▸ Wire-free Packet Power monitoring enables the balancing of loads, allowing for infrastructure upgrades

Fujitsu's London Data Centre is always well balanced

In 2014, Fujitsu's UK Data Centre development team, headed by Simon Levey, implemented a very simple way to monitor and optimise the load management, power usage and environmental conditions such as temperature and humidity within their Data Centres. Using Packet Power's wire-free power and environmental monitoring technology, which has become standard across their Data Centre estate, has allowed the Fujitsu Data Centre specialists to continuously evaluate and improve the efficiency of their Data Centre infrastructure. Furthermore, the Fujitsu team discovered that the technology, and data captured, offered additional scope to provide pre-emptive monitoring and early intervention functionality for a range of different scenarios.

IT load data available at any time

One important mission was to ensure the balance of all IT loads before commencing with the replacement of the building UPS at one of Fujitsu's flagship UK Data Centres.

"The dependable accuracy and frequency of the metered IT load data, provided by Packet Power's solution, enables us to ensure that our loads are always balanced," said Simon Levey, Head of Data Centre Development UK, Fujitsu.

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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 und 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. Energy usage information is then gathered for use by intuitive applications or for distribution to a wide variety of energy monitoring, DCIM or building management systems.

This was only possible because the Data Centre specialists were able to develop and implement a measurement solution capable of monitoring automatically and permanently, the load of the 72 in room PDUs, ensuring a well-balanced load at all times. This information was hugely important to mitigate against any impact of swapping out the UPS systems. Previously, as is the case of most Data Centres, historical power data was collected manually onsite and analysed on a regularly basis. The goal for the Fujitsu Data Centre specialists was to be one step ahead by automating the whole monitoring process. This would ensure that all information about IT loads of their PDUs was accurate and available at any time. With these requirements in mind, Simon Levey and his team, together with their technology partner Daxten, designed a customised monitoring solution that is based on standard wire-free Packet Power monitoring modules.

Installation within minutes

The installation of the retro-fitted PDU metering enclosures was completed without downtime and within minutes, since there was no need for time consuming cabling or configuration work. Due to the nature of the solution it could be completed with the PDUs still live. From the moment the modules were activated they automatically self-configured and started recording power measurements and sharing their data over a dedicated wire-free network.

The multi-circuit monitoring solution can be integrated on PDUs, RPPs or panel boards and measures V, A, VA, W, Wh, PF and Hz.

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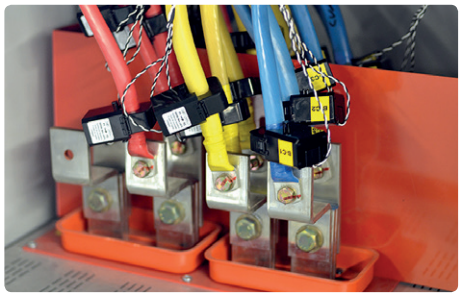
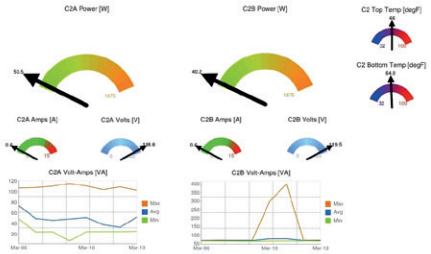


Split core CTs can be installed without having to disconnect critical power systems.

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.

Trend reports and automatic alerts

Packet Power's design means that the data collected wirelessly is consolidated centrally via a gateway, and then is transmitted to their EMX cloud portal. Alternatively, this same data can be directed to a local user interface or to a Data Centre Infrastructure Management (DCIM) solution. With both applications, Fujitsu has real-time information of IT loads and power usage available, whenever it's needed. With this data now available trend reports can be created and thresholds for problematic power values can be defined ahead of time, allowing automatic alerts to be triggered. This makes early intervention possible, allowing quick and easy identification and resolution of potential issues, long before they become critical.

IT loads are always balanced

"The dependable accuracy and frequency of the metered IT load data, provided by Packet Power's solution, enables us to ensure that our loads are always balanced. Whilst important for existing loads this also allows us to plan new workloads into our Data Centres," said Simon Levey. "And when it comes to the replacement of plant, PDUs or UPS systems, we are able to mitigate against potential impact to IT loads."

Just a small footnote regarding aesthetics. It is worth mentioning that the wire-free monitoring system was given a colour that perfectly matched the PDUs meaning the overall design of the retro-fitted solution looks like a day one installation.

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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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