



FIVE REASONS

Environment Sensors are used
in all Modern Data Centers

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5 Reasons Environment Sensors are Used in All Modern Data Centers

REASON **ONE** | Save on Cooling by Confidently Raising Data Center Temperatures

REASON **TWO** | Ensure Uptime by Monitoring Airflow and Air Pressure to and from Racks

REASON **THREE** | Maintain Cabinet Security with Contact Closure Sensors

REASON **FOUR** | Improve Data Center Uptime by Receiving Environment Alerts

REASON **FIVE** | Make Strategic Decisions on Environmental Designs and Modifications

Why Environmental Sensors?

- Sensors can help prevent overcooling, undercooling, electrostatic discharge, corrosion, and short circuits.
- Sensors help reduce operational costs, defer capital expenditures, improve uptime, and increase capacity for future growth.
- Sensors provide real-time monitoring and alerting to potential problems like the presence of water, smoke, and open cabinet doors.
- Sensor data helps populate artificial intelligence, machine learning, and other future initiatives to see a multi-dimensional view of your distributed operations.

The age-old adage is true, "You can't manage what you don't measure."

REASON ONE

Save on Cooling by Confidently Raising Data Center Temperatures

Raise the ambient temperature to save energy with confidence so you won't overheat sensitive IT equipment.

- Temperature sensors at the rack inlet provide far more accurate, real-time views of data center temperatures compared to computer room air conditioner (CRAC) readings alone.
- Temperature and humidity sensors follow ASHRAE sensor placement guidelines for accurate and complete readings of the top, middle, and bottom of racks.*
- Temperature information measurements can be used to optimize the cooling system, e.g., shut down one or more CRAC units as needed.
- See temperature trends and identify hot spots which can occur for a variety of reasons, many counterintuitive.

*Read [Thermal Guidelines for Data Processing Environments](#) to learn ASHRAE's guidelines and recommendations for optimizing your data center for maximum performance and reliability.

REASON TWO

Prevent Hot Spots and Ensure Uptime by Monitoring Airflow and Differential Air Pressure to and from Racks

Achieve energy cost savings by reducing the airflow to only what is required.

- Airflow sensors let you monitor cooling airflow and hot air return to ensure the cooling system is functioning correctly and ensure airflow is at the right level, so the entire rack receives inlet cooling air.
- Differential air pressure sensors identify air pressure discrepancies that could lead to hot aisle and cold aisle partition leaks. Also, they can control CRACs to ensure adequate cooling airflow is provided.
- Underfloor air pressure sensors give feedback to computer room air handlers (CRAHs), CRACs, or the building management system that alters fan speed to meet the underfloor pressure setpoint.





REASON **THREE**

Maintain Cabinet Security with Contact Closure Sensors

Ensure the safety of your racks and the equipment inside and meet internal and industry security mandates.

- Dry contact sensors detect electronic door opening and locking so that you can ensure equipment changes are executed securely.
- Contact closure sensors can be used to trigger an event so that a webcam snaps a picture whenever it detects that the cabinet door has been opened.
- Dry contact closure sensors have provisions for third-party devices like smoke detectors that will alert you to fires.

REASON **FOUR**

Improve Data Center Uptime with Environment Alerts

Protect valuable devices and eliminate costly downtime from IT equipment failure.

- Humidity sensors help you maintain proper humidity levels and avoid electrostatic discharge (ESD) problems when humidity is low and condensation problems when humidity is high.
- Water sensors detect if there is a water leak from external sources, from overhead fixtures, or pipes in water-cooled racks and will also uncover the presence of a 50% glycol mixture.
- Data center managers can set thresholds and alerts to monitor onsite, remote, or lights-out facilities to ensure equipment is operating in safe conditions.



REASON FIVE

Make Strategic Decisions on Environmental Designs and Modifications

Environmental sensors let you spot trends, get alerts, improve data center availability, and save energy.

- Environmental sensors used alongside Data Center Infrastructure Management (DCIM) solutions allow you to monitor the temperature in real-time and calculate potential savings.
- Optimize your data center ecosystem to ensure you meet guidelines and set points, reduce operational costs, and improve your power usage effectiveness (PUE).
- Discover and reclaim unused data center capacity and defer capital investments in equipment and facilities.



Why Our Suite of Environmental Sensors?

- They accurately monitor various environmental conditions, including temperature, humidity, airflow, differential air pressure, dust/particles, water leaks, and vibrations.
- They are designed with the latest, most high-tech metering components to prolong their lifespan, improve reliability, and ensure it runs efficiently.
- They are plug-and-play ready with a Xerus-enabled power management device, including intelligent Raritan PX Rack PDUs, Raritan Smart Rack Controllers, and Server Technology PRO Rack PDUs*, making it incredibly easy to install and deploy without disrupting operations.
- They are easy to install, making them non-disruptive in your daily operations. And they can scale to serve small labs and large facilities alike.
- Offering the highest flexibility of deployment, sensors can be cascaded with standard Cat5/6 cables to instrument entire rows of your data center with different types of sensors.

Contact us to confirm compatible models.

Who uses Legrand's Environment SmartSensors?

With compute loads — and operating costs — on the rise, eBay established a four-year data center plan with an ambitious goal: To cut power costs in half, double compute performance while gaining greater operational agility, and increased reliability. They succeeded... with the help of SmartSensors.

Ready to Learn More?

More on Sensors

Learn more about our suite of SmartSensors.

[LEARN MORE](#)



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