Vertiv™ Wireless Sensor Network (WSNv2)

Benefits

- Substantially decrease installation installation labor costs compared to wired solutions
- Save up to 15% in material costs with less to manage and deploy
- Effectively monitor data center environment with a single user interface for many sensors
- Act fast if a problem occurs
- Improved end-to-end security
- Gen2 Flex sensors are now enabled with Over-The-Air firmware updates
- Flexible, fast relocation options
- SNMP and Modbus TCP communication for easy integration into monitoring software
- Gen2 sensors now come with an e-ink display to provide configuration information locally

Overview

Vertiv™ Wireless Sensor Network (WSN) provides an effective and secure method for data center thermal monitoring that reduces deployment costs and network complexity.

Generation 2 of the Wireless Sensor Network builds upon new technologies to lessen time spent maintaining deployed wireless sensors.

How It Works

The Vertiv™ WSN solution uses wireless LoRa technology for increased distance, battery life and security. The platform is easily deployed and scalable from small monitoring environments to large multi-room mission critical control applications. A single deployed gateway can communicate with up to 300 sensors collecting environmental data.

Increase Visibility to Environmental Conditions

Getting a clear picture of the environmental conditions, identifying trends and knowing when issues occur are all key to managing thermal conditions in your data center. But today's data centers face a unique challenge of constant change, equipment additions and moves that require thermal solutions to be highly adaptable. Ensuring data security is also key when implementing a wireless thermal solution.

Vertiv WSN allows you to design and implement a thermal monitoring solution that is easy to install and produces measurable results.

Vertiv™ Wireless Sensors (WSNv2)

Cover More in Less Time with Less Materials

Wireless sensors take less time and fewer resources for the initial deployment. They also provide a fluid solution that can adapt with the changing, dynamic design of today's data centers. There are no wires to run, fewer cabinets and junction boxes to deal with and simplified wiring diagrams.

More Accuracy and Longer Battery Life

By not being tethered to wires, single point sensors can be placed exactly where they need to be for actionable readings. In addition, Vertiv wireless sensors have a best in class level of accuracy (+/-0.3 deg. C., +/-2% RH) and a longer battery life. The E-Ink display only uses power when the image is updated, which enables it to consume less power than traditional LCD screens and preserve battery life.

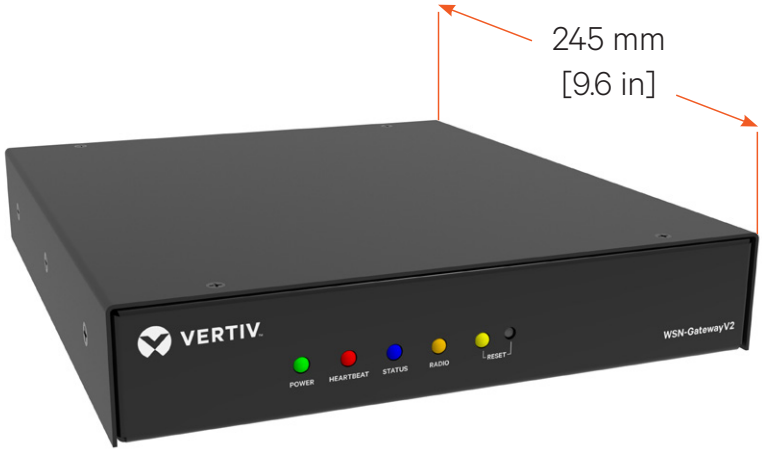
Vertiv™ WSN-FlexV2 with Mounting Bracket

Easy Integration

Vertiv™ WSN provides flexibility for how data is collected. The embedded web Interface provides a simple solution for onsite monitoring. Vertiv WSN also comes with the ability to communicate via SNMP or Modbus TCP to a larger data center monitoring software like Vertiv™ Environet™ Alert or other BMS systems that use SNMP or Modbus TCP to communicate. Finally, Vertiv WSN fully integrates with Vertiv™ Liebert® iCOM™-S for mission critical control.

Best in Class Security

The Vertiv WSN solution boasts unique device key validation, frame count validation and encrypted payloads for top of the line data security. There is no automatic control algorithm incorporation for newly added wireless devices. This means that an unknown device cannot be added to the system without the intended user knowing about it. In addition, the gateway has an auto-joining mode that must be enabled to allow new wireless devices to join the network. This feature decreases human error by automatically disabling if users forget to turn it off.



Vertiv™ WSN-GatewayV2

Product Specifications

Vertiv™ WSN-GatewayV2 Specifications:

Item	Specification
Voltage Input	(1) Universal AC Input: 85-264VAC (2) PoE, IEEE 802.3af, 48VDC
Power	5W
Input Current	62mA @ 85VAC 104mA @ 48VDC
Ethernet	2 x 10/100/1000 base-TX Ethernet RJ45 Cat5/6
Physical Parameters	215 x 245 x 41 mm (8.5 x 9.6 x 1.6 in) Total Weight: 4 lb. 2 oz. / 1,871g
Mounting	(1) Wall Mount: 150 mm (5.9 in) Hole Pattern (2) Optional 19" 1U Rack Mount Bracket (One or Two Gateways)
Operating Temperature	0°C to 60°C
RF Characteristics	Maximum RF Input Level: -10dBm Maximum RF Output Level for US/CAN/AS-NZ: +27.8dBm Receiver Sensitivity: -139dBm at SF12 BW 125kHz Receiver Sensitivity: -125dBm at SF7 BW 125kHz Frequency Range (US/CAN/AS-NZ): 915MHz ISM Band (902-928MHz) Max ERP: 24.9mW at 867.1MHz at 0°C
Certifications	FCC/IC

Vertiv™ WSN-FlexV2 Specifications:

Power	Two AA Energizer L91 - Ultimate Lithium Batteries
Connectivity	USB-C Port as optional power source for sensor, 5VDC
Device Dimensions	50.2 x 89.7 x 28.9 mm (1.9 x 3.5 x 1.1 in) - with mounting bracket
Typical Temperature Accuracy	+/- 0.3°C
Typical Relative Humidity Accuracy	+/- 2%
Humidity Operating Range	0 to 100% RH
Response Time	Thermal response time to 63% of final value: 90 sec (2m/s air flow)
Calibration Required?	No
Supported RF Frequencies	915MHz ISM Band (902 to 928MHz)
LoRa Protocol	Supports LoRa Class-A End Device Protocol
FLEXio	Supported through USB-C port and optional accessories

Vertiv™ WSN-FlexV2 Mounting Bracket Specifications:

Mounting Options	Tie Wraps, Wall Screws, Integrated Magnetic Mount, Flip-Up Rack Perforation Snap Tab
Device Dimensions	40.3 x 72.3 x 5.7 mm (1.6 x 2.8 x 0.2 in)

Supported Frequency by Country

Country(s)	Part(s)	Frequency
USA, Canada	Vertiv WSN-Gateway, Vertiv WSN-Flex	915-928MHz band

AV-49567 (R09/24)