TABLE OF CONTENTS

wireless products

INDUSTRIAL

NEW

Industrial Wireless Products

Wilcoxon Research, Inc. wireless technology has been designed to eliminate the cabling between sensing instrument and the signal destination. The radio technology utilized sends signals in the 2.4 Giga-Hertz ISM band. This band has been set aside worldwide for user license-free signaling. The Wilcoxon signal transmission equipment is equipped with Bluetooth™ Class 1 radios for 100 meter signal transmission.

The Wilcoxon Wireless instruments are intended for use in the industrial environment. Packaging includes DIN rail mounting and removable screw terminal blocks for ease of installation and service. 24 VDC power meets the typical instrumentation standard power and enables easy battery backup where the installation may require it.

Modular design allows for combinations of modules to handle different signal types for a specific application. Module types are for 4-20 milli-amp DC, accelerometer dynamic, thermocouple/RTD, pulse/tachometer and status signals. Module pairs are designed to eliminate the signal cabling from transmit sensor to receive instrument locations.

The radio transmitters are 100 mW output and the receivers have –70 dBm sensitivity. This combination provides for 100 meter signaling in the typical industrial environment. Beams, girders, posts, machinery and material do not generally interfere with the signal transmission. Solid metallic barriers and reinforced concrete will block the signals.

For cable replacement, BlueLynx™ modules are shipped in mated transmitter/receiver pairs that require no set up by the user. Each pair is equipped with a unique address allowing multiple sets to be utilized in the same operational environment.

For data acquisition applications, BlueLynx modules serve as the point of entry into the data acquisition network. Access points communicate with one or more BlueLynx modules and provide network access to the signal information with ethernet, IEEE 802.11b WIFI, or RS-232 connections to a computer. Protocol for signal data access is in TCP/IP, or modbus format as examples. Additional formats are available as well.

Optional accessories for the BlueLynx modules include:

NEMA 4X enclosure complete with mounting plate and DIN rail.

DC power supply for 80 – 250 VAC input and 24 VDC output, DIN rail mount.

Antenna extension with two meter cable, connectors and cable gland.

COMMON APPLICATIONS

- Moving Platforms:
  - Cranes
  - Turntables
  - Conveyors
  - Rotating Kilns
- Temporary Installations:
  - Problem Analysis
- Retrofit Installations:
  - Process Control
  - Oil Refineries
  - Pulp and Paper Plants
  - Mines
  - Power Generation and Distribution
  - Water Treatment and Distribution
  - Wastewater Treatment and Collection
  - HVAC

The Wireless Series

Wireless Signal Links for Process Signals

All BlueLynx™ wireless sensor links are offered as a transmitter/receiver pair and come factory programmed, calibrated and tested as a set. No field programming is required. Each set is given a unique address so that multiple BlueLynx™ sets can operate simultaneously in the same area without interference.

The Wilcoxon Research, Inc., BlueLynx™ product series takes the place of wired process signal connections. The BlueLynx™ modules are available in a variety of configurations for a wide range of process signals. Wilcoxon Research BlueLynx™ wireless products include 100 meter range, Class I Bluetooth™ technology for industrial applications. The Bluetooth™ technology platform utilizes a frequency hopping spread spectrum technique within the 2.4 GHz ISM band for a user license free application. Bluetooth™ incorporates a secure packet message structure in addition to the frequency hopping spread spectrum technology to provide signal security.

With the BlueLynx™ modular approach, the combination of modules can be tailored to the application signal requirements. Each BlueLynx™ module type handles a specific process signal type. Modules are available to transmit 4-20 mA signals, thermocouple/RTD temperature signals, accelerometer dynamic signals, pulse/tachometer signals, and status signals. The units are designed to interface directly to the sensors at the transmit side and interface to the process control/data acquisition equipment at the receive side.

The packaging is modular and designed for mounting on standard DIN rail. Connections to the units are by plug-in screw terminal blocks. The BlueLynx™ modules operate on 24 VDC power consistent with instrumentation installations. The BlueLynx™ modules are available for individual purchase or with power supply, NEMA 4X, and antenna extension accessories.

BLM – Wireless Signal Link for 4-20 mA Signals

The BlueLynx™ BLM transmitter collects analog signals from up to four 4-20 mA sensors and transmits the signals wirelessly to the BlueLynx™ BLM receiver wired to instrumentation, a PLC, DCS or other systems.

BLD – Wireless Signal Link for Dynamic Signals

The BlueLynx™ BLD transmitter transmits the analog dynamic signal from a single sensor and transmits the signal wirelessly to the BlueLynx™ BLD receiver wired to instrumentation or Vibration Analysis Systems.

BLT- Wireless Signal Link for Temperature Signals

The BlueLynx™ BLT transmitter transmits the analog temperature from types E, J, K or T thermocouples or from 100 ohm RTD sensors. Four temperature signals can be transmitted by a BLT transmitter. Temperature signals are received by a BLM receiver wired to instrumentation, a PLC, DCS or other system. Conversion from low level temperature sensor signal to 4-20 milliAmp signal is performed within the wireless link.

BLP – Wireless Signal Link for Pulse Signals

The BlueLynx™ BLP transmitter transmits the analog pulse signals from up to four sensors and transmits the signals wirelessly to the BlueLynx™ BLP receiver wired to instrumentation, a PLC, DCS or other systems.

BLS – Wireless Signal Link for Status Signals

The BlueLynx™ BLS transmitter transmits the on/off status signals from up to twelve devices and transmits the signals wirelessly to the BlueLynx™ BLS receiver wired to instrumentation, a PLC, DCS or other systems.

wireless products

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Wireless Module Specifications

Wireless Signal Links for Process Signals

SPECIFICATIONS	TRANSMIT MODULE	RECEIVE MODULE
WIRELESS TRANSMISSION		
Technology Platform	Bluetooth™	Bluetooth™
Modulation	Frequency Hopping Spread Spectrum	Frequency Hopping Spread Spectrum
Radio Frequency	2.4 GHz user license free band	2.4 GHz user license free band
Communication Range	100 meters	100 meters
Output Power	+20 dBm / 100 mW	+20 dBm / 100 mW
ELECTRICAL		
Power Requirements	24 VDC (18 – 27.5 VDC) 200 mA	24 VDC (18 – 27.5 VDC) 200 mA
ENVIRONMENTAL		
Operating Temperature	–35°C – +85°C (32 - 122°F)	–35°C – +85°C (32 - 122°F)
Humidity	5% - 90% non-condensing	5% - 90% non-condensing
Enclosure Rating	NEMA 1 / IP40	NEMA 1 / IP40
PHYSICAL		
Dimensions (H x L x W)	5.8" x 4.5" x 1.7" (14.7cm x 11.4 cm x 4.3 cm)	5.8" x 4.5" x 1.7" (14.7cm x 11.4 cm x 4.3 cm)
Weight	0.8 lbx. (0.37 kg)	0.8 lbx. (0.37 kg)
Connector	Screw Terminal	Screw Terminal
Mounting	DIN-Rail	DIN-Rail
INDICATORS		
Power	Green	Green
Data	Blue	Blue
Comm Fail	Red	Red

BLUELYNX™ ACCESSORIES

BL-ENC - NEMA 4X enclosure with back panel and DIN Rail 8" x 8" x 8"
BL-PS - Power Supply 80-250 VAC input / 24 VDC at 250 mA output
BL-AN - BlueLynx antenna extension cable 2 meters with connectors and cable gland

The Wireless Series

Wireless Signal Links for Process Signals

SPECIFICATIONS	TRANSMIT MODULE	RECEIVE MODULE
MODEL BLM		
Input Signal	Four 4-20 mADC (250Ω input impedance) 1-5 VDC (50KΩ input impedance)	Radio Frequency Signal
Output Signal	Radio Frequency Signal	4-20 mADC (250Ω input impedance) 1-5 VDC (50KΩ input impedance) 4-20 mADC(max 750Ω load)
Data Resolution	16 Bit	16 Bit
MODEL BLD		
Input Signal	One Dynamic Vibration Signal	Radio Frequency Signal
Power Supply to Sensor	24 VDC through a 2.4 mA constant current diode	N/A N/A
Output Signal	Radio Frequency Signal	Dynamic Vibration Signal
Signal Bandwidth	0.5 Hz to 4.0 kHz	0.5 Hz to 4.0 kHz
MODEL BLT		
Input Signal	Four Thermocouple type E, J, K, T or RTD 100 ohm	Radio Frequency Signal
Output Signal	Radio Frequency Signal	(use BLM-RM)
Data Resolution	16 Bit	16 Bit
MODEL BLP		
Input Signal	Four Dry contact or voltage pulse (100 Hz maximum frequency)	Radio Frequency Signal
Output Signal	Radio Frequency Signal	Dry contact or voltage pulse)
MODEL BLS		
Input Signal	Twelve Dry contact or voltage	Radio Frequency Signal
Output Signal	Radio Frequency Signal	Dry Contact

BLUELYNX™ ACCESSORIES

BL-ENC - NEMA 4X enclosure with back panel and DIN Rail 8" x 8" x 8"
BL-PS - Power Supply 80-250 VAC input / 24 VDC at 250 mA output
BL-AN - BlueLynx antenna extension cable 2 meters with connectors and cable gland

NEW

Wireless Accessories

Wireless Signal Link

BLUELYNX™ ACCESSORIES

Wire and cable for data acquisition systems in an industrial environment can be eliminated by using the Wilcoxon Research, Inc. BlueLynx process signal communication modules to perform the input/output functions for the system. By locating the BlueLynx modules at the signal source and communicating Bluetooth to the data acquisition system, the signal cabling is eliminated. This approach is ideal for temporary applications, or for modifications or upgrades to an existing system. The data acquisition system can utilize a personal computer, laptop, PDA or a combination for the human machine interface. The process data is monitored wirelessly from the BlueLynx modules by the personal computer, laptop, or PDA equipped with Bluetooth communications. For larger installations, the BlueLynx modules can communicate with a Bluetooth equipped access point which can also be equipped for communications by ethernet, fiber optics, or other high speed data communications. Communication protocols are available for several industrial standards including MODBUS, TCP/IP and so forth to enable communications with existing systems.

Typical BlueLynx data acquisition system.

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