BB-WSK-HAC-2

Wzzard™ HVAC Monitoring Starter Kit

Features

- Monitor current and temperature to reduce energy costs
- Snap-and-go set up – no downtime, disruption or wiring/cable runs
- Built-in Node-RED™ software tool for easy deployment
- Smartmesh IP® wireless mesh for point-to-point, self-healing reliability
- More resilient as more nodes are added
- Easily scalable at any time to thousands of sensors
- IP67 indoor/outdoor rated (Wzzard node)
- RoHS-3

Introduction

Monitor Performance of Your HVAC System

Today's leading manufacturing and facility managers have performance improvement programs in place to reduce input costs and improve their environmental footprint. But, often they manage those programs with nothing more than environmental temperature monitoring and periodic inspections, with no insight into the performance of individual HVAC units. Additionally, retrofitting a building automation system carries a high installation cost and is disruptive to ongoing operations.

The Wzzard HVAC Monitoring Starter Kit provides a non-intrusive, easily installed "overlay" solution for monitoring current and differential temperature on your HVAC equipment without disrupting your existing facility operations.

- Includes everything you need to monitor incoming and outgoing air or coolant temperatures along with current consumption of the compressor and fan.

- No equipment downtime. Simply snap on the current clamps and temperature probes connected to the wireless Wzzard mesh wireless sensor and provide an Ethernet connection to the gateway.

- Supports, dashboard, data trendlines, email/SMS alerts and data logging capability.

- Easily expand the starter kit system by adding more Wzzard mesh wireless sensor nodes and sensors to your existing gateway.

- Fast deployment of Proof of Concept and Pilots. Easy to scale to hundreds or thousands of inputs from one location or multiple locations.

Easy to Deploy

- The Wzzard mesh wireless sensor node is battery-powered and is easily deployed - no need to install expensive or intrusive wiring.

- Clamp-on current transducers are easy to install without disrupting equipment. Simply clamp them over the hot power lead.

- Tie temperature sensors directly into airflow or on high and low pressure lines.

- Wzzard's 2.4 GHz wireless mesh technology continuously optimizes its channel selection to eliminate multipath interference, providing best-in-class reliability in difficult RF environments.

- Simple, cloud-based configuration of the gateway makes it easy to deploy and manage one device or many.

Ordering Information

Model No.	Description
BB-WSK-HAC-2	Wzzard HVAC Monitoring Starter Kit

Included Hardware

(1) BB-WSD2C21150 – Wzzard Wireless Sensor Node (industrial)
    (2 analog inputs, 1 digital input, 1 digital output, 2 thermocouples, 2 thermistors, internal temperature)

(2) JC10F50-V – 50A clamp-on current sensors, for compressor and fan current

(2) BB-WTJ-10-36-TT – J-Type thermocouple, #10 mounting hole, ungrounded
(1) BB-SG30000525-42 – SmartSwarm 342 Ethernet Network Gateway (10-60 Vdc, 0.7A, Wzzard board, Ethernet cable, antenna, power supply, connector set, DIN mount bracket)
    Note: one gateway supports up to 100 wireless sensor nodes.

Included Software

- Cloud license for SmartWorx Hub device management and configuration tool.
- Node-RED flow with Web server for:
    - Real time data display
    - Historian trending
    - Visual and email/SMS alerts
    - External data source integration (weather, Twitter feeds, and more)

Scalable

- Grow from monitoring one unit to many simply by adding more self-configuring sensor nodes and making simple dashboard edits.

- Or expand into a multi-site system integrated into your preferred software platform. The popular MQTT protocol and JSON data format make it easy to integrate into third-party software applications.

- Use built-in Node-RED to create and customize your own applications (no advanced programming skills necessary).

Rugged & Reliable

- Wzzard mesh wireless sensor node is housed in a IP67 rated, -40 to 80°C, indoor and outdoor industrial enclosure. No additional external cabinet required.

- Advanced Smartmesh IP wireless mesh protocol provides excellent point-to-point wireless reliability becoming more resilient as more nodes are added.

Specifications

Gateway / Node	
Nodes per Gateway	32, maximum
Polling Range	10 seconds, maximum
Wireless Range	Up to 100 meters indoors; Up to 300 meters outdoors. Line-of-sight, 2 meters above ground.
Temperature Sensors	
Measurement Range	0 to 750 °C (-32 to 1382 °F)
Accuracy (0 to +40 °C)	±2.2 °C (±3.96 °F)
Current Sensors	
Measurement Range	0.3 to 50 A
Minimum Reading (at 0 Amps Input)	0.3 A
Accuracy	±2.2%

Dimensions	
Wzzard Industrial Wireless Sensor Node	115.93 x 95.25 x 65.15 mm (4.56 x 3.75 x 2.57 in)
Antenna	94.1h mm (7.64h in)
Current Sensors	50h x 23w x 26d mm (1.97h x 0.91w x 1.02d in)
J-Type Thermocouple	0.97 m (38.25 in), overall length
SmartSwarm 342 Gateway	125w x 97d x 55h mm (4.92w x 3.82d x 2.17h in)
Regulatory – Approvals / Standards / Directives	
BB-WSK-HAC-2 kit	RoHS-3
See datasheet for each sub-model in kit for additional information.	

Node-RED Dashboard