

SMARTSENSORS™

MONITOR YOUR DATA CENTER WITH PLUG-AND-PLAY SENSORS

Engineered to furnish accurate data and insight into your operation, SmartSensors' advanced features allow easy deployment, clear identification of hot spots, and airflow management. Available models monitor temperature, humidity, airflow, differential air pressure, water/leaks, dust/particles, contact closures, proximity detection, vibration, and more.

EASY COMPLIANCE WITH ENVIRONMENTAL STANDARDS

SmartSensors are a valuable tool to accurately report critical environmental conditions affecting IT equipment and help you follow ASHRAE guidelines. They facilitate the collection of crucial environment data and provide a more efficient management experience by pushing collected data through the Xerus™ Technology Platform embedded in Raritan intelligent power management solutions.

**IMPROVE UPTIME
EASILY OBTAIN CRITICAL DATA
SIMPLE DEPLOYMENT**

BENEFITS

- Accurately monitor temperature, humidity, airflow, differential air pressure, water leaks, dust/particles, and vibrations and more
- 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
- Seamless integration to DCIM

DATA CENTER SENSORS

Designed to meet the standards and needs of data centers, labs, facilities, network/compute closets, or remote locations like colocation, point of presence (POP), and telecommunication sites.

TEMPERATURE & HUMIDITY

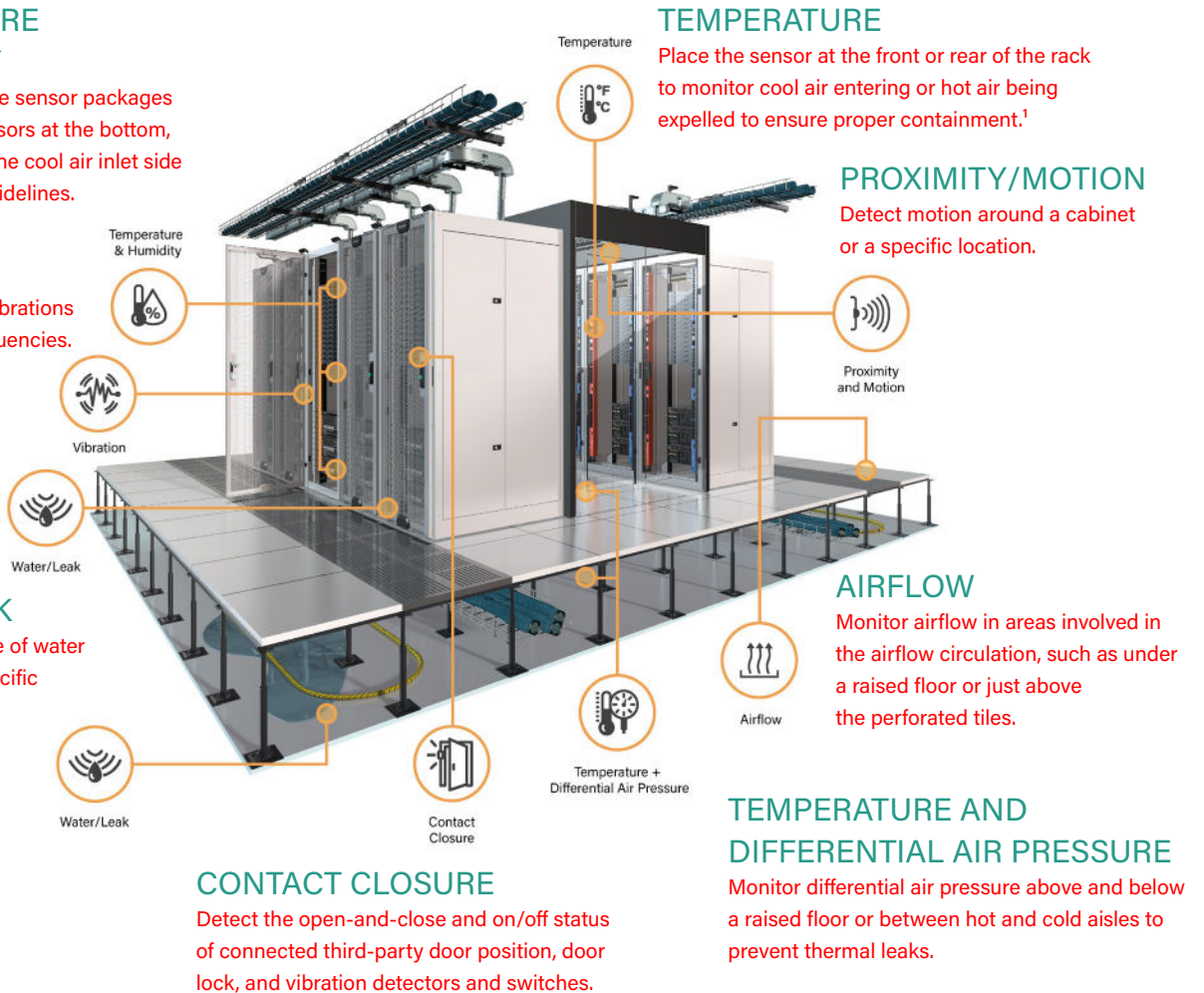
String together three sensor packages to easily mount sensors at the bottom, middle, and top of the cool air inlet side as per ASHRAE² guidelines.

VIBRATION

Detect shock and vibrations over a range of frequencies.

WATER/LEAK

Detect the presence of water and identify the specific location of a leak.



TEMPERATURE

Place the sensor at the front or rear of the rack to monitor cool air entering or hot air being expelled to ensure proper containment.¹

PROXIMITY/MOTION

Detect motion around a cabinet or a specific location.

AIRFLOW

Monitor airflow in areas involved in the airflow circulation, such as under a raised floor or just above the perforated tiles.

TEMPERATURE AND DIFFERENTIAL AIR PRESSURE

Monitor differential air pressure above and below a raised floor or between hot and cold aisles to prevent thermal leaks.

CONTACT CLOSURE

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

COMPATIBILITY

SmartSensors are designed for easy deployment with a plug-and-play connection to an RJ45 Sensor port on a Xerus-enabled power management device including Raritan intelligent Rack PDUs, Compact PDUs, Inline Meters, Smart Rack Controllers, Hybrid Rack Transfer Switches, and Branch Circuit Monitors. Once connected, SmartSensors can be easily integrated into DCIM or other monitoring software.

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, middle, or top of each IT rack. And at least one sensor at the back of the cabinet in the hot aisle.

INNOVATIVE FEATURES



LED INDICATOR

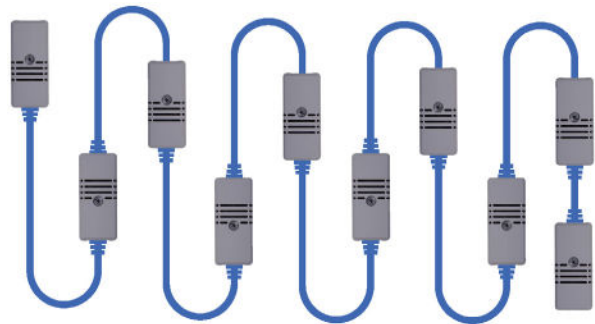
An LED light visually indicates when thresholds are exceeded, improving field response time to remediate critical risks.

DUAL RJ45 CONNECTORS

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

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 data center rows.



*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 MONITORING

SmartSensors are designed with the latest, most advanced monitoring components to prolong their lifespan, improve reliability, and ensure it runs efficiently.

MANAGE SENSORS WITH DCIM

Environmental data collected by SmartSensors can be sent to DCIM software which allows you to confidently raise ambient temperatures and adjust the fan speed in computer room air handlers and conditioners to increase energy savings and get the most out of cooling systems. You can also compare the data collected from sensors to the environmental envelope of a psychrometric chart to ensure that adequate cooling and proper operating conditions are maintained.

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 combination 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 sensor packages)	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-T1DPI	Temperature and Differential Air Pressure	Single combination temperature and differential air pressure 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-PS	Dust/Particle	Single dust/particle sensor + external sensor head, levels monitored are PM1.0, 2.5, 4.0, and 10	0-1000 µg/m ³	+/-25 µg/m ³ at 0-100 µg/m ³ +/-25% at 100-1000 µg/m ³
DX2-CC2	Contact Closure	2 Contact Closure sensors for connection and management of third-party sensors (smoke, sound, etc.)	N/R	N/R
DX2-PD2C5	Dry Contact	2 x powered dry contact with switchable 12V output + 5 x contact closure sensors	N/R	N/R
DX2-D2	Dry Contact	2 x active dry contacts	N/R	N/R
DX2-D2C6	Dry Contact	2 x dry contact + 5 x contact closure + 1 x magnetic contact	N/R	N/R
DX2-PD2	Dry Contact	2 x active dry contacts with switchable 12V output	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
DX2-PIR	Proximity and Motion	1 x infrared motion detector + 1 x occupancy (proximity) sensor + 1 x tamper detector	0 to 5m	N/R
DX2-ENVHUB4	Sensor Hub	Four-port (1x4) hub to expand RJ45 sensor ports on applicable management devices	N/R	N/R
DX2-REMHUB4	Remote Hub	Four-port (1x4) hub to expand the length of RJ45 sensor ports on the SRC-0800 Smart Rack Controller model only. Also supports DX2-DH2C2 controller and up to 8 SmartLock handles.	N/R	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), PM (Particulate Matter), µg (microgram)