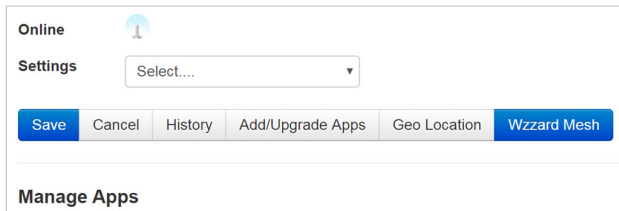


## 4 | Review Network & Claim Nodes

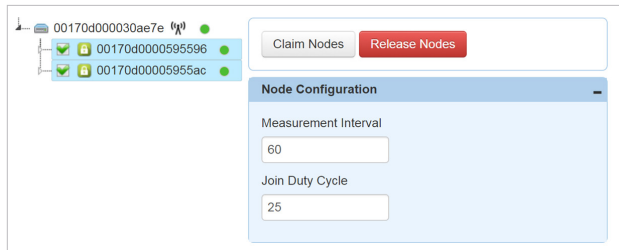
Follow the SmartSwarm quick start guide to claim and configure the gateway. With the gateway connected to the internet, click on the “Wzzard Mesh” button.



As nodes join the network, they will be added to the device tree under the gateway MAC address.

When all nodes' MAC addresses show in the tree, click the checkbox next to each node.

Click the “Claim Nodes” button to prevent the nodes from joining another open network.



## 5 | Configure the Node

Refer to the Wzzard Mesh Wireless Sensor user manual for detailed configuration instructions.

## 6 | Mount the Node

**Flange Mounting** - Wzzard nodes may be mounted via their mounting ears. (M5, #10)

**Magnetic Mounting\*** - Wzzard nodes contain a powerful, internal mounting magnet in the base of the node – pull force 2.13 kg (4.7 lb) – convenient for temporary positioning and configuration of nodes.

Apply the anti-skid disk to the bottom of unit for extra grip.

\* **Note:** UL Class1/Division2 rating does not apply (voided) when using magnetic mounting.

## 7 | Putting the Node in Deep Sleep

When not using the node for some time, the node should be put into deep sleep.

Press the Status/Sleep/Reset configuration button for 5 seconds until the Status LED turns off.

The node will retain all settings, including the associated network if the node has been claimed. It will not reset the device back to factory settings.

## 8 | Restoring Node to Factory Default

To reset the node to factory defaults, press and hold the Status/Sleep/Reset configuration button for 10 seconds until the Status LED flashes quickly. This will:

- 1) Clear the sensor type information.
- 2) Clear the associated network information if the node has been claimed.
- 3) Allow the node to search for a new network.

### Recommended Accessories

# BB-ZXTMT  
Cable Gland/Conduit Kit



# BB-WCD-TM2M  
Thermistor Cable



# BB-WSCAM12-6  
M12 Cable Wiring Harness Cable



# ADVANTECH

[www.advantech.com](http://www.advantech.com)

707 Dayton Road | PO Box 1040 | Ottawa, IL 61350  
Phone: 1 (815) 433-5100 | Fax: 1 (815) 433-5109  
[www.advantech.com](http://www.advantech.com) | E-mail: [support@advantech.com](mailto:support@advantech.com)

# + QUICK START GUIDE



## Wzzard™ Mesh Wireless Sensor for Industrial Applications

Intelligent Edge Node with SmartMesh IP

Models: BB-WSD2C21150, BB-WSD2C06010,  
BB-WSD2C31010, BB-WSD2M06010,  
BB-WSD2M31010, BB-WSD2M3101P2K,  
BB-WSD1M3101R100

**Before you begin, be sure you have the following:**

- + Wzzard Intelligent Edge Node
- + Wire Harness
- + (2) Lithium Thionyl Chloride AA Batteries
- + External Antenna
- + Anti-skid Disk

# ADVANTECH

Fast and easy on the web: [www.advantech.com](http://www.advantech.com)

# Product Overview



## 1 | Connect Your Sensor

Remove the four (4) black screws that hold the top of the node in place. (Screws will be retained in the lid). Connect your sensor.

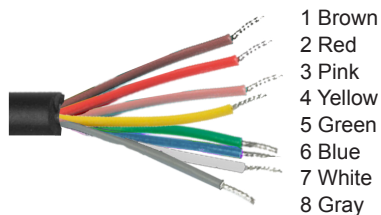
**Best Practice Tip:**

Complete wiring before installing batteries or powering up the device.

**Note:** UL C1/D2 rating is voided when using non UL-specified batteries.

### Conduit Models: Analog & Digital

Thread the included wire harness through the conduit and into the node. Plug it into the circuit board inside the node.



Connect your sensor to the wires running from the node's conduit. Consult the following chart for wiring instructions.

### Wiring for Conduit Connector Nodes – with Attached Wiring Harness

MODEL	1 Brown	2 Red	3 Pink	4 Yellow	5 Green	6 Blue	7 White	8 Gray
BB-WSD2C31010	10-30VDC	AIN1	AIN2	AIN3	DIN1	GND	GND	GND
BB-WSD2C21150	10-30VDC	AIN1	AIN2	DO1	DIN1	GND	GND	GND
BB-WSD2C06010	10-30VDC	DIN1	DIN2	DIN3	DIN4	DIN5	DIN6	GND

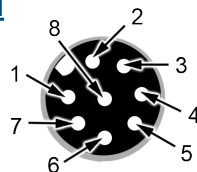
**Wiring Chart Abbreviations:**

10-30V = 10-30V DC Power Input  
 AINx = Analog Input #x  
 DINx = Digital Input #x  
 DOx = Digital Output #x  
 GND = Ground Input

### M12 Models\*: Analog & Digital

– with Accessory Cable

You can use your own M12 cable or order Advantech B+B SmartWorx accessory cable #BB-WSCAM12-6.



### M12 Accessory Cable Detail

– #BB-WSCAM12-6 (from Advantech B+B SmartWorx)



Consult the following chart for wiring instructions.

### Wiring for M12 Connector Nodes\*

– with M12 Accessory Cable (from Advantech B+B SmartWorx)

MODEL	1 White	2 Brown	3 Green	4 Yellow	5 Gray	6 Pink	7 Blue	8 Red
BB-WSD2M31010	10-30VDC	AIN1	AIN2	AIN3	DIN1	GND	GND	GND
BB-WSD2M06010	10-30VDC	DIN1	DIN2	DIN3	DIN4	DIN5	DIN6	GND
BB-WSD2M3101P2K	10-30VDC	Vref	AIN2	AIN3	DIN1	GND	GND	GND
BB-WSD2M3101R100	10-30VDC	Vbat	AIN2	AIN3	DIN1	GND	GND	GND

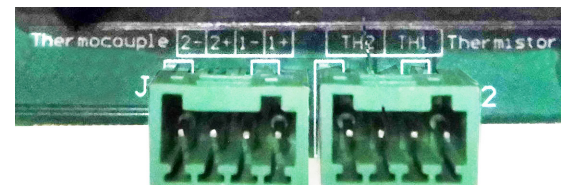
**Wiring Chart Abbreviations:**

10-30V DC = 10-30V DC Power Input  
 AINx = Analog Input #x  
 DINx = Digital Input #x  
 GND = Ground Input  
 Vref = Switched 3.3V Reference Out - to Analog Input 1: 100mS time before read.  
 Vbat = Switched Battery Voltage Out - to Analog Input 1, 2.5sec. time before read.

\* **Note:** UL Class1/Division2 rating is voided when using M12 model outdoors.

### Terminal Block Connections – Thermocouple & Thermistor

Thread the thermocouple and thermistor wires through the conduit and attach them to the terminal block.



### Terminal Block Labels & Mapping

Sensor Type	Thermocouple		Thermistor					
MQTT Label	Temp 4	Temp 3	Temp 2	Temp 1				
Terminal Label	2-	2+	1-	1+	TH2	TH2	TH1	TH1

## 2 | Wake Up The Node

Press and hold Status/Sleep/Reset configuration button for 5 seconds until the Status LED comes on and begins blinking.

## 3 | Check LEDs

After you wake the node, the Status LED will begin to blink. This indicates that the node is attempting to establish a network connection. The Status LED will come on solid when a connection is made.

**Note:** The Status LED goes off after 10 seconds to conserve battery life. To check status, use a short press of the Status/Sleep/Reset configuration button.

Status LED		
Data	Slow Blink (1 per sec.)	Attempting to establish connection with SmartMesh IP network.
	Fast Blink (10 per sec.)	Firmware update in progress.
	ON (solid)	Unit is connected to wireless network.

(continued)

## 9 | Radio Equipment Directive (RED) Statement

Hereby, B+B SmartWorx, Inc. declares that the radio equipment type “Wzzard Wireless Mesh” is in compliance with Directive 2014/53/EU.

The complete CE Declaration of Conformity is available at:

<https://support.advantech-bb.com/>

**Keywords**, enter [model number]

**Material Type**, select **Reference**

Click **Search**

## 10 | UL Class 1, Division 2 Notifications and Warnings

### **Conduit Models Only**

UL Listed Model Numbers:

BB-WSD2C31010, BB-WSD2C21150,  
(BB-WSD2C06010, pending)

SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.

CONVENANT À L'EMPLOI DANS LES SITES DANGEREUX DE CLASSE I, DIVISION 2, GROUPES A, B, C ET D, OU DANS LES SITES NON HASARDEUX SEULEMENT

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.

ATTENTION - RISQUE D'EXPLOSION - NE PAS DÉCONNECTER L'ÉQUIPEMENT PENDANT QUE LE CIRCUIT EST VIVANT OU À MOINS QUE LA ZONE NE SAIT ÊTRE EXEMPTÉ DE CONCENTRATIONS IGNIFIABLES.

THIS EQUIPMENT IS TO BE INSTALLED IN AN ENCLOSURE SUITABLE FOR THE ENVIRONMENT THAT IS ONLY ACCESSIBLE WITH THE USE OF A TOOL.

CET ÉQUIPEMENT DOIT ÊTRE INSTALLÉ DANS UNE ENCEINTE ADAPTÉE À L'ENVIRONNEMENT QUI N'EST ACCESSIBLE QUE POUR L'UTILISATION D'UN OUTIL.

The unit is to be connected to a Class 2 power source via the terminal block.

L'unité doit être connectée à une source d'alimentation de classe 2 via le bornier.

These products must use only the following batteries: either Model XL-060F manufactured by XENO Energy Co. Ltd. Or Model ER14505 manufactured by EVE. Please be advised of the following warning statement regarding battery replacement.

Ces produits utilisent les batteries suivantes: soit le modèle XL-060F fabriqué par XENO Energy Co. Ltd. Ou Modèle ER14505 fabriqué par EVE. Veuillez prendre connaissance de l'avertissement suivant concernant le remplacement de la batterie.

**WARNING: Risk of Fire and Burns. Do Not Recharge, Open, Crush, Heat Above 100 °C, Or Incinerate the batteries. Batteries are not user replaceable, only a qualified technician should replace the batteries. Do not mix battery types, Do not mix old and new batteries” or similar shall be included on the device or accompanying documentation.**

**ATTENTION: Risque d'incendie et de brûlures. Ne pas recharger, ouvrir, écraser, chauffer au-dessus de 100 °C, ou incinérer les batteries. Les piles ne sont pas remplaçables par l'utilisateur, seul un technicien qualifié doit remplacer les piles. Ne pas mélanger les types de piles. Ne pas mélanger les anciennes et les nouvelles piles “ou similaires sur l'appareil ou la documentation qui l'accompagne.**

Torque value of 5 to 8 lb-in for screws used to secure the cover to main housing must be included in accompanying documentation.

Une valeur de couple de 5 à 8 lb-in pour les vis utilisées pour fixer le couvercle au boîtier principal doit être incluse dans la documentation d'accompagnement.

WSD2C devices are suitable for use in a Type 3 (outdoor) environment. WSD2M devices (with M12 connector) are suitable or use in a Type 1 environment and must be used in a suitable enclosure.

Les appareils WSD2C peuvent être utilisés dans un environnement de type 3 (extérieur). Les appareils WSD2M (avec connecteur M12) conviennent ou sont utilisés dans un environnement de type 1 et doivent être utilisés dans un boîtier approprié.

Operating temperature code for these products is T5.

Le code de température de fonctionnement pour ces produits est T5.

See User Manual for information that is provided separately.

Voir le manuel de l'utilisateur pour des informations fournies séparément.

---

## **UL Class1/Division2 Applications B+B SmartWorx Product Exceptions Summary**

Note: M12 models are not UL Listed.

UL C1/D2 rating is voided if magnetic mounting is used for permanent installation.

UL C1/D2 rating is voided when using non UL-specified batteries. Do not mix old and new batteries.