

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_{DC}

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 (± 10 V_{DC}, ± 5 V_{DC}, ± 1 V_{DC}, 0 ~ 20 mA), digital input (0 ~ 48 V_{DC}), digital output (0 ~ 30 V_{DC})
- **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_{DC}
Logic level 1: 3 ~ 30 V_{DC}
0.8 V (max.)
2 V (min.)
- **V_{IL}** 0.8 V (max.)
- **V_{IH}** 2 V (min.)
- **Pull-Up Current** 32 μ A
- **Type** Source/sink (PNP/NPN) software-selectable input
- **Isolation** None
- **Channels** 2ch

Digital Outputs

- **Voltage Range** 0 ~ 30 V_{DC}
- **Output Type** Open drain
- **Output Current** 100 mA max
- **Protection** Current limit protection
- **Isolation** None

Analog Inputs

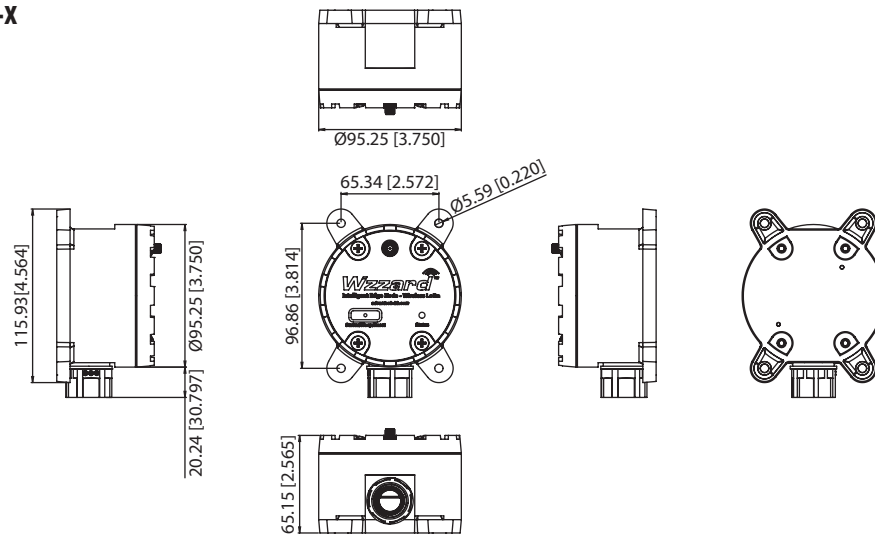
- **Input Range** ± 10 V_{DC}, ± 5 V_{DC}, ± 1 V_{DC}, 0 ~ 20 mA, 16 bit
- **Resolution** 16 bit
- **Input Load Resistance** 10M Ω (voltage), 120 Ω (current)
- **Accuracy** $\pm 0.1\%$ (Voltage) at 25 °C
 $\pm 0.2\%$ (Current) at 25 °C

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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