

# BB-WSK-NRG-2

## Wzzard™ Energy Monitoring Starter Kit



### Introduction

#### Monitor Energy Use of Machines, Circuits & Processes

Today's manufacturing and facility managers have energy reduction programs to reduce input costs and improve their environmental footprint. But, they are often managing these programs with nothing more than a monthly utility bill and no insight into energy use or trends of individual equipment, processes or circuits. Installing individual energy meters into existing equipment carries a high installation cost and is disruptive to ongoing operations.

The Wzzard Energy Monitoring Starter Kit provides a non-intrusive, easily installed solution for monitoring current consumption of your equipment, processes or panels without disrupting your existing operations allowing you to reduce energy costs with data-driven process optimization.

- Includes everything you need to monitor current consumption of up to three inputs - one three-phase load or three unique loads.
- No equipment downtime. Simply snap on the current clamps connected to the wireless Wzzard node and provide an Ethernet connection to the gateway.
- Supports dashboard, data trendlines, email/SMS alerts and data logging capability.
- Easily expand the Starter Kit simply by adding additional self-configuring Wzzard nodes and sensors to your existing gateway.
- Fast deployment of proof-of-concept and pilots. Easily 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 cdeployed without any special wiring. No need to install expensive or intrusive wiring.
- Clamp-on current transducers are easy to install without disrupting equipment. Just clamp them over the hot power lead supplying equipment or a panel.
- 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.

### Features

- Monitor current consumption 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

### Ordering Information

Model No.	Description
BB-WSK-NRG-2	Wzzard Energy Monitoring Starter Kit

#### Included Hardware

- (1) BB-WSD2M31010 – Wzzard Wireless Sensor Node (industrial). (3 analog inputs, M12 connector, external antenna. Supports up to 3 attached sensors.)
- (3) BB-JC10F50-V – 50A clamp-on current sensors.
- (1) BB-WSCAM12-6 – M12 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 machine or circuit to many by adding more 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 makes 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 housing is IP67, -40 to 80°C, rated for indoor and outdoor industrial use – no additional, external enclosure 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	100, 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.
Current Sensors	
Measurement Range	0.3 to 50 A
Minimum Reading (at 0 Amps Input)	0.3 A
Accuracy	±2.2%

Dimensions	
Wizzard 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)
M-12 Cable	Length: 2.0 m (6.56 ft) Diameter: 6.70 mm (0.264 in)
SmartSwarm 342 Gateway	125w x 97d x 55h mm (4.92w x 3.82d x 2.17h in)
Regulatory – Approvals / Standards / Directives	
BB-WSK-NRG-2 kit	RoHS-3
<i>See datasheet for each sub-model in kit for additional information.</i>	

### Node-RED Dashboard

