BB-WSK-REF-2

Features

- Monitor refrigeration performance for early fault detection and regulatory compliance
- Includes everything to monitor chamber temperature, door open/close, current draw
- Snap-&-Go set up – no downtime, disruption or cable runs
- Built-in Node-RED™ software tool for easy deployment
- SmartMesh IP® wireless mesh for point-to-point, self-healing reliability
- Becomes more resilient as more nodes are added
- Easily scalable at any time to thousands of sensors
- RoHS-3

Introduction

Monitor Performance of Your Refrigeration System

Maintaining proper temperature for food and pharmaceuticals is essential for ensuring quality and preventing expensive losses. Adding a remote wireless monitoring system to your refrigerators and freezers provides real-time visibility into the status of the goods you are trying to protect. Instant alerts via e-mail or text of any out-of-range temperature or a door left open can mean saving investments that would otherwise spoil.

The Wzzard Refrigeration Monitoring Starter Kit provides a non-intrusive, easily installed solution for monitoring internal and external temperatures, door open/closed and current draw on refrigeration equipment without disrupting existing facility operations.

- Prevent waste, maintain quality and prove regulatory compliance through data-driven refrigeration performance monitoring.
- Includes everything you need to monitor cooling chamber temperature and door open/close along with current consumption of the compressor and fan.
- No equipment downtime. Simply snap on the current clamps and temperature probe connected to the Wzzard mesh wireless sensor node and provide an Ethernet connection to the gateway.
- Supports dashboard, data trend lines, email/SMS alerts and data logging capability.
- Easily expand the starter kit by adding more Wzzard 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.
- Included high accuracy temperature sensor can be placed anywhere within the cooling chamber.
- Clamp-on current transducers are easy to install without disrupting equipment. Simply clamp them over the hot power lead.
- 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-REF-2	Refrigeration Monitoring Starter Kit

Included Hardware

(1) BB-WCD1H2102H – Wzzard Wireless Sensor Node (commercial). (Temperature/Humidity Sensor – 2 AI, 1 thermistor input, 1 DI, internal antenna)

(2) BB-JC10F50-V – 50A clamp-on current sensors.

(1) BB-WCHCBL – 10K Thermistor/Breakout cable.

(1) BB-WCHMS – Door open/close sensor cable.
(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 by simply adding more self-configuring sensor nodes and making simple dashboard edits.
- 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 required.
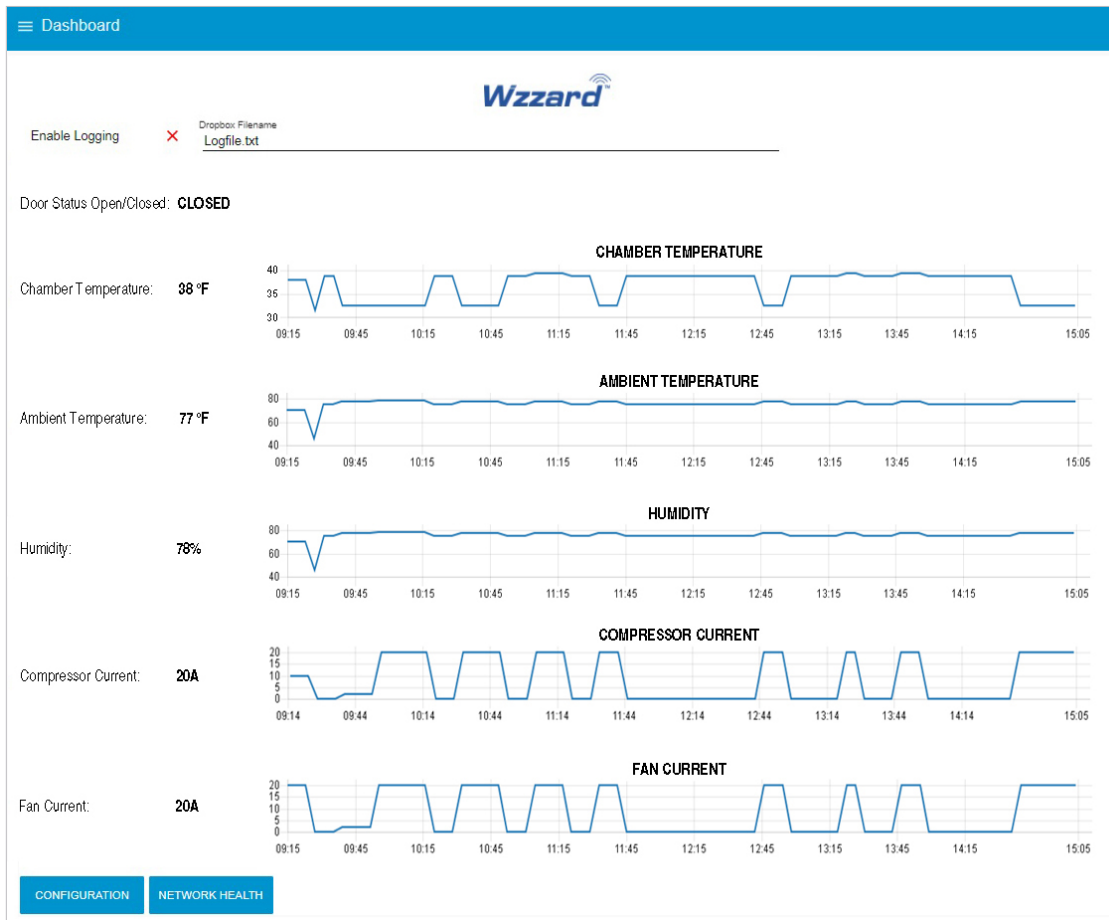
Rugged & Reliable

- Wzzard mesh wireless sensor node is rated for -20 to +70 °C operating range, indoor commercial use – no external enclosure required.
- Advanced Smartmesh IP wireless mesh protocol provides excellent point-to-point wireless reliability and becomes more resilient as more nodes are added to the network.

ADVANTECH

All product specifications are subject to change without notice.

Specifications

Gateway / Node	
Nodes per Gateway	100, maximum
Polling Range	10 seconds, maximum
Wireless Range	Up to 50 meters, indoors. Line-of-sight, 2 meters above ground.
Operating Range	-20 to +70 °C
Thermistor Sensors	
Supported Range	-40 to +85 °C
Resolution	0.05 °C
Accuracy	Typical ± 0.3 °C @ 25 °C
Current Sensors	
Measurement Range	0.3 to 50 A
Minimum Reading (at 0 Amps Input)	0.3 A
Accuracy	±2.2%

Dimensions	
Wzzard Commercial Wireless Sensor Node	120.38l x 27.42h x 19.05d mm (4.74l x 1.08h x 0.75d in)
Current Sensors	50h x 23w x 26d mm (1.97h x 0.91w x 1.02d in)
Thermistor/Breakout Cable	1980 ± 30 mm (plus terminal, housing, J1)
Door Sensor Cable	305 ± 10 mm (plus terminal, housing, J1, J2)
SmartSwarm 342 Gateway	125w x 97d x 55h mm (4.92w x 3.82d x 2.17h in)
Regulatory – Approvals / Standards / Directives	
BB-WSK-REF-2 kit	RoHS-3

See datasheet for each sub-model in kit for additional information.

Node-RED Dashboard

X-ON Electronics

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