

XYR 5000

WN571

Wireless Acoustic Transmitters

34-XY-01-03 12/2004

PRODUCT SPECIFICATION AND MODEL SELECTION GUIDE

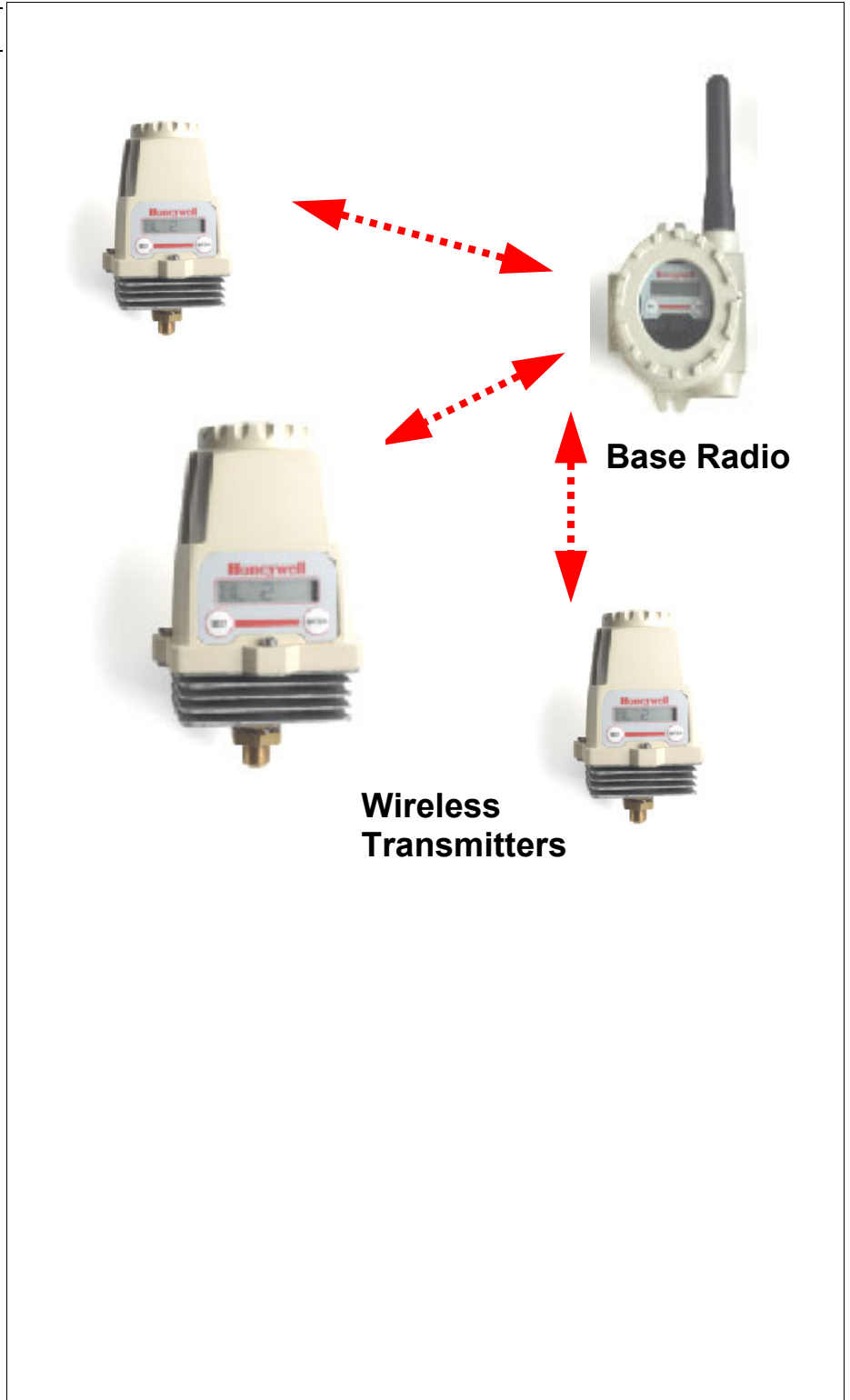
Function

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 that communicates in 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	$f_c = 40 \text{ kHz}$	5 kHz ($f_c \pm 2.5 \text{ kHz}$)	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, $\frac{1}{4}$ 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	<ul style="list-style-type: none"> • RF Channel Setup: 1 to 16. • Baud Rate: 4.8 Kbps, 19.2 Kbps, 76.8 Kbps. • RF ID: 1 to 50. • 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.

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	99% 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).

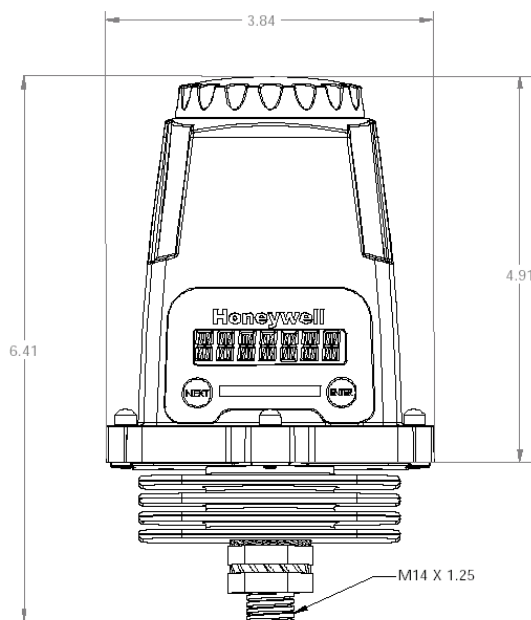
PHYSICAL SPECIFICATIONS

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 30 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

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Instructions

- Select the desired key number.

Key Number -----	-	I (Approvals) ---
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KEY NUMBER

Description	Selection	Availability
Wireless Acoustic Signal Transmitter	WN571	▼

See Wireless Accessories page for mounting bracket options

TABLE I - CERTIFICATION OPTIONS

Certificate	Approval Type	Location or Classification	Code	
NONE	NONE	Ordinary Non-Hazardous Location	9X	•
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	A2	•
	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		
CSA	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		b
	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		

RESTRICTIONS

Restriction Letter		Available Only With		Not Available With
		Selection		Selection
b	Table		Table	
■		mutually exclusive - select one		

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