

▶ Wire-free Packet Power monitoring enables preventive maintenance, reducing power outage risks

Fujitsu monitors temperature of vital plant to pre-empt issues



The Fujitsu Data Centre team in the UK has relied on a comprehensive power and environmental monitoring solution from Packet Power since 2014. The highlight of the solution is a wire-free design that has been developed specifically for Data Centres. Due to continuous measurement, the analysis and evaluation of vital power parameters such as volts, amps, watts, frequency, power factor, apparent power and consumption data is possible in realtime. The Data Centre specialists at Fujitsu are able to improve load management of the existing power and cooling resources and also boost energy efficiency. In addition to monitoring power, the solution also tracks environmental parameters like temperature, pressure differential and humidity to provide the data basis for optimal conditions in any room and rack at the Data Centre.

Preventive maintenance extended by continuous monitoring

The environmental part of the solution moved into the spotlight at Fujitsu, when it came to preventative maintenance for their in room PDUs. Fujitsu continually carries out planned preventative maintenance on all infrastructure and employ



“With the wire-free Packet Power monitoring system, we were able to establish a permanent 24/7 preventive monitoring and early warning system for our PDU cabinets, in addition to our existing preventive maintenance routine,” said Simon Levey, Head of Data Centre Development UK, Fujitsu.

Wire-free Packet Power monitoring solutions allow you centrally control and manage several hundred environmental sensors (e.g. for temperature, humidity and differential pressure) and energy parameters like volts, amperes, kW, kWh, kVA, phase angle and total current for any server room, cabinet, PDU or single IT device. All monitoring devices instantly begin to share information via a self-configuring wire-free network as soon as they are plugged in. Environmental data and energy usage information are then gathered for use by intuitive applications or for distribution to a wide variety of DCIM or building management systems.

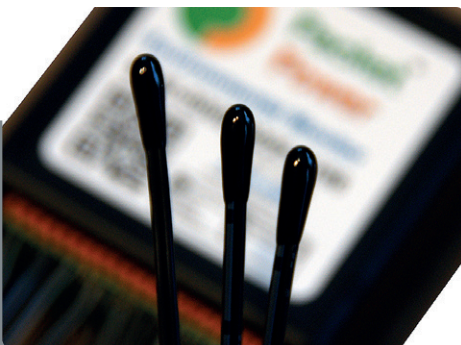
an annual, non-intrusive “TEGG” testing regime to ensure the health of the in room PDUs without the need for downtime. This includes the control, verification and performing of the following:

- » True RMS voltage and current testing
- » Voltage drop
- » Infrared thermographic imaging
- » Ultrasonic testing
- » Voltage and current harmonics testing
- » Visual and mechanical inspections
- » Earth fault loop impedance
- » Prospective fault current

Although this testing regime provides the comfort that everything is fine, the Fujitsu Data Centre development team wanted to be one step ahead. “TEGG testing has given us a real insight into the health of critical infrastructure within our Data Centres. However, just as with your car’s MOT, it’s only done annually and there’s nothing to say that an issue couldn’t develop the day after the test and without you knowing,” said Simon Levey, Head of Data Centre Development UK, Fujitsu. “Our initial concept was to install some environmental monitoring to constantly monitor the environmental conditions within each of our PDUs. This would then give us an early warning should something change”.

Installed in minutes without cabling

Together with the solution provider Daxten, Simon Levey and his team developed a customised and very cost-effective system for this special requirement by using standard Packet Power modules for environmental monitoring. The wire-free design



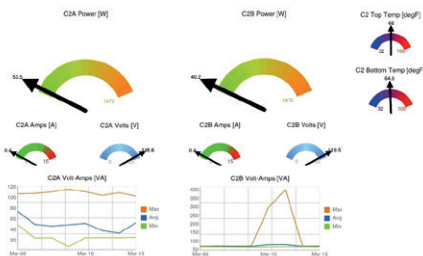
Depending on model the environmental sensors allow for measuring temperature, humidity, dew point and/or differential pressure.



The Packet Power Environmental Monitor units wirelessly record the data measured at the various measurement points in the Data Centre.



The wire-free system gateway uses the SNMP and/or Modbus over ethernet protocol to transmit environmental or power data to the monitoring GUI or DCIM application.



The EMX management tool for all wire-free monitoring units captures, analyses and reports power and environmental data via dynamic charts, dashboards and diagrams.

allows for direct placement of the temperature sensors inside the PDU cabinets. The module itself is battery powered, so no external power source is needed. Since it is non-intrusive it can be installed within minutes and without isolating the PDU.

Seamless automatic configuration

When activating the monitoring modules, they start to automatically configure themselves, take measurements and share the data in a secured wireless network. The system's gateways collect, convert and transfer the data via SNMP making it easily accessible for the Fujitsu operators. The management tool creates actual and trend reports on environmental parameters and also displays the data as a graphical dashboard or in table format. Additionally, the portal can be configured to send out alerts should the temperatures breach Fujitsu's defined thresholds.

Proactive temperature monitoring provides an early warning of potential issues

In this particular case the temperature data, inside of the PDU cabinets, is monitored around the clock. The Fujitsu specialists defined and set thresholds for early warning temperature conditions. If these are even slightly exceeded the Packet Power monitoring system automatically triggers warnings. When paired with the PDU power monitoring the onsite teams can determine if the temperature increase is expected or investigate further.

"This functionality significantly increases the security and protection against power-related system disruptions in our data centre," said Simon Levey. "With the wire-free Packet Power monitoring system we were able to establish a permanent 24/7 preventive monitoring and early warning system for our PDU cabinets, in addition to the preventive maintenance routine, which we use to mitigate against failures. Ultimately, it buys us some time to investigate should we start to see an abnormal condition."



About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 156,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers.

For more information, please see www.fujitsu.com.



Company profile Daxten

Daxten was founded in 1994 as Dakota Computer Solutions. As a manufacturer and distributor of innovative solutions, Daxten is at the forefront of promoting energy efficiency within the Data Centre. The company offers cutting edge cooling optimisation (CoolControl), power distribution, monitoring and Data Centre infrastructure solutions which improve the resource efficiency and reliability of the Data Centre. Daxten is headquartered in London and Berlin.

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