Emerson's Smart Wireless Technology for Data Centers

Manage the health of your data center to reduce downtime and improve system reliability

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Why Emerson's Smart Wireless?

Easy availability of data is the key to improved operations

Your data center's critical systems are the lifeblood of its operation. This makes monitoring and controlling your data center's infrastructure vital to ensuring its maximum availability and continuous productivity. Today, there's an easier and better way to perform these monitoring and control operations – an Emerson environmental wireless sensor system.

It's all about what's happening at the rack

Emerson wireless sensor systems are the best way to get the information you need from your data center's racks. While wireless sensing is often thought of as a new technology, it's actually mature and proven, finding numerous applications throughout the industrial and consumer markets such as cell phones and asset tracking. And that's just the start of the benefits available with wireless sensor systems:

- **Easier to deploy** – Little upfront design and no wiring necessary to significantly reduce system installation and maintenance costs
- **Easier scalability** – Expanding and/or modifying a system, in new or retrofit applications, is simple with our modular wireless design
- **Maintenance-free operations** – Sensor modules have a 5 year battery life
- **Reduced wiring and small device footprints** – Creating a dense sensor network is feasible and economical
- **Security is assured** – Sensors have built-in, always-on encryption, channel hopping, multi-path routing and anti-jamming capabilities
- **Organized and clean-looking installation** – Not your typical 'explosion in a spaghetti factory' appearance of wired systems
- **Easier compliance with ASHRAE** – and other regulatory agencies because of increased system operating efficiency

Higher efficiency, improved availablity and reduced downtime

Emerson provides a best-in-class wireless solution to your data center's thermal monitoring and control requirements. It offers you reliable, secure, real-time thermal monitoring of service processor and rack inlet/outlet temperatures, giving you the ability to visualize hot and cold spots on a 2D view of your operation. You also get the ability for capacity tracking by unit and zone to help you optimize operating efficiency. And you get these capabilities in a system that is easier to deploy, reconfigure, expand, and maintain.

WirelessHART is recommended by the U.S. Department of Homeland Security, Idaho National Labs, and Carnegie-Mellon University.

When we say 'secure and reliable' we really mean it

While security is the #1 concern of many data center operators, it is a non-issue with Emerson wireless sensor systems because of the multi-level protection we provide to ensure data transmission and device integrity, including:

- **WirelessHART™** – This high-security communications protocol interfaces easily with a variety of monitoring and control software, ensuring highly critical data transmissions remains private
- **Message verification codes** – Ensure security pertaining to where data is coming from and where it is going
- **Keep your data private** – Auto-rotating encryption keys with always-on, AES 128-bit encryption
- **Authentication** – Each gateway maintains a list of devices with which it is allowed to communicate, and individual devices only accept messages from previously identified gateways or other gateway-validated devices
- **Added security** – Frequency hopping, multi-path routing and anti-jamming technologies enhance security and the separation of wireless transmissions from other IT operations

Availability – the key to improving data center operations

You need to keep your data center up and running, so downtime is simply not an option. Emerson wireless sensing systems offer exceptional data reliability to give you the information you need to control temperatures and optimize the use of your equipment for increased reliability and service life.

- **Dust Networks™** – Highly reliable, ultra-low power wireless mesh technology
- **Continuous monitoring** – The sensor network is constantly checking the data path for degradation and repairs itself
- **No single point of failure** – Redundant communications paths eliminates the possibility of failure
- **Power diversity** – Controls transmission power, greatly limiting RFI pollution
- **Battery-powered sensor modules** – No power-draining CAT5 port is required

Having this kind of information at your fingertips 24/7/365 makes keeping a finger on the pulse of your data center's health much easier, allowing you to optimize performance and perform proactive maintenance on vital DC components so they don't fail at inopportune moments.

Optimize equipment usage – and save energy in the process

Emerson's Smart Wireless sensing technology provides near-real-time temperature data that allows optimal adjustment of your data center's cooling system for best performance and energy efficiency, giving you the ability to optimize the cooling efficiency of your CRAC/HVAC units while saving energy and money. Moreover, Emerson wireless sensors operate with a highly reliable, ultra-low power Dust Networks wireless mesh network and have an average 5+ year battery life, reducing maintenance costs throughout their operational service life. This means they're not only less expensive to deploy, they offer lower operating costs throughout their operational service life.

Easier to meet compliance standards

Using Emerson's Smart Wireless sensing technology also makes it easier to meet ASHRAE and other compliance standards. It provides data center operators with the information they need to optimize the use of their cooling units in providing the most efficient cooling possible. This not only lowers cooling costs and puts less stress on equipment, it also makes it easier to re-configure the sensing system when expanding or changing the data center's operational parameters while still meeting compliance guidelines.

Emerson Wireless – the best-in-class solution

Keeping your data center operating at peak efficiency pays big dividends, not just in reduced energy costs and better utilization of your equipment, but also in ensuring the absolute reliability of your data center's operations. To these ends, Emerson wireless sensor technology represents a best-in-class solution for your data center's environmental monitoring and control applications. With more than 16,000 successful networks in operation worldwide and tens of thousands of wireless field devices installed, Emerson offers you a globally-proven solution to your requirements for wireless data center environmental monitoring and control.

Contact us today for complete information on how we can put your data center on the path to more efficient and profitable operation.

www.tod.com

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