartZone™ Rack Energy Kit with Zero-RU Inline Meters

Each SmartZone™ Rack Energy Kit with Inline Meters includes two zero form factor inline meters that install between a power source and existing non-intelligent rack PDUs to simplify the addition of intelligent power monitoring to a rack or cabinet.

The included SmartZone™ Gateway EP042 supplies the monitoring power to the SmartZone™ Zero-RU Inline Meters and processes aggregate power consumption data captured by the device to be read and measured through the included SmartZone™ Rack Monitoring Software. This data is made available locally (or remotely) for operational monitoring and management.

This kit is an ideal solution for small legacy (brownfield) or retrofit data centers looking to quickly add accurate power and environmental monitoring by cost-effectively upgrading or maximizing current data center resources with minimal downtime.



Kit Includes:

- SmartZone™ Rack Monitoring Software
- (1) SmartZone™ Gateway EP042
- (2) SmartZone™ Zero-RU Inline Meters
- (2) Temperature Sensors
- (4) Patch Cords

Ideal Brownfield and Greenfield Choices

SmartZone™ Rack Energy Kit with 1RU Inline Meter

Each SmartZone™ Rack Energy Kit with 1RU Inline Meter includes a rack-mountable 1RU inline meter that installs between a power source and two different non-intelligent rack PDUs in a rack or cabinet. This allows for the simple addition of intelligent power monitoring for two separate vendor-neutral rack PDUs through one space-saving device.

The included SmartZone™ Gateway EP042 supplies the monitoring power to the SmartZone™ 1RU Inline Meter and processes the data captured by the device to be read and measured through the included SmartZone™ Rack Monitoring Software. This data is made available locally (or remotely) for operational monitoring and management.

This kit is an ideal solution for either legacy (brownfield) or retrofit data centers, or for new (greenfield) builds looking to quickly and cost-effectively add power and environmental monitoring capabilities.



Kit Includes:

- SmartZone™ Rack Monitoring Software
- (1) SmartZone™ Gateway EP042
- (1) SmartZone™ 1RU Inline Meter
- (2) Temperature Sensors
- (4) Patch Cords

SmartZone™ Rack Energy Kit with Rack PDUs

Each SmartZone™ Rack Energy Kit with Rack PDUs includes two intelligent rack PDUs that support direct power monitoring of installed equipment such as servers, disk storage arrays, blade server enclosures, and network switches.

SmartZone™ Rack PDUs available in the kits come with up to 24 outlets per strip in a range of socket outlet types, angled to allow optimum cable dressing, and providing power monitoring accuracy of better than 1% at the outlet level. Sequential power-up features on the outlets protect against in-rush currents.

The included SmartZone™ Gateway EP042 supplies the monitoring power to the SmartZone™ Rack PDUs and processes the aggregate (and in some kits, per-outlet) power consumption data captured by the device to be read and measured through the included SmartZone™ Rack Monitoring Software. This data is made available locally (or remotely) for operational monitoring and management.

This kit is an ideal solution for new (greenfield) builds looking to quickly and cost-effectively add power and environmental monitoring capabilities.



Kit Includes:

- SmartZone™ Rack Monitoring Software
- (1) SmartZone™ Gateway EP042
- (2) SmartZone™ Rack PDUs
- (2) Temperature Sensors
- (4) Patch Cords

Real-World Solutions

*With a proven reputation for excellence and innovation, Panduit and our partners work with you to overcome challenges and implement real-world solutions that create a competitive business advantage. Panduit offers the broadest range of solutions, from data centers and intelligent buildings to manufacturing operations, to help you build a **smarter, unified business foundation**.*



Technology Leadership

Panduit develops innovative physical infrastructure solutions that meet the rapidly changing needs of our clients, from hardware and software to advisory services. This commitment is supported by investment in advanced research, solutions-focused product development, world-class manufacturing, and collaboration with customers at the forefront of technology.



Partner Ecosystem

Our best-in-class partner ecosystem offers a comprehensive portfolio of services that span the project lifecycle, from planning and design to delivery, deployment, maintenance, and operation. Panduit business partners – distributors, and certified architects, consultants, engineers, designers, system integrators, and contractors – are qualified to help you achieve your objectives and realize predictable and measurable results.



Strategic Alliances

Panduit cultivates long-term strategic alliances with industry leaders, including Cisco Systems, EMC, IBM, and Rockwell Automation, to develop, optimize, and validate solutions for our customers. This investment in people and resources helps solve our customers' greatest business challenges.



Global Business Commitment

Panduit is committed to delivering a consistently high level of quality and service the world over. With a presence in more than 100 countries, local Panduit sales representatives and technical specialists offer guidance and support that bring value to your business. Our global supply chain, which includes manufacturing, customer service, logistics, and distribution partners, provides prompt response to your inquiries and streamlines delivery to any worldwide destination.



Sustainability

With a commitment to environmental sustainability, Panduit develops and implements solutions that protect, replenish, and restore the world in which we live. This commitment is demonstrated by Panduit's LEED Gold certified World Headquarters, leveraging the Unified Physical InfrastructureSM approach to enable convergence of critical building systems to drive energy efficiency and ongoing operational improvement.

*Transform Your
Physical Infrastructure*

*Call or visit us online,
we can show you how.*

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