

JOWA USA

Wireless Base Radio (WBR)

Features:

- Communicates with up to 50 field units
- FCC License-free operation
- Up to 3000' range (clear line of sight)
500' to 1000' with obstructions
- NEMA 4X & NEMA 7 (explosion proof) enclosure
- Multiple output options available:
RS-485/RS-232, 4-20mA, Modbus/RS-485
and Modbus TCP/Ethernet
- Direct communication with Wireless
Resistance Transceiver (WRT)



Description:

The Wireless Base Radio (WBR) is at the heart of the wireless solution. It communicates with all of the deployed field units and interfaces with an existing control system and/or the Wireless Instrumentation Manager (WIM). Various outputs include RS-485/RS-232, 4-20mA, Modbus/RS-485 and Modbus TCP/Ethernet. One Base Radio can communicate with up to 50 field units. Multiple Wireless Base Radios can be used to accommodate larger installations.

Technical Specifications:

Power Characteristics

- 24 VDC @ .2A, standard 2-wire

RF Characteristics

- 902 MHz – 928 MHz frequency hopping spread spectrum (FHSS), FCC Certified ISM license-free band
- Up to 3000' range to field units with clear line of sight; 500' to 1000' range with obstructions
- The RF module in each field unit is individually tested and calibrated over the full temperature range to ensure reliable wireless operation

Output Options

- Serial Modbus RTU (Binary) (WBR-I-XP-MOD) over RS-485 compatible with GE Fanuc Intellution™ IFIX and PLCs (limitations apply)
- RS-485 digital communications (WBR-I-XP) with conversion to RS-232 for interface with PC or server and Wireless Instrumentation Manager (WIM)
- Multiple 4-20mA Analog Outputs with RS-485 Digital Communications (WBR-I-XP) and Quad Analog Output Modules (WI-4AO) (requires WIM software)
- Modbus TCP over Ethernet

Accuracy

- 4 μ A resolution
- Accuracy of 10 μ A at 25°C at reference conditions or 20 μ A at non-reference conditions
- Supply rejection less than 2 μ A from 9-28 V

Self-Diagnostics

- Contains extensive self-checking software and hardware that continuously monitors the operation. Any sensor or device parameter out of spec is identified and reported

Wireless Base Radio (WBR)

Technical Specifications (Continued):

Physical Characteristics

- Baked enamel explosion-proof, weather-proof and corrosion-proof housing (NEMA 4X & NEMA 7)

Electrical Characteristics

- 4-20 mA is opto-isolated
- Isolation voltage = 800 V
- 9 V minimum loop voltage

Electromagnetic Compatibility (CE Compliance)

- Operates within specification in fields from 80 to 1,000 MHz with field strengths to 30 V/m. Meets EN 50082-1 General Immunity Standard and EN 55011 Compatibility Emissions Standard

Operating Temperature Range

- -40°F to 185°F (-40°C to 85°C)

Weight: 3.9 lbs (1.8 kg)

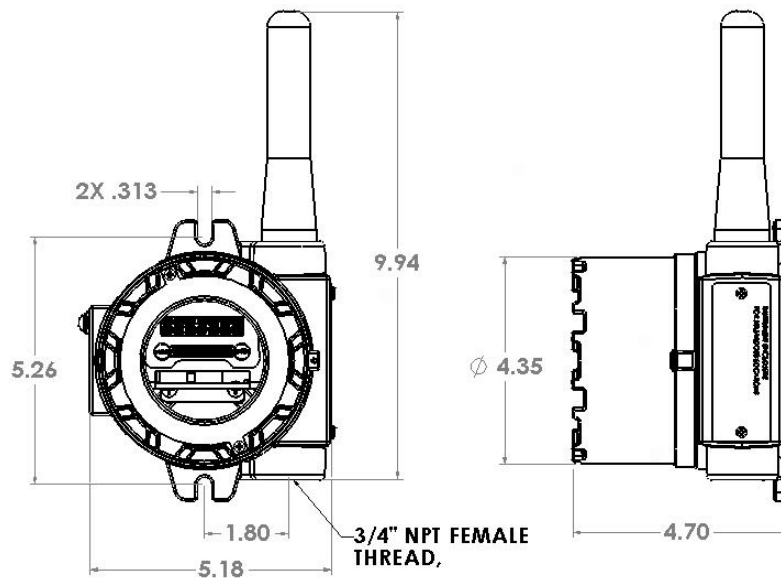
Modbus Base Radio (WBR-I-XP-MOD)

The Modbus Base Radio provides a Serial Modbus Remote Terminal Unit (RTU) binary output over RS-485. The maximum number of field units supported by the Modbus version is 100. Multiple Base Radios may be used to accommodate larger installations. More information on implementing Serial Modbus RTU can be obtained at <http://www.modbus.org>.

Quad Analog Output Module (WI-4AO)

The optional Quad Analog Output Module is used to provide multiple 4-20mA outputs. The Modules are assigned unique RS-485 addresses and up to 25 Quad Analog Output Modules (100 outputs) can be placed on a single RS-485 network. The Module is a DIN Rail mounted unit requiring 24 VDC. LED indicators show power, RS-485 data transmission, and a fail-safe condition.

Dimensions:



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