

XYR 5000

WBR/WBH

Wireless Base Radio

Europe

34-XY-03-55 9/2006

PRODUCT SPECIFICATION AND MODEL SELECTION GUIDE

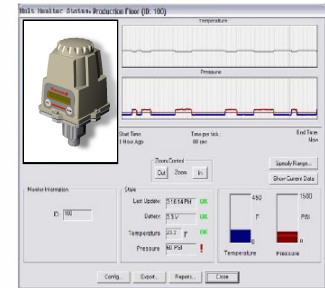
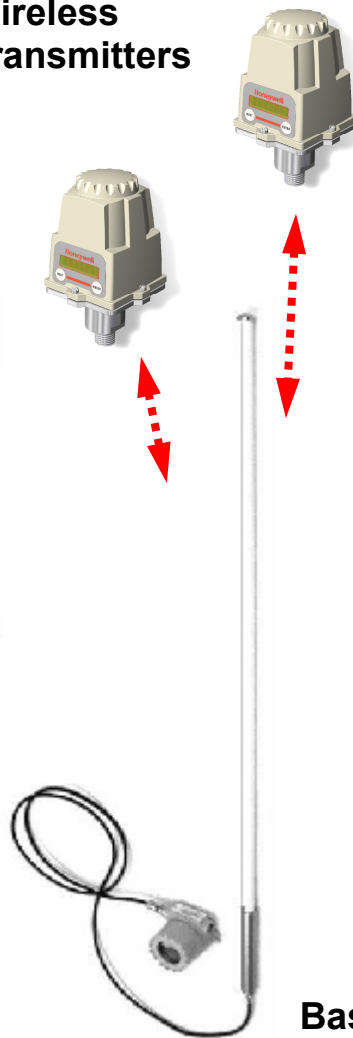
Function

The Wireless Base Radio (WBR) is part of the XYR 5000 family of wireless products. It combines an RF transceiver and the interface to a SCADA, DCS, or data acquisition device. The WBR Radio Frequency (RF) transceiver 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. Each Wireless Base Radio can communicate with up to 42 field units. As part of its diagnostic capability, the Wireless Base Radio can identify and report field unit out of spec conditions, and low battery alarms. Multiple outputs are available. The Wireless Base Radio is easily configured using the local pushbuttons and display.

Enjoy the benefits of wireless technology today:

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

Wireless Transmitters



Wireless Management Toolkit

- RS-485 Modbus
- 4-20mA
- RS-232

Base Radios

MODEL

Base Radio

Model #	INPUTS	OUTPUT
WBR	Up to 42 field units	<ul style="list-style-type: none"> • RS-485 Modbus • 4-20 mA (Quad Analog Output module) • RS-232
WBH	Up to 42 field units	

WIRELESS GENERAL SPECIFICATIONS

Wireless Communication	869.4 to 869.65 MHz Frequency Hopping Spread Spectrum (FHSS) Every data block transmitted is verified (CRC check) and acknowledged by the Base Radio.	
RF Transmit Power	10 dBm (10 mW), 6-8 dBm typical (7.8 to 9 dBm)	
Data Rate	4.8 Kbps.	
Update	5 seconds @ 4.8 Kbps.	
Antenna	External 3" omni-directional, 1/2 wave, dipole.	<p>Remote High Gain Omnidirectional</p> <ul style="list-style-type: none"> • Available by itself, or with a lightening suppressor and 10 or 25 feet of cable. • Length: 65". • Gain: 6 dBd (less cable loss ≈ 0.04 dBm/ft). • Weight: 6 lbs. • Polarization: Vertical. • Material: Precision copper clad radiators enclosed in high density fiberglass, UV protected. • Mounting: Heavy wall gold anodized 1 1/4" aluminum with brackets. <p>Base Radio coax cable</p> <ul style="list-style-type: none"> • Factory installed coax cable in 10 of 25 foot lengths • RG Type 8/U, Series Type RF 400, 10 AWG.
Signal Range	Up to 2000 feet (600 meters) from Base Radio with clear line of sight.*	Up to 5000 feet (1500 meters) from Base Radio with clear line of sight.*

*Actual range may vary depending on site topography. Yagi antenna option on field unit will increase signal range.

DEVICE CONFIGURATION

Parameter Configuration	<p>RF Channel Setup: 1 to 4.</p> <p>Field Device Baud Rate: 4.8 Kbps.</p> <p>Serial Output: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps, 57.6 Kbps, 115 Kbps.</p> <p>Number of field units: 1 to 42.</p> <p>Output: • RS-485.</p> <ul style="list-style-type: none"> • 4 – 20 mA (analog output via Quad output modules). • RS-232 (optional converter required).
Configuration Panel	<p>Integrated LCD display with membrane switch buttons for local configuration.</p> <p>LCD display is 7-digit (alternating) high contrast, anti-reflective monochrome.</p> <p>Display cycles between field unit status, and RF status.</p>

SELF DIAGNOSTICS

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

OPERATING CONDITIONS

Humidity	95% RH (non-condensing).
Temperature	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).

ELECTRICAL SPECIFICATIONS

Power connection	Two terminals, 22 AWG power supply wire (GND, 24V).
Signal connection	Two terminals, use 2 wire shielded and protected 16 AWG. Additional two terminals are supplied for linking base radios.
Grounding	Earth grounding required.
Power Supply	External Supply Voltage, 12 – 30 VDC @ 0.2A. DIN rail mounted 120/240 VAC adapter (optional).

PHYSICAL SPECIFICATIONS

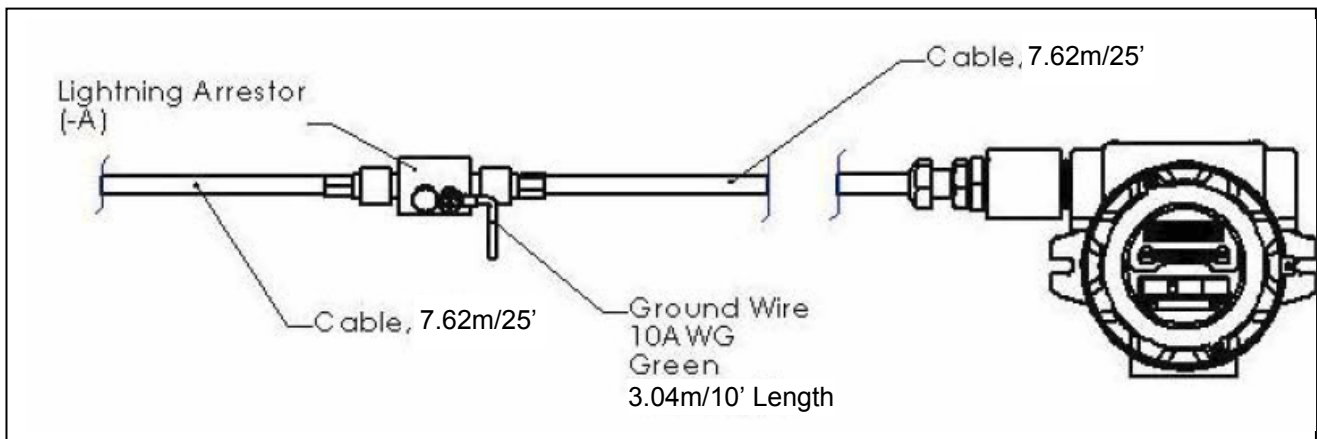
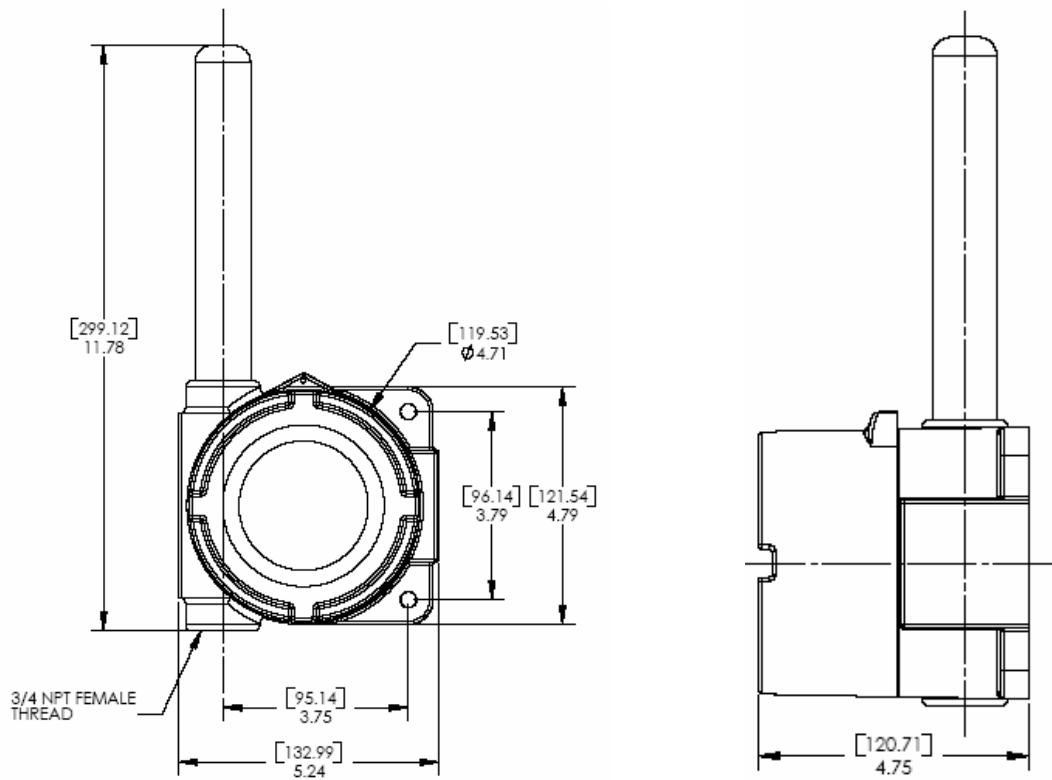
Electronic Housing	Baked enamel aluminum housing.
Conduit Connection	¾" -NPTF.
Net weight	2.5 kgs (5 lbs).
Mounting	Wall mount standard, or 2" pipe mounting bracket optional.

APPROVALS

Environmental protection	NEMA 4X, NEMA 7, IP 65
Combined FM/CSA	FM – Explosion proof - Class I, Div. 1, Groups B,C,D, T5,T6, Enclosure 4X Dust-Ignition proof - Class II, III, Div. 1, Groups E,F,G, T5,T6, Enclosure 4X CSA - Explosion proof - Class I, Div. 1, Groups B,C,D, T5, Enclosure 4X Dust-Ignition proof - Class II, III, Div. 1, Groups E,F,G, T5, Enclosure 4X
CE	CE EMC Conformity, ETSI EN 300 489-1
ATEX (applied for)	Flameproof, Zone 1 - Ex II 2 G EEx d IIC T5, T6; Enclosure IP 66/67

Note: WBH radio is not approved for hazardous locations.

DIMENSIONS – [mm] inches



Model Selection Guide

Model Selection Guide
34-XY-16-18 Issue 2

Instructions

- Select the desired key number. The arrow to the right marks the selection available.
- Make one selection from Table I. Select Table II options as desired.

Key Number	I (Gateway)	II (Optiona, Antennal)	III (Approvals)
_ _ _	_ _	_ _ , _ _	_ _

KEY NUMBER	Availability
Description	Selection
Wireless Base Radio (Dual Output) with Omni Directional Antenna	WBR ↓
Wireless Base Radio (Dual Output) with High Gain Antenna	WBH ↓

TABLE I - GATEWAY OPTIONS

No Selection	00	•	•	b
Basic Wireless Gateway Package for TDC/TPS includes: - XYR SI-FTA card with embedded TDC/TPS firmware - 30 cm Power Adapter Card to XYR SI-FTA cable - XYR Configurator and documents in CD-ROM	G1	•	•	
Extended Wireless Gateway Package for TDC/TPS includes: - XYR SI-FTA card with embedded TDC/TPS firmware - 30 cm Power Adapter Card to XYR SI-FTA cable - XYR Configurator and documents in CD-ROM - SI-IOP Serial Interface Card For TDC/TPS - Power Adapter Card used with XYR SI-FTA - 5 meters SI-IOP to XYR SI-FTA Cable	G2	•	•	

TABLE II - OPTIONS

2" Pipe Mounting Bracket	MB	•	•
120/240 VAC to 24 VDC 15 W DIN Rail Mounted Power Supply	PW	•	•
RS-485 to RS-232 Din Rail Converter kit	RS	•	•
DIN Rail Mounted Quad 4-20 mA Output Module (4 analog outputs) *	Pricing Table 1	•	•
DIN Rail Mounted Discrete Output Module (8 switch outputs) *	Pricing Table 2	•	•
DIN Rail Mounted Combined Analog/Discrete Output module (4 analog outputs and 8 digital switch outputs) *	Pricing Table 3	•	•
No Options	XX	•	•

TABLE II - ANTENNA SELECTION (Must select base radio cable and antenna option)

Base Radio coax cable (assembled to base radio)	10 foot	TE	•	b
	25 foot	TW	•	
High Gain Antenna with no cable		HA	d	b
High Gain Antenna with lightening arrestor and 10 foot cable		HB	d	
High Gain Antenna with lightening arrestor and 25 foot cable		HC	d	

The base radio cable supplies 10 or 25 feet of cable. Then select just the antenna by itself, or the antenna with 10 or 25 feet of cable which comes with a lightening arrestor.

Select option based on number of required outputs and enter option in Table I I- Options

Number of Analog Outputs	Option
4	A1
8	A2
12	A3
16	A4
20	A5
24	A6
28	A7
32	A8
36	A9
40	AA
44	AB
48	AC

Select option based on number of required outputs and enter option in Table I I- Options

Number of Discrete Outputs	Option
8	B1
16	B2
24	B3
32	B4
40	B5
48	B6
56	B7
64	B8
72	B9
80	BA
88	BB
96	BC

Select option based on number of required outputs and enter option in Table I I- Options

Number of Analog/Discrete Outputs		Option
4	8	C1
8	16	C2
12	24	C3
16	32	C4
20	40	C5
24	48	C6
28	56	C7
32	64	C8
36	72	C9
40	80	CA
44	88	CB
48	96	CC

* (Note - up to 25 output cards can be added to the base radio, in any combination of board type; one field measurement point can be mapped to multiple output points).

Wireless Gateway Integration Accessories: May be ordered independently by the following part numbers:

	Part Number
SI-IOP Serial Interface Card For TDC/TPS	50018503-001
Power Adapter Card used with XYR SI-FTA	50018505-001
5 meters SI-IOP to XYR SI-FTA Cable	50018506-001
30 cm Power Adapter Card to XYR SI-FTA cable	50018509-001



TABLE III - CERTIFICATION OPTIONS

Approval Body	Approval Type	Location or Classification	Selection	Availability	
No hazardous location approvals			9X		•
Combined FM & CSA	Explosionproof	Class I, Div. 1, Groups B,C,D, T5,T6 Enclosure 4X	AK	•	
	Dust-Ignitionproof	Class II, III, Div. 1, Groups E,F,G, T5,T6 Enclosure 4X			
	Explosionproof	Class I, Div. 1, Groups B,C,D, T5 Enclosure 4X			
	Dust-Ignitionproof	Class II, III, Div. 1, Groups E,F,G, T5; Enclosure 4X			
ATEX*	Flameproof, Zone 1	Ex II 2 G EEx d IIC T5, T6; Enclosure IP 65	3D	•	
CE	Nonhazardous Locations	CE EMC Conformity, ETSI EN 300 489-1, EN 61326	3X		•

* See ATEX installation requirements in the Operator's Manual.

RESTRICTIONS

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
b		Mutually exclusive - select one		
d	II	TE or TW		

Honeywell

Industrial Measurement and Control

Honeywell International Inc.
2500 West Union Hills Drive
Phoenix, Arizona 85027

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