

# Wzzard™ Refrigeration Monitoring Starter Kit

## Wzzard Mesh Wireless Sensor for Commercial Applications

Model BB-WSK-REF-2

B+B SMARTWORX

Powered by

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- + Monitor refrigeration performance for early fault detection and regulatory compliance
- + Includes everything to monitor chamber temperature, door open/close and 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; more resilient as more nodes are added
- + Easily scalable at any time to thousands of sensors

### Prevent waste, maintain quality and prove regulatory compliance through data-driven refrigeration performance monitoring.

#### 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 goods 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.

- 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.
- Dashboard, data trend lines, email/SMS alerts and data logging capability.
- Easily expand the starter kit system by adding additional 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.

#### Scalable

- Grow from monitoring one unit to many simply by adding more 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 the built-in Node-RED to create and customize your own applications without any advanced programming skills.

#### 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 system.

#### ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BB-WSK-REF-2	Refrigeration Monitoring Starter Kit - includes: 1 - Wzzard mesh wireless sensor node (temperature & humidity) 2 - Clamp-on current sensors 1 - 10K thermistor for temperature inside the chamber 1 - Door open/close sensor 1 - SmartSwarm 342 Gateway

#### Included Hardware

- (1) Wzzard Temp/Humidity Sensor – 2 analog-in + 1 thermistor input + 1 digital Input
- (2) JC10F50-V 50A Clamp-On Current Sensors – for compressor and fan current.
- (1) BB-WCHCBL Thermistor/Breakout cable.
- (1) BB-WCHMS Door Sensor Cable
- (1) SmartSwarm 342 Ethernet Network Gateway – with Wzzard board.  
(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).

All product specifications are subject to change without notice.

BB-WSK-REF-2 Kit\_0518ds

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### 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%

### Node-RED Dashboard

