

# Wzzard LRPv2 Node

## Industrial LoRaWAN Node



### Features

- Long-range wide area IoT application
- Optional solar or battery power input for low power consumption
- LoRaWAN protocol for closed and public system applications
- Provides connectivity to industry-standard analog or digital sensors
- Rugged, IP66-rated, fiber-reinforced polyester PBT enclosure

### Introduction

The Wzzard LRPv2 LoRaWAN node intelligent sensor platform enables you to quickly and easily create a complete connectivity stack between your sensors and applications via a network or the Internet. The platform uses intelligent edge nodes and a wireless LoRaWAN network to transmit analog or digital signals or Modbus RTU sensor data to a WISE-6610 LoRaWAN gateway or other LoRaWAN-compliant gateway device. The Wzzard LRPv2 LoRaWAN node can accommodate virtually any industry standard external sensors. Connections can be made via either conduit fittings or cable glands. This line of nodes provides various sensor interface options including digital I/O as well as general purpose analog inputs.

### Specifications

#### Power

- **Internal** Two 3.6-V 2500-mAh lithium AA batteries\* (BB-WSW2C42100-X Only)
- **Optional** External Input 9 ~ 36 V<sub>DC</sub>

#### Mechanical

- **Physical Connection** 12.7-mm (1/2") conduit, sensor interface cable included; 8-wire, 26-gage, 1.8-m (6")
- **Sensor Inputs** Analog input ( $\pm 10$  V<sub>DC</sub>,  $\pm 5$  V<sub>DC</sub>,  $\pm 1$  V<sub>DC</sub>, 0 ~ 20 mA), digital input (0 ~ 48 V<sub>DC</sub>), digital output (0 ~ 30 V<sub>DC</sub>)
- **Optional External Antenna** RP-SMA, omnidirectional, 1.5 dBi, 868 ~ 915 MHz; length, 170 mm (6.69")
- **Mounting** Magnetic mounting via an internal magnet  
Holding force, 2.13 kg (4.7 lbs); four mounting ears, M5 (#10)
- **Enclosure** IP66-rated, fiber-reinforced polyester PBT
- **Weight** 400 g

#### Technology

- **Wireless** LoRaWAN 868/915/923 MHz
- **LED** Network connectivity

#### Environmental

- **Installation** Indoor or outdoor
- **Operating Temperature** -40 to 75°C (-40 to 167°F)
- **Storage Temperature** -40 to 85°C (-40 to 185°F)
- **Operating Humidity** 10 ~ 95% non-condensing

#### Digital Inputs

- **Voltage Range** Dry contact : Logic level 0: close to GND  
Logic level 1: open  
Wet contact : Logic level 0: 0 ~ 1 V<sub>DC</sub>  
Logic level 1: 3 ~ 30 V<sub>DC</sub>  
0.8 V (max.)  
2 V (min.)
- **V<sub>IL</sub>** 0.8 V (max.)
- **V<sub>IH</sub>** 2 V (min.)
- **Pull-Up Current** 32  $\mu$ A
- **Type** Source/sink (PNP/NPN) software-selectable input
- **Isolation** None
- **Channels** 2ch

#### Digital Outputs

- **Voltage Range** 0 ~ 30 V<sub>DC</sub>
- **Output Type** Open drain
- **Output Current** 100 mA max
- **Protection** Current limit protection
- **Isolation** None

#### Analog Inputs

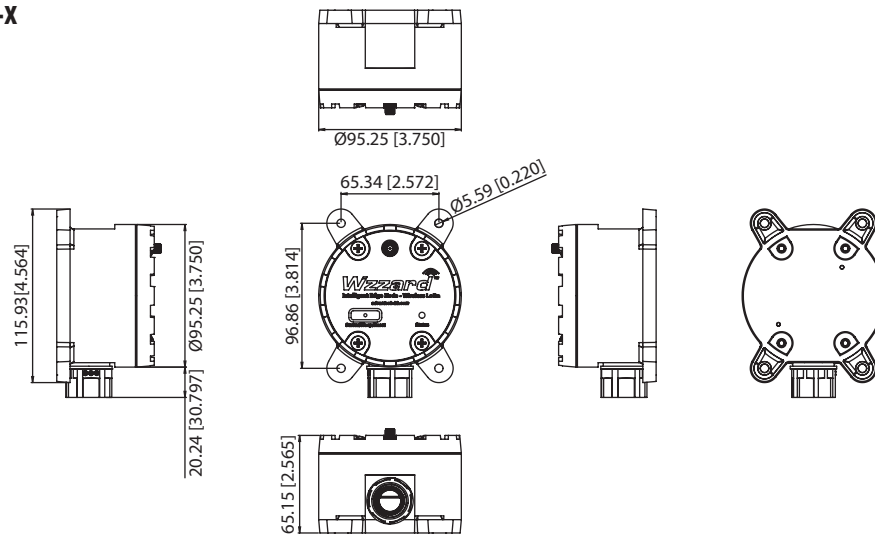
- **Input Range**  $\pm 10$  V<sub>DC</sub>,  $\pm 5$  V<sub>DC</sub>,  $\pm 1$  V<sub>DC</sub>, 0 ~ 20 mA, 16 bit
- **Resolution** 16 bit
- **Input Load Resistance** 10M $\Omega$  (voltage), 120  $\Omega$  (current)
- **Accuracy**  $\pm 0.1\%$  (Voltage) at 25 °C  
 $\pm 0.2\%$  (Current) at 25 °C

Note: 2-year battery life based on condition of data transmission frequency with one time per hour

## Dimensions

Unit: mm [inch]

**BB-WSW2CXXXX-X**



**Outline Dimension: 95.25 x 65.15 x 115.9 [3.75 x 2.56 x 4.56]**

### Serial Communication

- **Port Type** RS-485
- **No. of Ports** 1
- **Protocol** Modbus RTU
- **Data Bits** 8
- **Stop Bits** 1, 2
- **Parity** None, odd, even, space, mark
- **Baud Rate** 2400 ~ 115200 bps
- **Serial Signals** Data+, Data-
- **Protection** Built-in 15-kV ESD protection for all signals

### Console for Configuration

- **Port Type** Micro USB
- **No. of Ports** 1
- **Data Bits** 8
- **Stop Bits** 1
- **Parity** None
- **Baud Rate** 115200 bps
- **Serial Signals** TxD, RxD

### Regulatory Approvals

- **Shock** IEC60068-2-27
- **Free Fall** IEC60068-2-32
- **Vibration** IEC60068-2-6

## Ordering Information

- **BB-WSW2C00015-1** LoRaWAN node w/RS485, external antenna (915MHz)
- **BB-WSW2C00015-2** LoRaWAN node w/RS485, external antenna (868MHz)\*
- **BB-WSW2C00015-3** LoRaWAN node w/RS485, external antenna (923MHz)
- **BB-WSW2C42100-1** LoRaWAN node with power monitoring, 4 x AI, 2 x DI, 1 x DO, conduit, external antenna (915 MHz)
- **BB-WSW2C42100-2** LoRaWAN node with power monitoring, 4 x AI, 2 x DI, 1 x DO, conduit, external antenna (868 MHz)\*
- **BB-WSW2C42100-3** LoRaWAN node with power monitoring, 4 x AI, 2 x DI, 1 x DO, conduit, external antenna (923 MHz)

\*SKU with RED Compliance

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