

SynapSense® 2.4 GHz Wireless Monitoring System

SynapSense® 2.4 GHz Wireless Monitoring System provides a low-cost, easy-to-deploy solution to gather, communicate, and visualize environmental data within your facility for improved reliability, product quality and energy optimization.

Robust wireless mesh sensing technology delivers granular temperature, humidity and differential air pressure data to your IoT application at a fraction of the time and cost of wired solutions. Software package includes tools to visualize, analyze and alarm, easing deployment and allowing immediate use of collected data. Complete kits are available to speed learning and deployment. SynapSense® 2.4 GHz Wireless Monitoring System is part of the Panduit® building block architecture that enables reliable end-to-end physical layer infrastructure from the enterprise to the edge, simplifying robust industrial network and IoT deployment.



Key Features

Benefits

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| Wireless sensor nodes: | Monitor temperature, humidity and air differential pressure without communication or power wiring to enable fast, easy deployment and maintenance |
| Battery operated sensor nodes: | Provide up to five years of life* on two AA batteries, reducing installation and maintenance costs |
| Small, compact sensor node design: | Allows mounting with cable ties or adhesive, no special tools required, minimizing installation time and cost |
| Wireless mesh network: | Self-organizing, self-healing networks communicate environmental data across multiple nodes with redundant pathways to provide highly reliable, extensible and easy to configure and maintain sensor networks |
| Time synchronized data: | Provides accurate time-stamped data collection and allows for historical comparisons, improving analytic accuracy |
| Visual data analytics: | Help manage plant operations with graphs, charts, alarms/alerts and thermal mapping, reducing plant maintenance time and cost |
| Ethernet gateway with simplified convergence to IP network: | Allows interconnection of up to 400 nodes through a single IP address which eliminates the need for many separate IP ports, reducing IP capital costs and address-management overhead |
| End to end security: | 128-bit and 256-bit encryption, authentication and network access control protect data communications and system against unauthorized access, data snooping and tampering, ensuring network and data security |
| RF noise management auto-adjusting receiver sensitivity with adaptive channel block-listing: | Enables radios to communicate with each other in harsh RF environments which increases network reliability and provides co-existence with other RF technologies in same band |
| Flexible integration options: | Connect environmental data to external systems through database, application and protocol (such as BACnet, ModBUS, SNMP) interfaces to simplify and speed-up interfacing to IoT applications on premise or in cloud |
| Wireless network and firmware maintenance with SMOTA** | Transmits firmware and application updates directly to node without the need for physical intervention which evolves network to changes, saving time and money |

*Battery life is determined by sensor reporting frequency and other variables.

**Performing a firmware upgrade is a specialized process that must involve technical support or a qualified reseller.

System Requirements

- Windows*** 7/10, Professional/Enterprise, Windows*** Server 2008SP2, 2012, 2012R2
- 4GB of memory (2GB available)
- 128GB Hard drive (at least 50GB available)
- Dual core processor
- 10/100Mb Network interface card
- Adobe**** Macromedia Flash Version 17 or later
- Included with installation:
Visual C++ 2008
JAVA Runtime Environment 6u14 or later

***Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.

****Adobe is a registered trademark of Adobe Systems Incorporated in the United States and/or other countries.

SynapSense® 2.4 GHz Wireless Monitoring System (cont.)



SynapSense® 2.4 GHz Wireless Mesh Gateway and Wireless Mesh Gateway with Antenna: wireless network-to-Ethernet bridge collects data from wireless mesh sensors or meter hardware and sends to remote server.



SynapSense® 2.4 GHz ThermoNode® EZ and EZ-H Sensors: battery-operated, wireless, capture temperature or humidity data within the facility and transmit data through the wireless mesh network.



SynapSense® 2.4 GHz Pressure Node™ Sensor: battery-operated, wireless, captures air pressure differential data within the facility and transmits data through the wireless mesh network.

Ordering Information

| Part Number | Description |
|-------------|-------------|
|-------------|-------------|

SynapSense® 2.4 GHz Wireless Monitoring Kits

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| IOT-A1STRT | Starter kit; includes 40 ThermoNode® EZ-H sensors, 2 SynapSense® Wireless Mesh Gateways, 2 gateway mounting kits and software. |
| IOT-A1EXPD | Expansion kit; includes 40 ThermoNode® EZ-H sensors, 2 SynapSense® Wireless Mesh Gateways, 2 gateway mounting kits. |
| IOT-A1DEMO | Demo kit; includes 4 ThermoNode® EZ-H sensors, 1 sensor harness, 1 SynapSense® Wireless Mesh Gateway with Ethernet cable, and software. |

SynapSense® Wireless Mesh Gateway

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| 100-1156-001IA | Wireless mesh gateway; includes power transformer and power cords; dimensions: 5.5" x 5.25" x 1.63" (139mm x 133.35mm x 41.402mm). |
| 100-1156-011 | Wireless mesh gateway with extended temperature range and external antenna; includes power transformer and power cords; dimensions: 5.5" x 5.25" x 1.63" (139mm x 133.35mm x 41.402mm). |
| IOT-A1GMT | Gateway mounting kit; includes 1 base plate, 1 mounting bracket, 1 PoE splitter with power cord and interchangeable plugs, 1 lanyard, 3 cable tie mounts, 2 strips, 1 Ethernet cable, 4 cable ties, and thread-forming Phillips pan head screws: 8 #6-19 x ¼", 4 #6-19 x 1", 1 #10-32 x ½". |

SynapSense® Sensors

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| 99-0944-001IA | ThermoNode® EZ Sensor; temperature data; dimensions: 2.875" x 1.75" x 0.925" (73.025mm x 44.45mm x 23.495mm). |
| 99-0944-001XIA | ThermoNode® EZ Sensor; 10-pack; temperature data; dimensions: 2.875" x 1.75" x 0.925" (73.025mm x 44.45mm x 23.495mm). |
| 99-0944-010IA | ThermoNode® EZ-H Sensor; temperature and humidity data; dimensions: 2.875" x 1.75" x 0.925" (73.025mm x 44.45mm x 23.495mm). |
| 99-0944-010XIA | ThermoNode® EZ-H Sensor; 10-pack; temperature and humidity data; dimensions: 2.875" x 1.75" x 0.925" (73.025mm x 44.45mm x 23.495mm). |
| 99-0331-001IA | Pressure Node™ Sensor; air pressure differential data; dimensions: 4.5" x 2.6" x 1.4" (114.3mm x 66.04mm x 35.56mm). |
| 47-1087-010IA | Sensor harness for ThermoNode® EZ-H and EZ Sensors; 24" (609.6mm). |
| 47-1087-010XIA | Sensor harness for ThermoNode® EZ-H and EZ Sensors; 24" (609.6mm); 10-pack. |

For information on the complete Panduit® SynapSense® Wireless Monitoring System offering, including 900 MHz, visit: www.panduit.com/synapsense

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