

# SMARTSENSORS™

## MONITOR YOUR DATA CENTER WITH PLUG-AND-PLAY SENSORS

Engineered to furnish accurate data and insight into your operation, Legrand® 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/motion, and vibration.

## CONFORMANCE WITH ENVIRONMENTAL MONITORING GUIDELINES

SmartSensors are a valuable tool for accurately reporting and predicting critical environmental conditions affecting IT equipment and helping you follow ASHRAE guidelines. They facilitate the collection of crucial environment data and provide a more efficient management experience by routing collected data through the Xerus™ Technology Platform embedded in Legrand's Raritan and Server Technology branded rack power management devices.

## BENEFITS

- Accurately monitor temperature, humidity, airflow, differential air pressure, water leaks, dust/particles, proximity/motion, and vibration
- Improve uptime and remediate critical risks by receiving real-time alerts of potential threats in your environment before they cause an issue
- Save on cooling by confidently raising data center temperatures
- Monitor airflow and air pressure to and from racks to prevent hot spots and bypass airflow
- Stay alerted 24/7 of service-impacting conditions in onsite, remote, and lights-out facilities
- Easy plug-and-play deployment with scalable sensor technology
- Seamless integration to DCIM or other monitoring tools

# POPULAR DATA CENTER SENSORS

## Temperature and Humidity

With the DX2-T3H1, string together three sensor packages to easily mount at the bottom, middle, and top of the cool air inlet side as per ASHRAE<sup>2</sup> guidelines.

## Vibration

The DX2-VBR detects shock and vibration over a wide range of frequencies.

## Dust/Particle

The DX2-PS monitors indoor dust/particle density levels.

## Water/Leak

The DX2-WSF water/leak floor kits detect the water's presence. The DX2-WSC water/leak rope kits also detect the presence of water and mark the specific location of a leak.

## Contact Closure

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

## 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.<sup>1</sup>

## Proximity/Motion

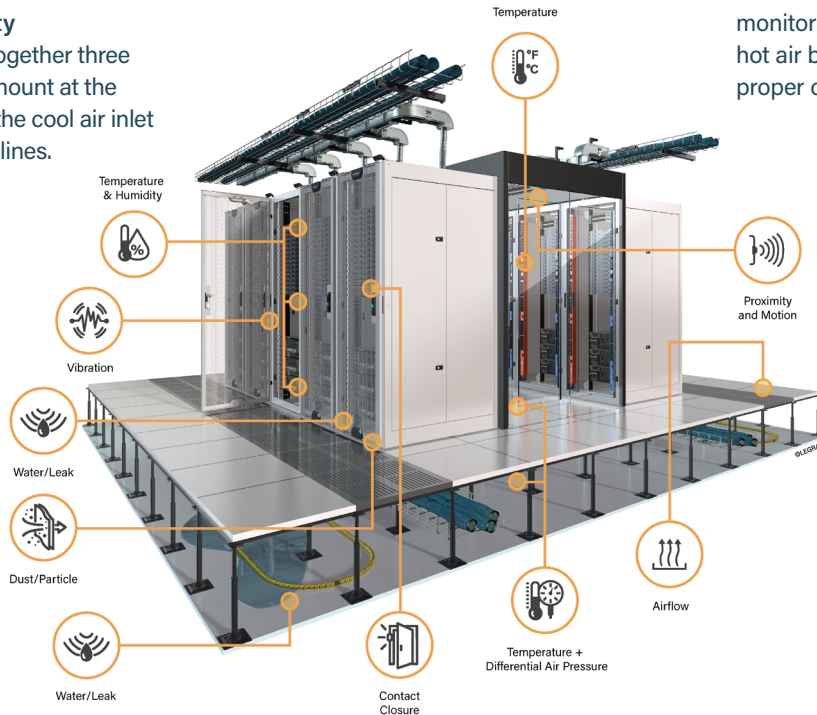
The DX2-PIR detects motion around a cabinet and is often used with a Webcam event.

## Airflow

The DX2-AF1 monitors airflow circulation, such as under a raised floor or just above the perforated tiles.

## Temperature and Differential Air Pressure

The DX2-T1DP1 monitors 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 - ASHRAE suggests measuring the temperature entering IT equipment near the bottom, middle, and top of each IT rack and in at least one position at the back of the cabinet.

## PLUG-AND-PLAY COMPATIBILITY

SmartSensors are designed for easy deployment with plug-and-play compatibility to an RJ45 Sensor port on the Controller of an intelligent Xerus-enabled rack power managing device, including:

- Server Technology® PRO4X & PRO3X Rack PDUs
- Raritan® PX4 & PX3 Rack PDUs
- Raritan SRC Smart Rack Controllers
- Raritan PX3 Inline Meters
- Raritan PX3TS Hybrid Rack Transfer Switches
- Raritan BCM2 Branch Circuit Monitors



RJ45 Sensor Port on a Controller of a Xerus-enabled Managing Device  
(Controller designs vary by brand, model, and version)

## INNOVATIVE FEATURES

SmartSensors meet the needs of enterprise data centers, labs, network closets, or remote locations like colocation, edge, point of presence (POP), and telecommunication sites.



### LED INDICATOR

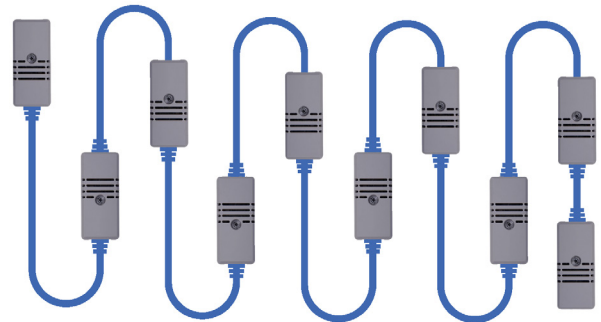
An LED light visually indicates when thresholds exceed predetermined levels, improving field response time when addressing critical risks.

### DUAL RJ45 CONNECTORS

Dual RJ45 connectors simplify the installation and servicing of sensor packages without rewiring the rack or daisy chain, saving 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 12 sensor packages\* with standard Cat5/6 cables to instrument entire data center rows.



SmartSensor packages support a cabling length of up to 30m (98ft), except for the DX2-PD2C5 which is up to 4m (13ft).

\*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 metering components to prolong their lifespan, improve reliability, and ensure they run efficiently.

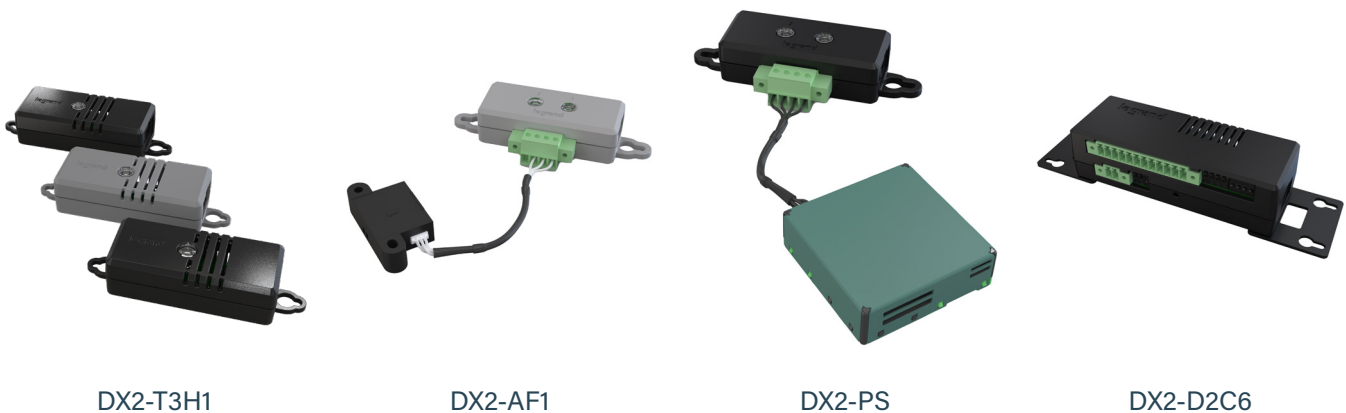
### MANAGE SENSORS WITH DCIM

Environmental data collected by SmartSensors can be sent to DCIM or other monitoring software, allowing 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. SmartSensor packages support a cabling length of up to 30m (98ft), except for the DX2-PD2C5, which is up to 4m (13ft).

Part Number	Type of Sensor	Description	Range	Accuracy
DX2-T1	Temperature	One temperature sensor	0°C to 20°C 20°C to 70°C	± 2°C ± 1°C
DX2-T1H1	Temperature and Humidity	One combination sensor including temperature and humidity functions	0°C to 20°C 20°C to 70°C 0% RH to 100% RH	± 2°C <sup>1</sup> ± 1°C <sup>1</sup> ± 5% /RH <sup>2</sup>
DX2-T2H2	Temperature and Humidity	Two DX2-T1H1 sensor packages		
DX2-T3H1	Temperature and Humidity	Three sensor packages: 1 x DX2-T1H1 + 2 x DX2-T1 (four sensors total in three sensor packages)		
DX2-AF1 <sup>3</sup>	Airflow Management	One airflow sensor + flow rate sensor attachment	0 to 4 m/s	5% FS
DX2-T1DP1	Temperature and Differential Air Pressure	One combination sensor including temperature and differential air pressure functions	0°C to 20°C 20°C to 70°C -250 to 250 Pa	± 1°C ± 1.5% FS (at 20°C, 50% RH)
DX2-PS	Dust/Particle	One dust/particle sensor + particulate matter sensing attachment	0-1000 µg/m <sup>3</sup>	± 25 µg/m <sup>3</sup> at 0-100 µg/m <sup>3</sup> ± 25% at 100-1000 µg/m <sup>3</sup>
DX2-CC2	Contact Closure	One contact closure sensor that supports up to 2 contact closures	N/R	N/R
DX2-D2	Dry Contact	One actuator that detects and controls up to 2 wired dry contacts	N/R	N/R
DX2-D2C6	Dry Contact/Contact Closure	One actuator that detects and controls up to 2 wired dry contacts, 5 contact closures, and 1 hall effect switch	N/R	N/R
DX2-PD2 <sup>3</sup>	Powered Dry Contact	One actuator that detects and controls up to 2 powered dry contacts with switchable 12V output	N/R	N/R
DX2-PD2C5	Powered Dry Contact/Contact Closure	One actuator that detects and controls up to 2 powered dry contacts with switchable 12V output and 5 contact closures	N/R	N/R

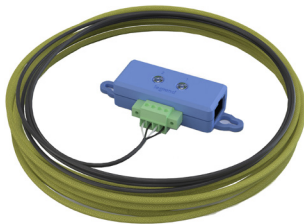
1 when humidity is 20%–60% RH    2 when the temperature is at 25°C    3 sensor type supported in Xerus 4.0.20 Firmware or later  
4 sensor type supported in Xerus 4.1.0 Firmware or later    FS (Full Scale), g (Force), N/R (Not Rated), Pa (Pascals), RH (Relative Humidity), PM (Particulate Pollution), µg (microgram)

Part Numbers are continued on the next page >



Part Number	Type of Sensor	Description	Range	Accuracy
DX2-WSF-35-KIT <sup>3</sup>	Water/Leak Floor	One water sensor + 3.5m floor water sensor accessory	0 to 3.5m	N/R
DX2-WSF-70-KIT <sup>3</sup>	Water/Leak Floor	One water sensor + 7.0m floor water sensor accessory	0 to 7m	N/R
DX2-WSF-100-KIT <sup>3</sup>	Water/Leak Floor	One water sensor + 10.0m floor water sensor accessory	0 to 10m	N/R
DX2-WSC-35-KIT <sup>3</sup>	Water/Leak Rope	One water sensor + 3.5m rope water sensor cable accessory	0 to 3.5m	± 1m (at 27°C, 50% RH)
DX2-WSC-70-KIT <sup>3</sup>	Water/Leak Rope	One water sensor + 7.0m rope water sensor cable accessory	0 to 7m	± 1m (at 27°C, 50% RH)
DX2-WSC-100-KIT <sup>3</sup>	Water/Leak Rope	One water sensor + 10.0m rope water sensor cable accessory	0 to 10m	± 1m (at 27°C, 50% RH)
DX2-VBR <sup>4</sup>	Vibration	One vibration sensor	0 to 13.85g	± 0.1g
DX2-PIR	Proximity/Motion and Tamper	One combination sensor including infrared motion detector, occupancy (proximity), and tamper functions	0 to 5m	N/R
DX2-ENVHUB4	Sensor Hub	One four-port (1x4) hub to expand RJ45 sensor ports on applicable rack power managing devices	N/R	N/R
DX2-REMHUB4	Remote Hub	One four-port (1x4) hub to expand the length of RJ45 sensor ports on SRC-0800/SRC-0803 Raritan Smart Rack Controller models only. Also supports DX2-DH2C2 controller and up to 8 SmartLock™ handles.	N/R	N/R

1 when humidity is 20%–60% RH 2 when the temperature is at 25°C 3 sensor type supported in Xerus 4.0.20 Firmware or later  
4 sensor type supported in Xerus 4.1.0 Firmware or later FS (Full Scale), g (Force), N/R (Not Rated), Pa (Pascals), RH (Relative Humidity), PM (Particulate Pollution), µg (microgram)



DX2-WSC-100-KIT



DX2-WSF-35-KIT



DX2-PIR



DX2-ENVHUB4

[Raritan.com/SmartSensor](https://Raritan.com/SmartSensor)

800-724-8090 | [sales@raritan.com](mailto:sales@raritan.com)

[ServerTech.com/products/accessories](https://ServerTech.com/products/accessories)

800-835-1515 | [sales@servertech.com](mailto:sales@servertech.com)