

MONITOR YOUR DATA CENTER WITH PLUG-AND-PLAY SENSORS

Our comprehensive set of SmartSensors monitor the environment within a data center in real-time. They are engineered to facilitate easy deployment while providing the most accurate data and insight into your operation. The advanced feature set allows for easy deployment, clear identification of hot spots, and better airflow management. SmartSensor models are available for monitoring temperature, humidity, airflow, differential air pressure, water/leaks, contact closures, proximity detection, vibration and more.

EASY COMPLIANCE WITH ENVIRONMENTAL STANDARDS

SmartSensors are a useful tool to accurately report critical environmental conditions affecting IT equipment and to help you follow ASHRAE guidelines.

SmartSensors facilitate the collection of crucial environment data and provide a more efficient deployment and management experience by pushing collected data through the Xerus™ Technology Platform embedded in Raritan power management devices such as Intelligent rack PDUs, compact PDUs, Smart Rack Controllers, Inline Meters, Rack Transfer Switches, and Branch Circuit Monitoring Systems.

SEAMLESS INTEGRATION TO DCIM OR BMS SOFTWARE

With SmartSensors, adding environment monitoring to existing infrastructure is easier and more cost-effective than ever before. They set the new standard for easy deployment with a plug-and-play connection to a Xerus enabled power management device. Once connected, SmartSensors can be seamlessly integrated into a DCIM monitoring software, such as Sunbird's Power IQ®, or other management software.

SMARTSENSOR BENEFITS

- Accurately monitor various environment conditions in a data center or facility including temperature, humidity, airflow, differential air pressure, water leaks, and vibrations
- Improve uptime and remediate critical risks by receiving real-time alerts of potential threats in your environment before they cause an issue
- Plug-and-play connection to a Xerus enabled power management device
- Save on cooling by confidently raising data center temperatures
- Check airflow and air pressure to and from racks to prevent hot spots and bypass recirculation
- Make smarter rack management decisions based on factual environmental insights
- Improve field response-time to alerts with status LEDs
- Support for customizable deployment configurations with bus/string technology
- Designed to meet the standards and needs of data centers, labs, facilities, network/compute closets, or remote locations like colocation, POP, and telecommunication sites



Xerus enabled iX7 Controller

DATA CENTER SENSORS



TEMPERATURE AND HUMIDITY

The DX2-T3H1 strings together 3 sensor packages, making it easy to mount them at the bottom, middle, and top of the cool air inlet side as per ASHRAE² guidelines.



TEMPERATURE

The DX2-T1 can be placed at the front or rear of the rack to monitor cool air entering and/or hot air being expelled to ensure proper containment.¹



AIRFLOW

The DX2-AF1 meters airflow in plenum space (areas that are involved in the circulation of airflow), such as under a raised floor or just above the perforated tiles.



VIBRATION

The DX-VBR detects shock and vibrations over a range of frequencies.



WATER/LEAK

The Water/Leak Floor series (WSF) detect the presence of water. The Water/Leak Rope series (WSC) also detects the presence of water as well as marking the specific location of the leak.



CONTACT CLOSURE

The DX2-CC2 detects the open-and-close and on/off status of connected third-party door position, door lock, and vibration detectors and switches.



TEMPERATURE AND DIFFERENTIAL AIR PRESSURE

The DX2-T1DP1 meters differential air pressure above and below a raised floor, or between hot and cold aisles to prevent thermal leaks.



¹ Additional temperature and humidity sensor options are available.

² The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommends measuring the cool air entering IT equipment near the bottom, in the middle, and near the top of each IT rack.

INNOVATIVE FEATURES

DUAL RJ45 CONNECTORS

Dual RJ45 connectors ease the installation and servicing of sensor packages without having to rewire the rack, saving on time and maintenance costs.

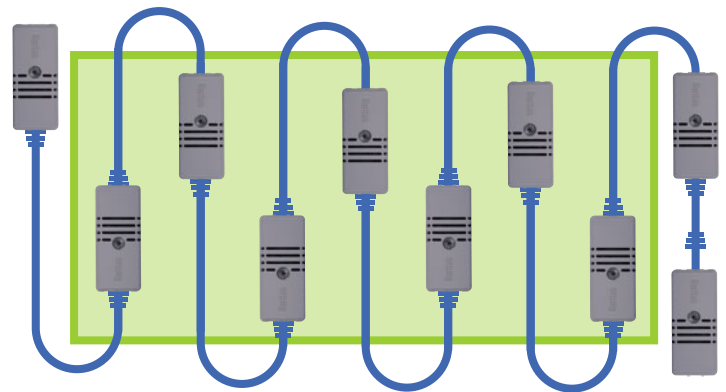


LED INDICATOR

An LED light visually shows when thresholds are exceeded, improving field response time to remediate critical risks.

SINGLE BUS/STRING TECHNOLOGY

Ensure comprehensive measurement and monitoring by cascading different types of SmartSensors in a single bus/string structure. Now cascade up to 32 sensor functions or up to 12 sensor packages* with standard Cat5/6 cables to instrument entire rows of a data center. [* A SmartSensor package may have multiple functions, such as the DX2-T1H1 which has 2 functions: 1 temperature and 1 humidity function. Similarly, the DX2-T1DP1 has 1 temperature and 1 differential air pressure function.]



HIGH-ACCURACY AND HIGH-RELIABILITY METERING

SmartSensors are designed with the latest, most high-tech metering components to prolong its lifespan, improve reliability, and ensure it runs efficiently.

MANAGE SENSORS WITH DCIM MONITORING SOFTWARE

Environment data collected by SmartSensors can be sent to a DCIM, such as Sunbird's Power IQ® monitoring software, which allows you to confidently raise ambient temperatures and adjust the fan speed in CRAHs and CRACs to increase energy savings and get the most out of cooling systems.

Additionally, users can compare the data collected from sensors to the environmental envelope of a psychrometric chart (a graph of thermodynamic parameters) to ensure that adequate cooling is where it needs to be, proper operating conditions have been maintained, and that corporate, vendor, or utility guidelines are followed.

DCIM allows you to:

- See hot spots at-a-glance
- Know when to increase/decrease temperature set points
- Know how much to cool and/or humidify
- Easily manage to ASHRAE standard thermal envelopes
- Simplify how airside economization is managed
- Customize and add thermal envelopes

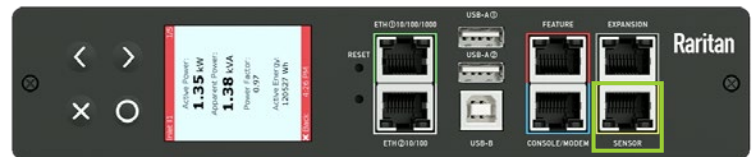


SMARTSENSOR MODELS

| Part Number | Type of Sensor | Description | Range | Accuracy |
|--|--------------------------|--|---|---|
| DX2-T1 | Temperature | Single temperature sensor | 0°C to 20°C 20°C to 70°C | +/- 2°C +/- 1°C |
| DX2-T1H1 | Temperature and Humidity | Single combo temperature and humidity sensor | 0°C to 20°C 20°C to 70°C 0% RH to 100% RH | +/- 2°C* +/- 1°C* +/- 5% /RH** |
| DX2-T2H2 | Temperature and Humidity | Dual sensor packages [(2) DX2-T1H1] | 0°C to 20°C 20°C to 70°C 0% RH to 100% RH | +/- 2°C* +/- 1°C* +/- 5% /RH** |
| DX2-T3H1 | Temperature and Humidity | Three sensor packages [(1) DX2-T1H1 + (2) DX2-T1] (four sensors total in three housings) | 0°C to 20°C 20°C to 70°C 0% RH to 100% RH | +/- 2°C* +/- 1°C* +/- 5% /RH** |
| DX2-AF1 | Airflow Management | Single airflow sensor | 0 to 4 m/s | N/R |
| DX2-T1DP1 | Differential Pressure | Single combo differential air pressure and temperature sensor | 0°C to 20°C 20°C to 70°C -250 to 250 Pa | +/- 2°C +/- 1°C +/- 1.5% FS (at 20°C, 50% RH) |
| DX2-CC2 | Contact Closure | 2 Contact Closure sensors for connection and management third-party sensors (smoke, sound, etc.) | N/R | N/R |
| DX-PD2C5 | Contact Sensor | Powered Dry Contact with switchable 12V output and 5 Contact Closure sensors | N/R | N/R |
| DX2-WSF-35-KIT | Water/Leak Floor | 1 water sensor + 3.5m floor water sensor | N/R | N/R |
| DX2-WSF-70-KIT | Water/Leak Floor | 1 water sensor + 7.0m floor water sensor | N/R | N/R |
| DX2-WSF-100-KIT | Water/Leak Floor | 1 water sensor + 10.0m floor water sensor | N/R | N/R |
| DX2-WSC-35-KIT | Water/Leak Rope | 3.5m rope water/leak sensor | 0 to 3.5m | +/- 1m (at 27°C, 50% RH) |
| DX2-WSC-70-KIT | Water/Leak Rope | 7.0m rope water/leak sensor | 0 to 7.0m | +/- 1m (at 27°C, 50% RH) |
| DX2-WSC-100-KIT | Water/Leak Rope | 10.0m rope water/leak sensor | 0 to 10.0m | +/- 1m (at 27°C, 50% RH) |
| DX-VBR | Vibration | Single vibration sensor | 0 to 13.85g | +/- 0.1g |
| DX-PIR | Proximity and Motion | 1 occupancy (proximity) sensor + 1 tamper sensor | 0 to 5m | N/R |
| *when humidity is 20%–60% RH **when the temperature is at 25°C FS (Full Scale), g (Force), N/R (Not Rated), Pa (Pascals), RH (Relative Humidity) | | | | |

COMPATIBILITY

SmartSensors are designed for easy deployment with a plug-and-play connection to a Xerus enabled power management device including Raritan's intelligent Rack PDUs, Inline Meters, Hybrid Rack Transfer Switches, Branch Circuit Monitoring Systems, and Smart Rack Controllers.



Visit www.raritan.com/SmartSensor
or Call 1.800.724.8090 for more information.

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