Honeywell

XYR 5000 WN571

Wireless Acoustic Transmitters

34-XY-03-03 09/2006 **PRODUCT SPECIFICATION AND MODEL SELECTION GUIDE**

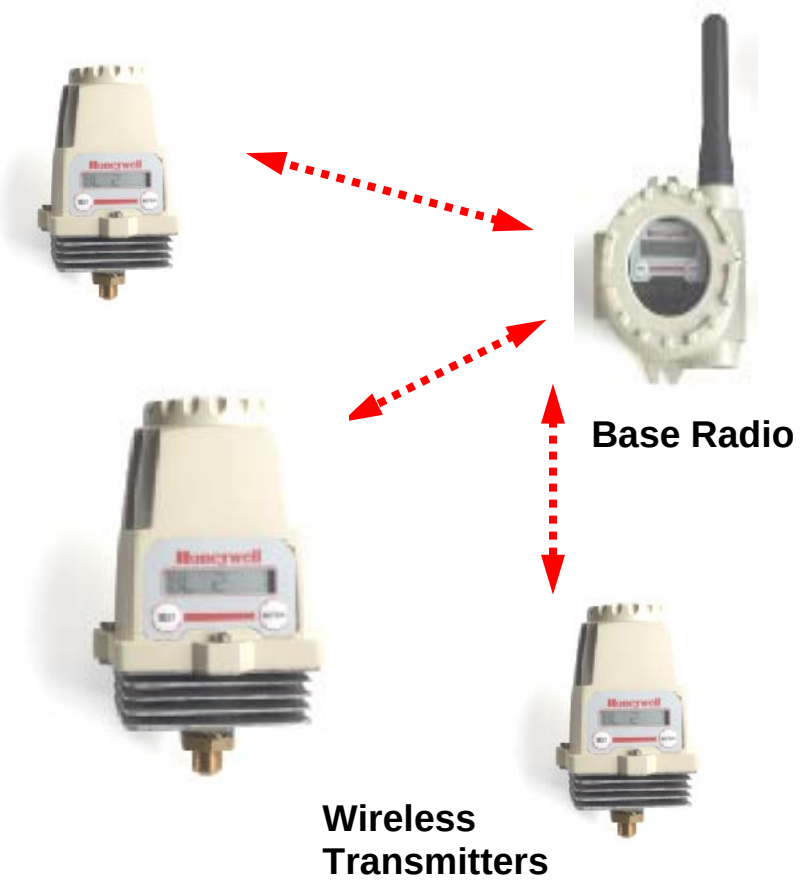
Function

The WN571 Acoustic Transmitter is part of the XYR 5000 family of wireless products. It is used to monitor applications that may generate high frequency noises when they malfunction, such as pressure relief valves, steam traps, and compressor/pumps. The transmitter is acoustically coupled to the process equipment being measured, and can be configured to detect abnormal asset conditions. The unit also contains a built-in temperature sensor to monitor ambient temperature. The Smart Response Manager allows the transmitter to adapt to changing process conditions, allowing greater visibility to process variation. The Smart Response Manager allows the user to set thresholds which, when exceeded, cause the transmitter to automatically adjust sampling and data transmission rates.

The transmitter combines a reliable ultrasonic sensor, with a Radio Frequency (RF) transceiver operating in the 900MHz ISM license free band. Communication is a digital protocol, using Frequency Hopping Spread Spectrum (FHSS). FHSS ensures data integrity by continually switching the carrier wave over a wide range of frequencies. Power is supplied by a C size 3.6 V lithium battery, with an expected lifetime of up to five years.

Enjoy the benefits of wireless technology today:

- Improve Product Quality
- Ensure High Uptime
- Reduce Maintenance and Operational Costs
- Meet Regulatory Requirements
- Enhance Flexibility



MODEL
Acoustic

Model #	CENTER FREQUENCY	BANDWIDTH (3dB)	RF DATA TRANSMISSION TECHNIQUE
WN571	f_c = 40 kHz	5 kHz (f_c ±2.5 kHz)	Amplitude (8-bit digital output with a scale of 0 to 255)

WIRELESS GENERAL SPECIFICATIONS

Wireless Communication	902 MHz – 928 MHz Frequency Hopping Spread Spectrum (FHSS) FCC certified ISM license-free band. Every data block transmitted is verified (CRC check) and acknowledged by the Base Radio.
RF Transmit Power	31 mW, 17.8 mW typical.
Data Rate	Configurable: 4.8 Kbps, 19.2 Kbps, or 76.8 Kbps.
Antenna	Internal 3" omni-directional, ¼ wave, monopole.
Signal Range	Up to 2000 feet (600 meters) from Base Radio with clear line of sight.*

*Actual range may vary depending on site topography.

DEVICE CONFIGURATION

Parameter Configuration	• RF Channel Setup: 1 to 16. • Baud Rate: 4.8 Kbps, 19.2 Kbps, 76.8 Kbps. • RF ID: 1 to 100. • Password. • Tag Name (up to 21 characters). • Normal Transmit Rate: (1–5 sec, 10 sec, 15 sec, 20 sec, 40 sec, 1 min). • Normal Sampling Rate: (1–10 sec, 15 sec, 20 sec, 30 sec, 1 min). • Abnormal Transmit Rate: (1–5 sec, 10 sec, 15 sec, 20 sec, 40 sec, 1 min). • Abnormal Sampling Rate: (1–10 sec, 15 sec, 20 sec, 30 sec). • Ultrasound Normal Upper Value: Disabled/Enabled. Enabled to change Sampling and Transmit rates during abnormal process conditions. • Ultrasound Normal Lower Value: Disabled/Enabled. Enabled to change Sampling and Transmit rates during abnormal process conditions. • Temperature Normal Upper Value: Disabled/Enabled. Enabled to change Sampling and Transmit rates during abnormal process conditions. • Temperature Normal Lower Value: Disabled/Enabled. Enabled to change Sampling and Transmit rates during abnormal process conditions.
Configuration Panel	Integrated LCD display with membrane switch buttons for local configuration. LCD display is 7-digit (alternating) high contrast, anti-reflective monochrome. Display cycles between acoustic level, ambient temperature, and RF status.

SITE SURVEY TOOLS

RSSI	Received Signal Strength Indicator displays the RF signal strength in one of seven ranges.
Link Test	Link Test measures the wireless link performance of a transmitter running in normal operating mode. This function looks at wireless performance in both directions, from the transmitter to base radio and vice versa and assigns a rating to that performance or quality of signal.

FEATURES

Automatic Re-transmit	The field unit checks with the base radio to insure successful receipt of data. If data was not received, the transmitter retries on the next RF cycle. Ensures communication confidence in the harshest of industrial environments. At the maximum transmit rate this feature is inactive.
Battery Life Saver	To save conserve battery power, all field units will attempt to synchronize with the network using the following technique: **Time** — **Field Unit Synchronization Attempts and Attempt Delay** 0 – 1 minute — Continuous Synchronization attempts 1 – 10 minutes — One attempt with a 10 second delay between attempts 10 – 30 minutes — One attempt with a 30 second delay between attempts 30 – 60 minutes — One attempt with a 1-minute delay between attempts 1 – 12 hours — Three-attempt burst with a 5-minute delay between attempts 12 – 24 hours — Three-attempt burst with a 10-minute delay between attempts 24 – 36 hours — Three-attempt burst with a 30-minute delay between attempts 36 – 48 hours — Three-attempt burst with a 1-hour delay between attempts 48 + hours — Three-attempt burst with a 2-hour delay between attempts

SELF DIAGNOSTICS

Self-checking software and hardware that identifies and reports out of spec conditions, and field unit low battery voltage.

OPERATING/STORAGE CONDITIONS

Humidity		95% RH (non-condensing).
Operating	Ambient Electronics:	-40 to +185°F (-40 to +85°C)
	Display (Full visibility):	-4 to +158°F (-20 to +70°C)
	Display (Reduced visibility):	-40 to +185°F (-40 to +85°C)
	Storage:	-58 to +185°F (-50 to +85°C).

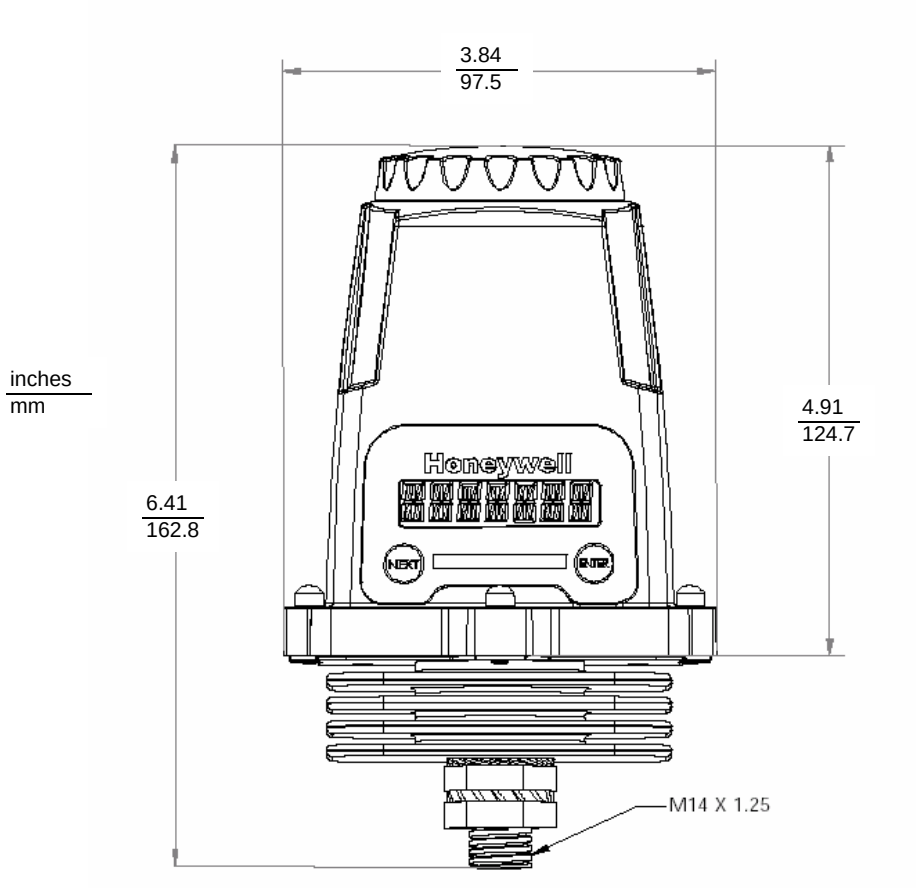
PHYSICAL SPECIFICATIONS

Base	Brass and cast aluminum (optional stainless steel and baked ceramic).
Electronic Housing	GE Lexan. V0 Rating and UV Stable.
Vibration and Shock	Certified per IEC EN00068 2-6 (Vibration) and 2-27 (Shock)
Random Vibration	Certified to withstand 6 g's, 15 minutes per axis from 9 – 500 Hz.
Net weight	0.6 kg (1.2 lbs).
Electromagnetic Compatibility (CE Compliance)	Operates within Specifications in fields from 80 to 1,000 MHz with Field Strengths to 10 V/m. Meets EN 50082-1 General Immunity Standard and EN 55011 Compatibility Emissions Standard.

APPROVALS

Environmental protection	NEMA 4.
Electrical classification	CSA and FM Rated Intrinsically Safe for Class I, Div. 1, Groups A,B,C,D; Class II, Div. 1, Groups E,F,G; Class III, Div. 1.

DIMENSIONS



Model Selection Guide

XYR 5000 Wireless Acoustic Signal Transmitter

Model Selection Guide
34-XY-16-03 Issue 3

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Instructions

- Select the desired key number.

Key Number		I (Approvals)
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KEY NUMBER	Selection	Availability
Description		
Wireless Acoustic Signal Transmitter	WN571	▼

See Wireless Accessories page for mounting bracket options

TABLE I - CERTIFICATION OPTIONS

Certificate	Approval Type	Location or Classification	Code	
Combined FM	Intrinsically Safe	CL I, II, III, Div 1, Gp A,B,C,D,E,F,G T4; CL I, Zone 0, AEx ia IIC T4; Enclosure Type 4		
	Nonincendive	Class I, Div 2, Groups A,B,C,D; Suitable for CL II, III, Div 2, Gp F,G, T4; CL I, Zone 2, AEx nA IIC T4; Enclosure Type 4	AG	•
CSA (applied for)	Intrinsically Safe	CL I, II, III, Div 1, Gp A,B,C,D,E,F,G T4; CL I, Zone 0, Ex ia IIC T4; Enclosure Type 4		
	Nonincendive	Class I, Div 2, Groups A,B,C,D; Suitable for CL II, III, Div 2, Gp F,G, T4; CL I, Zone 2, Ex n IIC T4; Enclosure Type 4		

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