



MONITOR YOUR DATA CENTER WITH RARITAN'S PLUG-AND-PLAY SENSORS

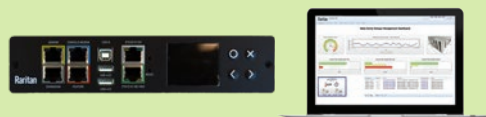
SmartSensor is a comprehensive set of environmental sensors that deliver accurate data providing insights into your data center's environment. The advanced feature set allows for easy deployment, clear identification of hot spots, and better airflow management. SmartSensors models are available for monitoring temperature, humidity, airflow, air pressure, water/leaks, contact closures, proximity detection, vibration and more.

All environmental data collected by the sensor can be sent to any DCIM Monitoring software to provide a complete picture of data center conditions at the rack, aisle, and facility level. Real-time alerts of potential threats in your environment are also sent to administrators for fast resolution.

With Raritan's SmartSensors, adding environmental monitoring to your existing infrastructure is easier and more cost-effective than ever before. Setting the new standard for easy data center deployment with its plug-and-play connection to any Raritan power device including PX intelligent rack PDU series, smart rack controllers, PX inline meters, rack transfer switches, and branch circuit monitors.

PRE-INTEGRATED WITH RARITAN PX IPDUS, DCIM SOFTWARE

A seamless solution that works out-of-the-box with PX Intelligent PDUs, and Power IQ® DCIM monitoring software.



EASY COMPLIANCE WITH ENVIRONMENTAL STANDARDS (ANSI/ASHRAE)

Environment Sensors are one of the most useful tools needed to accurately report on all critical environmental conditions impacting your IT equipment and to make decisions to comply with ASHRAE environmental standards.

SmartSensors facilitate the collection of key environmental data and provide a more efficient deployment and management experience by pushing data into any DCIM or BMS software, through the Xerus Technology platform, already built in Raritan Products.

SMARTSENSOR BENEFITS

- Accurate monitoring of various conditions in your environment: temperature, humidity, airflow, air pressure, water leaks, and vibrations
- 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
- Improve data center uptime by receiving environment alerts to prevent hot spots, bypass airflow and recirculation
- Make smarter rack management decisions based on factual environmental insights
- Easily install plug-and-play sensors without disrupting operations

SENSORS IN YOUR DATA CENTER



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



RACK INLET TEMPERATURE AND HUMIDITY

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



AIRFLOW

The DPX-AF1 can meter air-flow in plenum space, such as under a raised floor or just above the perforated tiles.



VIBRATION

The DX-VBR detects vibrations such as earthquakes and damaged fans, along three axes (x, y, z).



WATER/LEAK

The DPX-WSF-KIT, DPX-WSC-35-KIT, and DPX-WSC-70-KIT sensors monitor leaks on the floor, around an area, on liquid cooled racks, and can detect condensation.



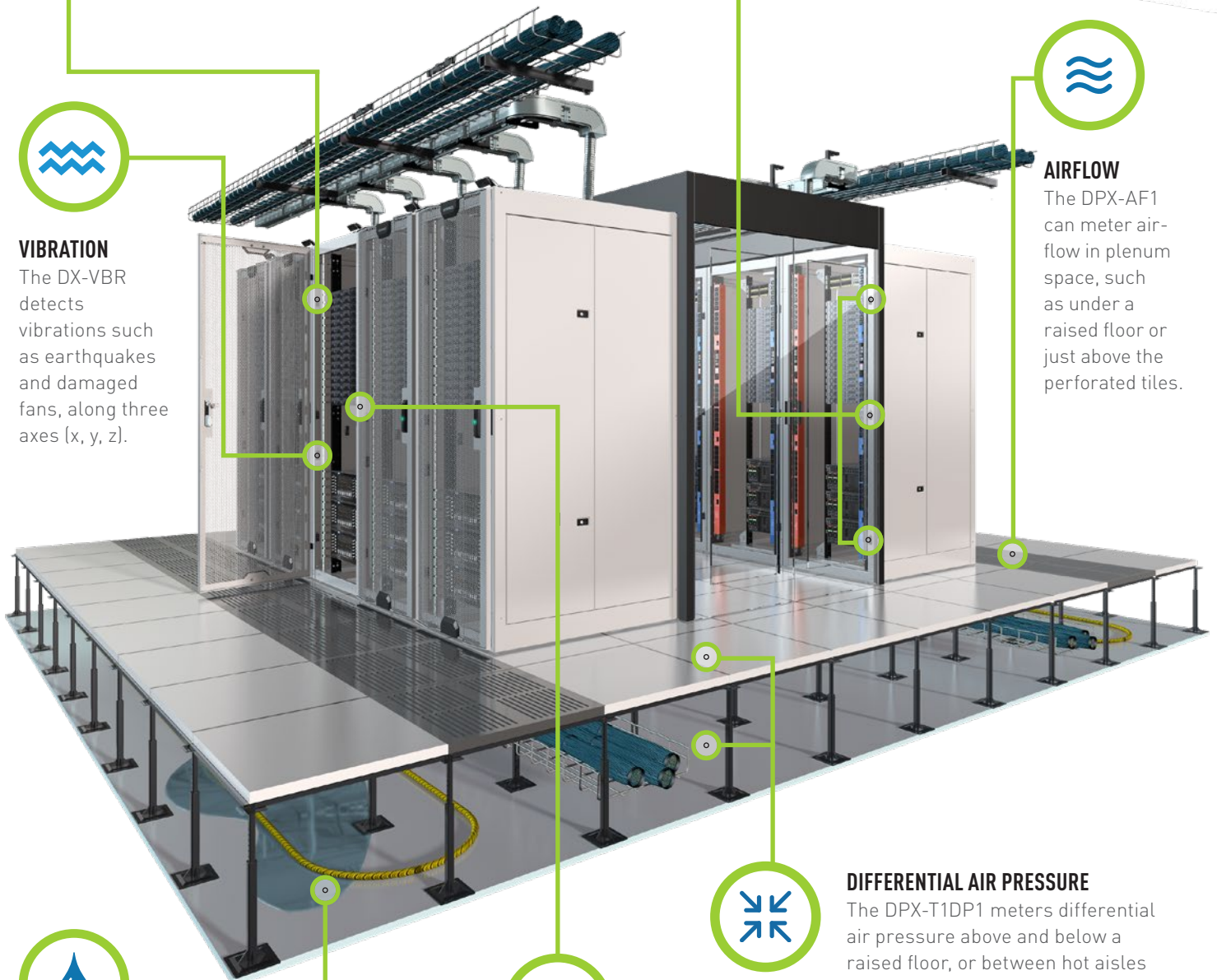
CONTACT CLOSURE

DX2-CC2 dual contact closure is used with third party sensors, and integrates with data center smoke detectors to monitor risky conditions and aggregate data through Raritan Xerus Platform.



DIFFERENTIAL AIR PRESSURE

The DPX-T1DP1 meters differential air pressure above and below a raised floor, or between hot aisles 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

RJ45, REMOVABLE SENSOR HEADS

If sensor accuracy diminishes, you don't need to remove the entire sensor; just replace the sensor head to maintain a high degree of accuracy.

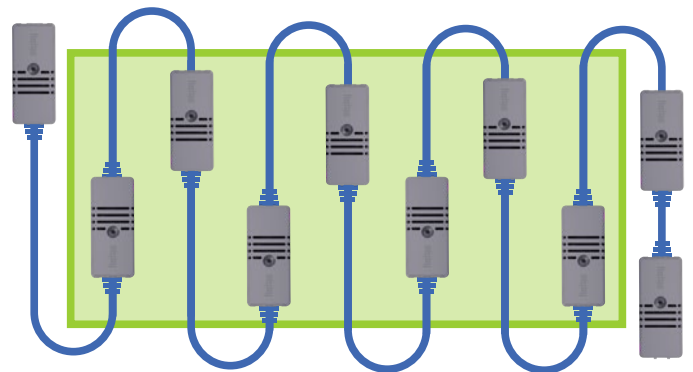


LED INDICATOR

LED light that visually alerts technicians when temperature thresholds are exceeded.

SINGLE BUS/STRING TECHNOLOGY

Offering the highest flexibility of deployment by the standard sensor cord or any Cat 5/6-type cable connection, the SmartSensor allows you to cascade up to 32 sensors through a single bus. The SmartSensor makes it easy to instrument entire rows of your data center with different types of sensors through a single control device.



HIGH-ACCURACY AND HIGH-RELIABILITY METERING

All SmartSensors benefit from the latest, most high-tech metering components. SmartSensor delivers the highest metering accuracy at +/- 0.5°C for temperature sensors, +/-2.5% for relative humidity.

POWER IQ® DCIM MONITORING

Environment data collected by sensors can be instantly sent to Power IQ® DCIM monitoring software which allows you to confidently raise ambient temperatures and adjust fan speed in CRAHs and CRACs to increase your energy savings and get the most out of your cooling systems.

Additionally, users can compare the data from sensors to the environmental envelope of a psychrometric chart to ensure that adequate cooling is where it needs to be, proper operating conditions have been maintained, and that they are in compliance with corporate, vendor, or utility guidelines and requirements.

Power IQ allows you to:

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



Learn more at www.raritan.com/eu/poweriq

SMARTSENSOR™ MODELS

Type of Sensor	Part Number	Description	Range	Accuracy
Temperature Sensor (RJ-45)	DX2-T1	Single Temperature Sensor - Field Replaceable Module with LED Indicator – Daisy Chainable - 2x RJ-45F (cables not included)	-20°C to 20°C 20°C to 70°C	+/- 2°C +/- 0.5°C
Temperature and Humidity Sensor (RJ-45)	DX2-T1H1	Single Combo Temperature and Humidity Sensor - Field Replaceable Module with LED Indicator - Daisy-Chainable – 2x RJ-45F (cables not included)	-20°C to 20°C 20°C to 70°C 0% RH to 100% RH	+/- 2°C +/- 0.5°C +/- 2.5% /RH
Temperature and Combo Temp/ Humidity Sensors (RJ-45)	DX2-T2H1	Combo Temperature and Humidity Sensor plus One Single Temperature Sensor (Kit Item with Total of 3 Sensors in 2 Housings) - Field Replaceable Module with LED Indicator – Daisy-Chainable – 2x RJ-45F (cables not included)	-20°C to 20°C 20°C to 70°C 0% RH to 100% RH	+/- 2°C +/- 0.5°C +/- 2.5% /RH
Dual Temperature and Humidity Sensors (RJ-45)	DX2-T2H2	Two Combo Temperature and Humidity Sensors (Kit Item with Total of 4 Sensors in 2 Housings) - Field Replaceable Module with LED Indicator – Daisy-Chainable – 2x RJ-45F (cables not included)	-20°C to 20°C 20°C to 70°C 0% RH to 100% RH	+/- 2°C +/- 0.5°C +/- 2.5% /RH
Temperature and Humidity Sensors (RJ-45)	DX2-T3H1	Two Single Temperature Sensors plus One Combo Temperature and Humidity Sensor (Kit Item with Total of 4 Sensors in 3 Housings) - Field Replaceable Module with LED Indicator – Daisy-Chainable – 2x RJ-45F (cables not included)	-20°C to 20°C 20°C to 70°C 0% RH to 100% RH	+/- 2°C +/- 0.5°C +/- 2.5% /RH
Airflow Sensor (RJ-12)	DPX-AF1	Single Airflow Sensor – Daisy-Chainable, 1 Meter RJ12M-RJ12M Cable and RJ45M-RJ12F Adapter Cable	Not applicable	Not applicable
Airflow Sensor (RJ-45)	DX2-AF1*	Single Airflow Sensor – Field Replaceable Module with LED Indicator – Daisy-Chainable – 2x RJ-45F (cables not included)	Not applicable	Not applicable
Differential Air Pressure and Temperature Sensor (RJ-12)	DPX-T1DP1	Single Combo Differential Air Pressure and Temperature Sensor - 3 Meter RJ12M-RJ12M Cable and RJ45M-RJ12F Adapter Cable	0 to 125 PA	+/- 0.1%
Differential Air Pressure and Temperature Sensor (RJ-45)	DX2-T1DP1*	Single Combo Differential Air Pressure and Temperature Sensor - Field Replaceable Module with LED Indicator – Daisy-Chainable – 2x RJ-45F (cables not included)		0 to 125 PA
Contact Closure Sensor (RJ-45)	DX2-CC2	Contact Closure Sensor for 2 Independent 3rd Party NO/NC Contacts (i.e. Smoke, Sound, etc.) - 2x RJ-45F Connector plus 1 Terminal Block with 4 Screw Terminals	Not applicable	Not applicable
Proximity and Motion Sensor (RJ-45)	DX-PIR	Proximity (Motion) Sensor - Includes Tamper Sensor and Contact Closure Sensors, Daisy-Chainable, 2x RJ-45F Connector		
Proximity and Motion Sensor (RJ-45, 2nd generation)	DX2-PIR*	2nd Generation Proximity (Motion) Sensor - Includes Tamper Sensor and Contact Closure Sensors, Daisy-Chainable, 2x RJ-45F Connector	Not applicable	Not applicable
Vibration Sensor (RJ-45)	DX-VBR	Vibration Sensor - Detects Acceleration Along 3 Axes (x, y, z) Around a Server Cabinet, Daisy-Chainable, 2x RJ-45F Connector(1)	0 to 13.86g (acceleration)	+/- 0.1g
Vibration Sensor (RJ-45, 2nd generation)	DX2-VBR*	2nd Generation Vibration Sensor - Detects Acceleration Along 3 Axes (x, y, z) Around a Server Cabinet, Daisy-Chainable, 2x RJ-45F Connector(1)	0 to 13.86g (acceleration)	+/- 0.1g
Water/Glycol and Contact Closure Sensor (RJ-12)	DPX-WSF-KIT	Water and Contact Closure Sensor - Detects Water/Glycol Leakages Below Raised Floors, One Spare Contact Closure, 3 Meter Cable with RJ-12 Connectors and RJ45M-RJ12F Adapter Cable	Not applicable	Not applicable
Water/Glycol and Contact Closure Sensor (RJ-45)	DX2-WSF-KIT*	Water and Contact Closure Sensor – Detects Water/Glycol Leakages Below Raised Floors, One Spare Contact Closure, Daisy-Chainable, 2x RJ-45F Connector	Not applicable	Not applicable
Water and Contact Closure Sensor Rope (3.5 Meter, RJ-12)	DPX-WSC-35-KIT	Floor Water and Contact Closure Sensor – Detects Water/Glycol Leakages Below Raised Floors, One Spare Contact Closure, 350cm Sensor Rope, 2x 30cm Cables with RJ-12 Connector	Not applicable	Not applicable
Water and Contact Closure Sensor Rope (3.5 Meter, RJ-45)	DX2-WSC-35-KIT*	Floor Water and Contact Closure Sensor – Detects Water/Glycol Leakages Below Raised Floors, One Spare Contact Closure, 350cm Sensor Rope, Daisy-Chainable, 2x RJ45F	Not applicable	Not applicable
Water and Contact Closure Sensor Rope (7 Meter, RJ-12)	DPX-WSC-70-KIT	Floor Water and Contact Closure Sensor – Detects Water/Glycol Leakages Below Raised Floors, One Spare Contact Closure, 700cm Sensor Rope, 2x 30cm Cables with RJ-12 Connector	Not applicable	Not applicable
Water and Contact Closure Sensor Rope (7 Meter, RJ-45)	DX2-WSC-70-KIT*	Floor Water and Contact Closure Sensor – Detects Water/Glycol Leakages Below Raised Floors, One Spare Contact Closure, 700cm Sensor Rope, Daisy-Chainable, 2x RJ45F	Not applicable	Not applicable
Passive Multi Contact Sensors (12V, RJ-45)	DX-D2C6	Daisy-Chainable Sensor with Two Dry Contacts (Requires Optional External 12V Power Supply for Use with SmartLock Door Locks) - Six Digital NO/NC Contact Closures for 3rd Party NO/NC Contacts (e.g. Door Open/Close, Smoke Present/Absent, etc.) Each of the Six Ports/Channels can be Independently Set to NC or NO (Factory Default is NC), 2x RJ-45F Connector to Connect to Devices with RJ-12 and RJ45 Sensor Ports	Not applicable	Not applicable
Passive Multi Contact Sensors (12V, RJ-45, 2nd Generation)	DX2-D2C6*	2nd Generation Daisy-Chainable Sensor with Two Dry Contacts (Requires Optional External 12V Power Supply for Use with SmartLock Door Locks) - Six Digital NO/NC Contact Closures for 3rd Party NO/NC Contacts (e.g. Door Open/Close, Smoke Present/Absent, etc.) Each of the Six Ports/Channels can be Independently Set to NC or NO (Factory Default is NC), 2x RJ-45F Connector to Connect to Devices with RJ-12 and RJ45 Sensor Ports	Not applicable	Not applicable
Active Multi Powered Contact Sensor (12V, RJ-45)	DX-PD2C5	Daisy-Chainable Sensor with 5 Digital NC/NO Contact Closures, 2 Sensor Bus Powered (12V) Dry Contacts - 2x RJ45F Connector. Supported only on Devices with RJ45 Sensor Port	Not applicable	Not applicable
Active Multi Powered Contact Sensor (12V, RJ45, 2nd Generation)	DX2-DH2C2*	2nd Generation Daisy-Chainable Sensor with 2 Digital NC/NO Contact Closures, 2 Sensor Bus Door Handle Interfaces - 2x RJ45F Connector. Supported only on Devices with RJ45 Sensor Port	Not applicable	Not applicable

NOTES: * Products marked with an * are expected to be released during 2020.

For compatibility with (older generation) Raritan power products, please contact your local Raritan product specialist.

(1) To connect RJ45 sensors to PX2 PDUs make sure to also order an RJ12M-RJ45M adapter.

Visit www.raritan.eu for more information.

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