Honeywell

OneWireless

XYR 6000 Transmitters

Quick Start Guide

34-XY-25-21
R100
7/23/07

Release 100

Notices and Trademarks

Release 100 **July 23, 2007**

Honeywell International

Process Solutions

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About This Document

This document describes mounting, installation and wiring of the XYR 6000 Wireless Transmitters and antennae. Configuration, authentication and operation are covered in other documents.

Honeywell does not recommend using devices for critical control where there is a single point of failure or where single points of failure result in unsafe conditions. The initial release of OneWireless (R100) is targeted at open loop control, supervisory control, and controls that do not have environmental or safety consequences. As with any process control solution, the end-user must weigh the risks and benefits to determine if the products used are the right match for the application based on security, safety, and performance. Additionally, it is up to the end-user to ensure that the control strategy sheds to a safe operating condition if any crucial segment of the control solution fails.

Release Information

Document Name	Document ID	Release Number	Publication Date
XYR 6000 Transmitters Quick Start Guide	34-XY-25-21	100	7/23/07

References

The following list identifies all documents that may be sources of reference for material discussed in this publication.

Document Title
Getting Started with Honeywell OneWireless Solutions
OneWireless Wireless Builder User's Guide
OneWireless Builder Parameter Reference
OneWireless XYR 6000 Pressure Transmitter User's Manual
OneWireless XYR 6000 Temperature Transmitter User's Manual
OneWireless XYR 6000 SmartCET Corrosion Transmitter User's Manual
OneWireless XYR 6000 HLAI Transmitter User's Manual

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Training Classes

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Symbol Definitions

The following table lists those symbols used in this document to denote certain conditions.

Symbol	Definition
	**ATTENTION:** Identifies information that requires special consideration.
	**TIP:** Identifies advice or hints for the user, often in terms of performing a task.
CAUTION	Indicates a situation which, if not avoided, may result in equipment or work (data) on the system being damaged or lost, or may result in the inability to properly operate the process.
	**CAUTION**: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. **CAUTION** symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	**WARNING**: Indicates a potentially hazardous situation, which, if not avoided, could result in serious injury or death. **WARNING** symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	**WARNING, Risk of electrical shock**: Potential shock hazard where HAZARDOUS LIVE voltages greater than 30 Vrms, 42.4 Vpeak, or 60 VDC may be accessible.
	**ESD HAZARD:** Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices.
	**Protective Earth (PE) terminal**: Provided for connection of the protective earth (green or green/yellow) supply system conductor.
	**Functional earth terminal**: Used for non-safety purposes such as noise immunity improvement. NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national local electrical code requirements.
	**Earth Ground**: **Functional earth connection.** NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.
	**Chassis Ground**: Identifies a connection to the chassis or frame of the equipment shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.

Contents

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Figures

1. Introduction

1.1 Site preparation

Wireless devices require proper site preparation to ensure optimum performance and safety compliance. Do not proceed until you have done the proper planning described in the Wireless Planning Guide.

1.2 Certifications and approvals

Hazardous location certifications

Agency	Approval Type	Location or Classification	Model Code
cCSAus	Nonincendive	Nonincendive, CL I, Div 2, Groups A,B,C & D,	2N
	Non-Sparking	CL II & III, Div 2, Groups F & G, T4 Ta = 85°C Class I, Ex/AEx nC IIC; T4, Ta ≤ 85°C, Zone 2; IP 66	
ATEX	Non-Sparking	Ex II 3 GD; Ex nA IIC; T4, Ta ≤ 85°C, Zone 2; IP 66	3N

WARNING

Division 2 / Zone 2 apparatus may only be connected to a non-hazardous process.

Radio certifications

Agency	Certification	Description
Federal Communications Commission (FCC)	FCC ID: S5750016517	The XYR 6000 Wireless Transmitters comply with part 15 of the FCC rules. Operation is subject to the following two conditions. (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Industry Canada (IC)	IC: 573I-50016517	The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF fields in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's web site www.hc-sc.gc.ca/rpb.

Approval ratings

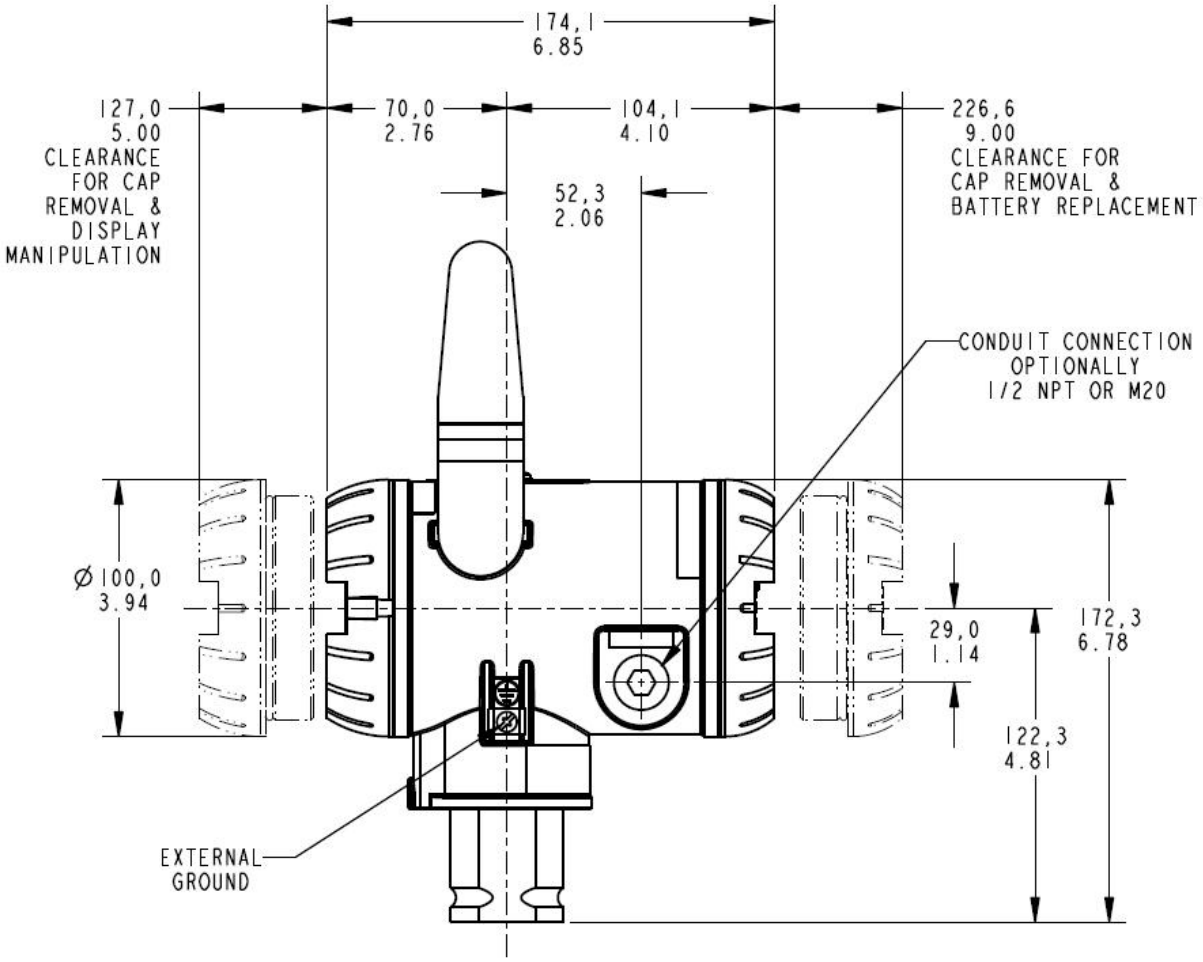
Approval / Item	Ratings / Description	Pressure Transmitter	Temperature transmitter		High Level Analog Input HLAI	Corrosion Transmitter w/Remote Probe
			Integral Probe	Remote Inputs		
Nonincendive*	Nonincendive, CL I, Div 2, Groups A,B,C & D, CL II & III, Div 2, Groups F & G, T4 Ta = 85°C;	X	X	X	X	X
Non-Sparking	CL I, Ex/AEx nA IIC T4; Ta = 85°C, Zone 2					
	Ex II 3 GD, EEx nA IIC T4; Ta = 85°C, Zone 2	X	X	X	X	X
Process Connections	WARNING – Division 2 / Zone 2 apparatus may only be connected to a non-hazardous process.	X	n/a	n/a	n/a	X
Temperature Limits	Max Process Temperature	+125°C	+85°C	Sensor Rating	n/a	n/a
	Ambient Temperature Limits Cold:	–40°C	–40°C	–40°C	–40°C	–30°C
	Ambient Temperature Limits Hot:	+85°C	+85°C	+85°C	+85°C	+85°C
Enclosure Type*	4X / IP 66/67	X	n/a	X	X	X
	4 / IP 66	n/a	X	n/a	n/a	n/a
CRN	Canadian Registration Number	X	X	n/a	n/a	X
Entry Plugs	1/2 NPT or M20 as required, quantity required	2	2	1	1	1
Field Wiring (Supplied by others)	Conduit (Explosionproof Not Required)	n/a	X	X	X	n/a
	Cable Gland*	n/a	X	X	X	X*
*Class II and III installations and for Type 4X/IP66 applications require that all cable and unused entires be sealed with an NRTL listed cable gland or seal fitting. Cable glands and seal fittings are not supplied by Honeywell.						

2. Transmitter Mounting

2.1 Weight

Transmitter model	Weight
STDW9xx STGW9x4	11 lbs (5 kg)
STGW9xL STAW94L	7 lbs (3.2 kg)
STIW400 STTW400 CETW6000M	6 lbs (2.7 kg)

2.2 Dimensions



2.3 Transmitter location

Pressure models

Process	Suggested location	Explanation
Gases	Above the gas line	The condensate drains away from the transmitter.
Liquids	• Below but close to the elevation of the process connection. • Level with or above the process connection.	• This minimizes the static head effect of the condensate. • This requires a siphon to protect the transmitter from process steam. The siphon retains water as a “fill fluid.”

2.4 Bracket mounting

Attach bracket to pipe

Figure 1 shows some commonly used bracket and pipe orientations. Not all possibilities are shown; you can use any bracket (flat or angle) and orientation (parallel or transverse) to get the desired transmitter positioning.

Position bracket on 2-inch (50.8 mm) pipe and install “U” bolt around pipe and through holes in bracket. Secure with nuts and lockwashers provided.

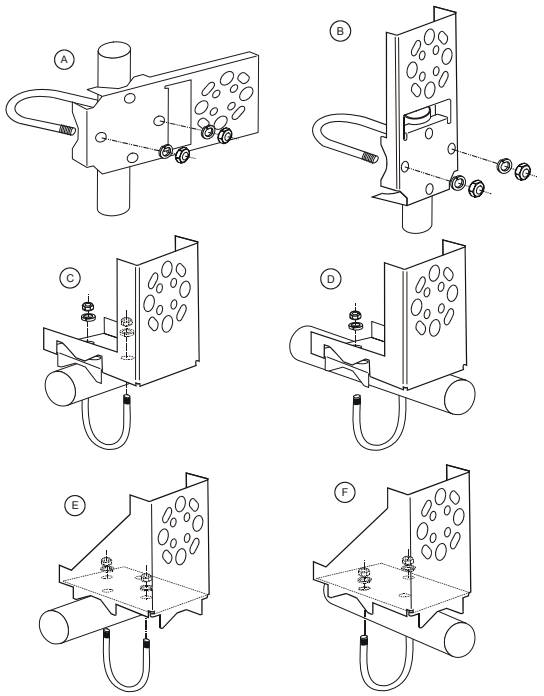
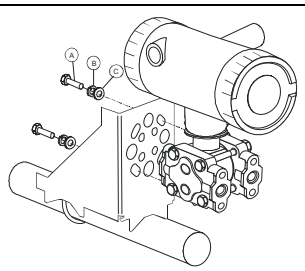
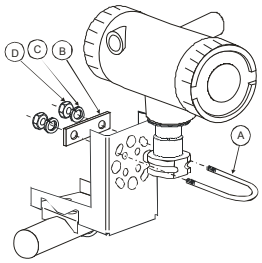


Figure 1 Common bracket orientations

Attach transmitter to bracket

Align appropriate mounting holes in transmitter with holes in bracket and secure the transmitter to the bracket with bolts and washers provided.

If the meter body is hexagonal, you must use the additional bracket supplied. If meter body is round, discard the bracket.

Transmitter type	Attachment to bracket	Example
DP type with double-ended process heads and/or remote seals	Alternate mounting holes in end of heads.	
Dual head GP	Mounting holes in end of process head	
In-line GP and AP (LGP model)	Smaller “U” bolt.	
Temperature	Smaller “U” bolt.	
High Level AI	Smaller “U” bolt.	
Corrosion	Smaller “U” bolt.	

2.5 Rotate transmitter housing

You can rotate the transmitter for better viewing, access, or antenna position. Loosen set screw (see A in Figure 2) on outside neck of transmitter one full turn. Rotate transmitter housing up to 180 degrees in either direction to desired position.

CAUTION Do not rotate the housing past 180 degrees in any direction or you could damage the internal wiring.

Tighten set screw.

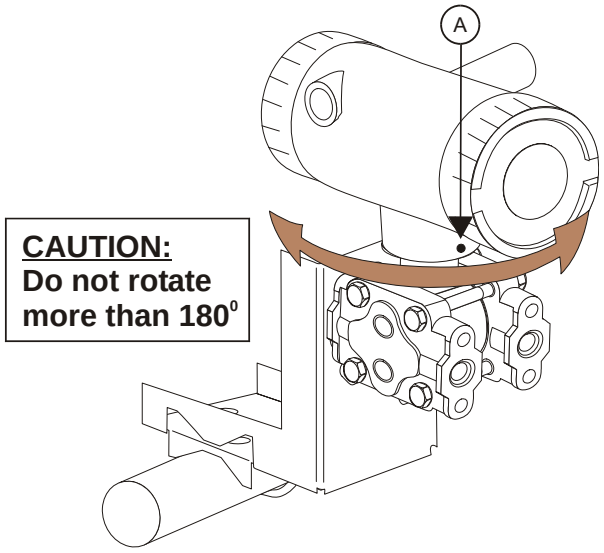


Figure 2 Rotating transmitter housing

2.6 Rotate display

If the transmitter's mounting is such that the display is not horizontal, you can rotate the display 90 degrees for horizontal viewing.

Tools required

- #1 Phillips Screwdriver or 1/8" Slotted Screwdriver
- Torque Screwdriver
- 1.5 mm hex key

Procedure

WARNING

Risk of death or serious injury by explosion. Do not open transmitter enclosure when an explosive gas atmosphere is present.

CAUTION

Take precautions against electrostatic discharge to prevent damaging the display/sensor module.

Table 2-1 Display adjustment

Step	Action
1	Honeywell recommends that the transmitter be removed from service and moved to a clean area before servicing.
2	Loosen the M3 locking set screw on the display end-cap. See item 1 in Figure 3. Unscrew and remove the end cap.
3	Loosen the two captive screws on the display/sensor module. See items 2 in Figure 3.
4	Rotate the display 90 degrees in either direction so the screws line up with the threaded holes. Do not rotate more than 90 degrees or you could damage the wires behind the display.
5	Re-attach the two captive screws.

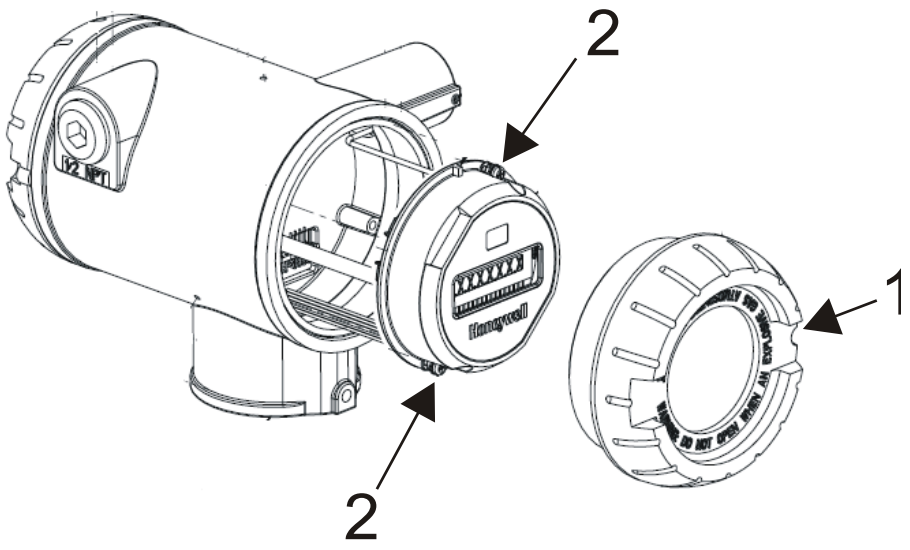


Figure 3 Display rotation

3. Process insertion

3.1 Pressure models

Piping

The actual piping arrangement will vary depending upon the process measurement requirements and the transmitter model. Except for flanged and remote diaphragm seal connections, process connections are made to ¼ inch or ½ inch NPT female connections in the process head of the transmitter's meter body. For example, a differential pressure transmitter comes with double ended process heads with ¼ inch NPT connections but they can be modified to accept ½ inch NPT through optional flange adapters. Some gauge pressure transmitters may have a ½ inch NPT connection which mounts directly to a process pipe.

The most common type of pipe used is ½ inch schedule 80 steel pipe. Many piping arrangements use a three-valve manifold to connect the process piping to the transmitter. A manifold makes it easy to install and remove or rezero a transmitter without interrupting the process. It also accommodates the installation of blow-down valves to clear debris from pressure lines to the transmitter.

Figure 4 shows a diagram of a typical piping arrangement using a 3-valve manifold and blow-down lines for a differential pressure transmitter being used to measure flow.

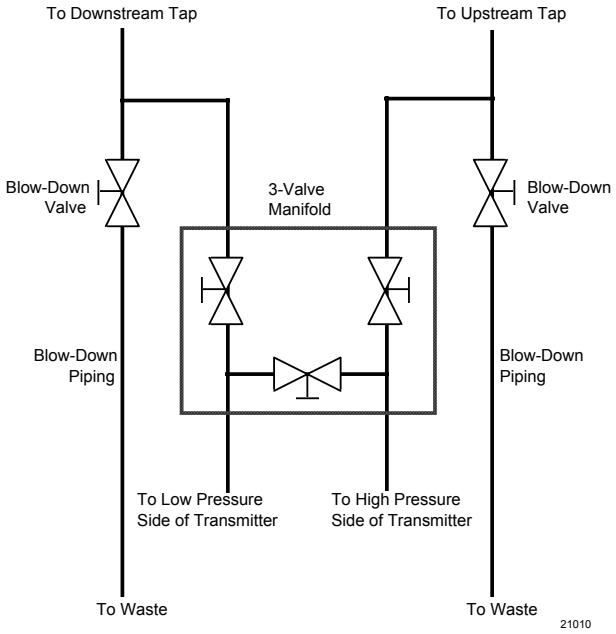


Figure 4 Typical 3-valve manifold and blow-down piping arrangment

Another piping arrangement uses a block-off valve and a tee connector in the process piping to the transmitter as shown in Figure 5.

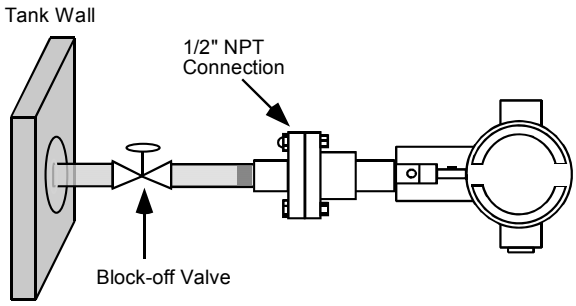


Figure 5 Typical Arrangement for ½" NPT Process Connection Piping

ATTENTION

For liquid or steam, the piping should slope a minimum of 25.4 mm (1 inch) per 305 mm (1 foot). Slope the piping down towards the transmitter if the transmitter is below the process connection so the bubbles may rise back into the piping through the liquid. If the transmitter is located above the process connection, the piping should rise vertically above the transmitter; then slope down towards the flowline with a vent valve at the high point. For gas measurement, use a condensate leg and drain at the low point (freeze protection may be required here).

CAUTION

Property damage may result if operating temperature limits of transmitter are exceeded. Electronics housing must not exceed 85° C [185° F], meterbody temperature limit may be rated higher. Consult transmitter nameplate for meterbody temperature limits. To reduce the temperature of the process that comes into contact with the transmitter meter body, install impulse piping. As a general rule there is a 56 degree C drop (100 degrees F) in the temperature of the process for every foot (305 mm) of ½ inch uninsulated piping.

Process connections

Transmitter Type	Process Connection
Differential Pressure	Process heads with ¼ inch NPT female connection Flange adapters and manifolds with ½ inch female connection are optional
Gauge Pressure	Process head with ½ inch NPT female connection In-line ½ inch NPT female connection In-line ½ inch NPT male 9/16 Aminco DIN19213n Process heads with ¼ inch NPT female connection Flange adapters and manifolds with ½ inch female connections are optional
Absolute Pressure	Process head with ½ inch NPT female connection In-line ½-inch NPT male 9/16 Aminco DIN19213n

General piping guidelines

When measuring fluids containing suspended solids, install permanent valves at regular intervals to blow-down piping.

Blow-down all lines on new installations with compressed air or steam and flush them with process fluids (where possible) before connecting these lines to the transmitter's meter body.

Be sure all the valves in the blow-down lines are closed tight after the initial blow-down procedure and each maintenance procedure after that.

3.2 Temperature models

Insert probe into process

ATTENTION

It is your responsibility to supply a suitable sealing method or gasket and mounting hardware for the probe's service conditions.

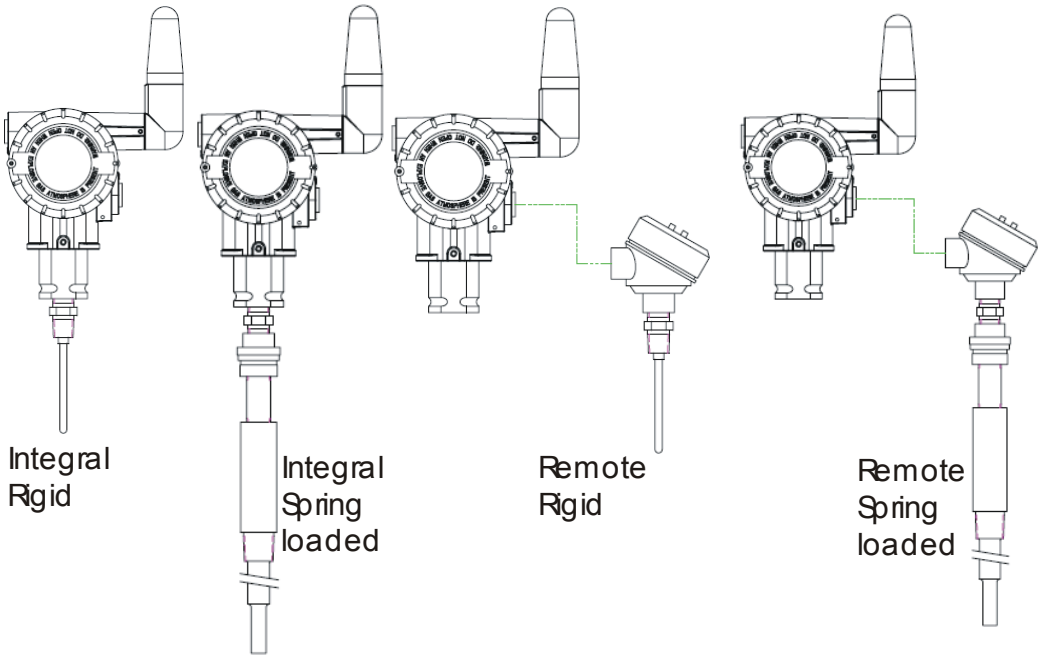


Figure 6 Temperature probes

Integral probe wiring

The integral probe is pre-wired to the transmitter at the factory.

Remote probe wiring

Step	Action
1	See Figure 6. Open the transmitter's rear end cap (opposite end from display).
2	Open the cable gland (on right side below antenna).
3	Feed wiring (6 to 8 mm allowed diameter) through the cable gland and connect to terminal block. See page 27 for terminal connections.
4	Plug battery connector into batteries.
5	Close rear end cap and cable gland.

3.3 HLAI models

Connect wiring

Step	Action
1	See Figure 7. HLAI transmitter is shown at left. Open the rear end cap (opposite end from display).
2	Open the cable gland (on right side below antenna).
3	Feed wiring (allowed diameter 6 to 8 mm) from other transmitter through the cable gland and connect to terminal block using either voltage or current but not both. See Figure 8 or Figure 9. For hazardous locations see page 27.
4	Plug battery connector into batteries.
5	Close rear end cap and cable gland.

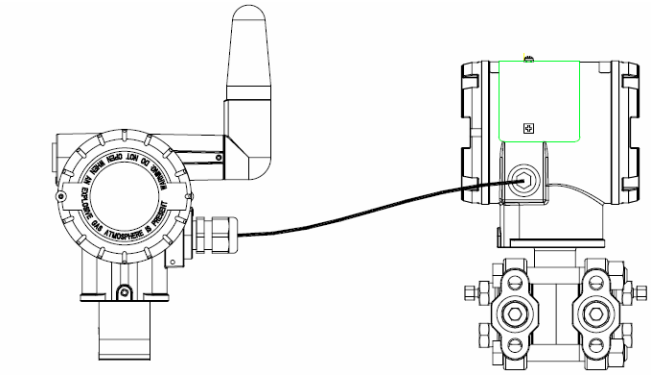


Figure 7 HLAI connection

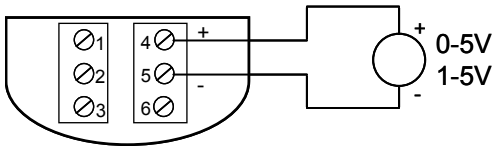


Figure 8 Voltage input wiring

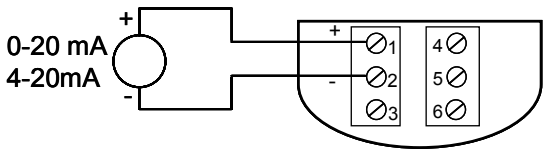
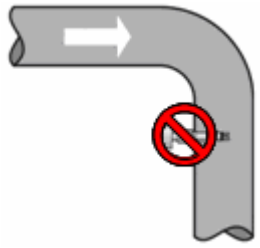
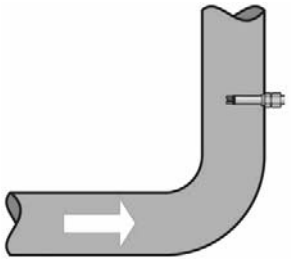
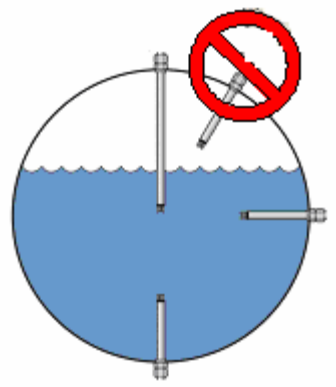


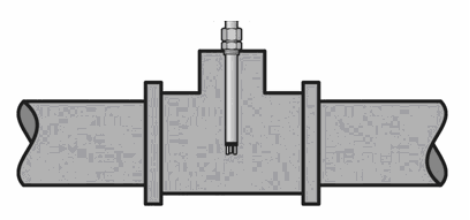
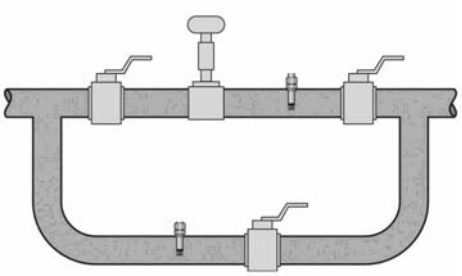
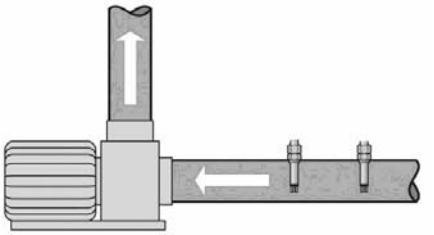
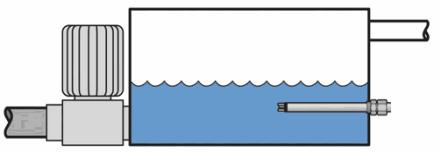
Figure 9 Current input wiring

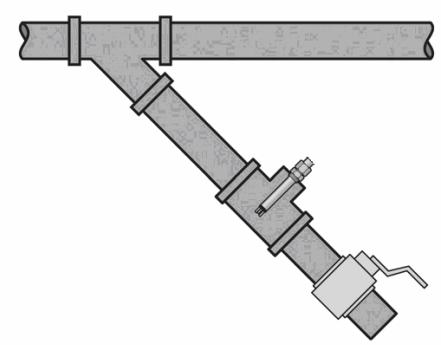
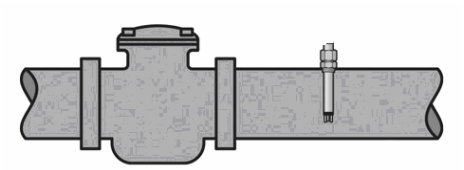
3.4 Corrosion models

Probe mounting locations

The corrosion probe must be installed in a location that is most susceptible to corrosion. In most cases, corrosion tends to occur where water is trapped or stagnant. However, it can also accelerate at the bend of the pipe or where corrosion has occurred previously, but is accelerated by high flow or turbulence.

Location	Picture
Incorrect probe location The probe should not be mounted in a pipe drop since the corrosive liquid may not be in full contact with the electrodes.	
Correct probe location The probe should be mounted in the riser of a pipe near an elbow where the velocity is the highest. In general, probe should be mounted in pipes or tanks at locations of highest liquid velocity and constant immersion.	
Correct Pipeline Position Probe can be located at any point on the pipeline but should always be immersed in the corrosive material.	

Location	Picture
Located in Tee Probe can be located at any point on the pipeline but should always be immersed in the corrosive material.	
Located in Bypass Loop Probe should be located downstream of a control valve for best performance and can also be located in the deadleg portion of a by-pass. Note that the probe located in the by-pass leg should be mounted before the valve for best performance. This guarantees the electrodes will always be immersed in the corrosive material.	
Mounted with Different Electrodes Installing with different electrode materials on the suction side of the pump will ensure monitoring of the pump impeller and the pipe.	
Installed in a Condensate Flash Tank A condensate flash tank is also a good application.	

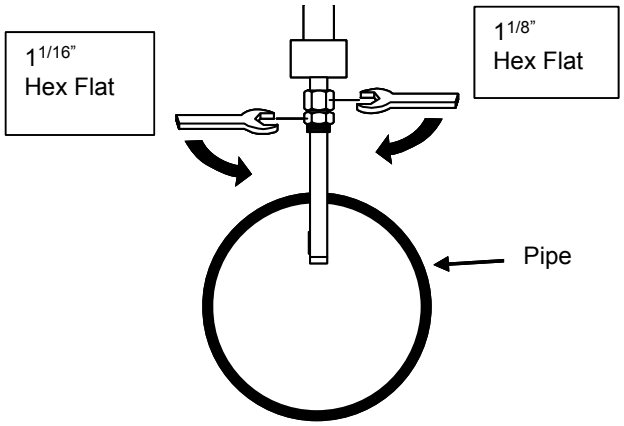
Location	Picture
Mounted in Y-Strainer The probe is shown in the blow down of a Y-strainer.	
Mounted in Basket Strainer The probe is shown in the discharge side of the basket strainer.	

The electrodes should be selected to reflect the same metal properties as the piping or other components that might be susceptible to corrosion. For example, in applications where the pipe is made of stainless steel and the water pump's impeller is made of carbon steel, the impeller will corrode faster than the pipe. In this case it is advisable to select the electrodes to be the same material as the pump's impeller.

Probe installation

WARNING

If the pipe or vessel into which the probe is to be inserted is under pressure and/or contains any hazardous substance, such as steam, caustic solutions, acids, toxins or other substances specified by OSHA as physical or health hazards, the pipe or vessel must first be depressurized and any hazardous substance purged there from, and appropriate lockout/tagout procedures observed in accordance with Section 1910.147 of the OSHA Regulations, before the probe can be installed. Failure to follow these procedures may result in serious injury or death.

Step	Action
1	 Some probes are supplied with an adjustable, compression NPT fitting (e.g. Swagelok). With this fitting, follow this tightening sequence to ensure a tight seal. a) The Swagelok fitting should be held onto place with a plastic zip-tie around the probe body. The zip-tie should be removed. b) Determine the depth that the probe should extend into the pipe. c) Tighten the larger upper nut until the tubing will not rotate freely by hand. d) Make a mark on the nut. This mark will serve as a reference as the 6 o'clock position. e) While holding fitting body steady, tighten the large upper nut 1 + 1⁄4 turns to the 9 o'clock position. f) This tightening sequence will crimp the internal ring onto the probe body and should lock the fitting in place now. g) Tighten the lower nut onto the pipe nipple or access point. For fixed type probes (without the adjustable compression fitting) only the 1 1/16 hex nut needs to be tightened and the safety bracket is not required.
2	Ensure the flow rate of the process fluid does not exceed 20 feet per second (fps). Stronger flow might damage probes with three finger electrodes and interfere with the reading. If the flow rate exceeds the recommendation, a different probe style may be required.

Connect wiring

Step	Action
1	See Figure 10. Open the transmitter's rear end cap (opposite end from display).
2	Open the cable gland (on right side below antenna).
3	Feed probe wiring through the cable gland and connect to terminal block. See Figure 10. See page 27 for terminal connections.
4	Plug battery connector into batteries.
5	Close rear end cap and cable gland.

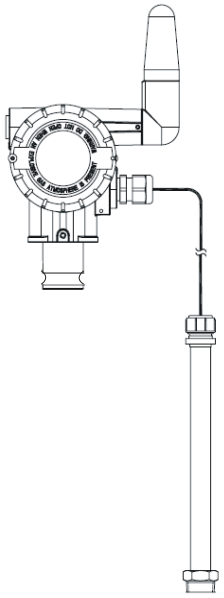


Figure 10 Corrosion transmitter with remote probe

4. Antenna adjustment and mounting

4.1 Requirements

Radio installation requirements

ATTENTION

Professional Installation is required to insure conformity with Federal Communications Commission (FCC) in the USA, Industry Canada (IC) in Canada and the Radio and Telecommunications Terminal Equipment Directive, 1999/5/EC (R&TTE), in the European Union (EU).

Professional installation is required for the selection and installation of approved antennas and setup of the maximum allowable radiated power from the XYR 6000 Wireless Transmitter as configured for the particular installation site.

The antennae used for this transmitter must be installed to provide a separation distance of at least 20 cm (8 inches) from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For remote antenna, see antenna installation requirements to satisfy FCC RF exposure requirements.

ATTENTION

Federal Communications Commission (FCC):

The XYR 6000 Wireless Transmitters comply with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada (IC):

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF fields in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's web site www.hc-sc.gc.ca/rpb.

4.2 Integral antenna

WARNING

POTENTIAL ELECTROSTATIC CHARGING HAZARD

The integrally mounted antenna shroud is made of Teflon® and has a surface resistance greater than 1Gohm per square. When the XYR 6000 transmitter is installed in potentially hazardous locations care should be taken not to electrostatically charge the surface of the antenna shroud by rubbing the surface with a cloth, or cleaning the surface with a solvent. If electrostatically charged, discharge of the antenna shroud to a person or a tool could possibly ignite a surrounding hazardous atmosphere.

Elbow

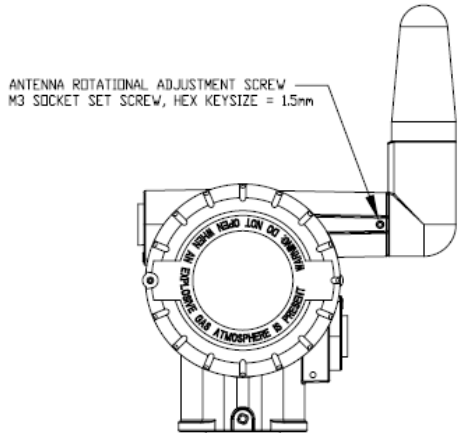


Figure 11 Elbow antenna adjustment

If your model has the integral elbow anntena you can adjust it to improve operation. Typically, pointed straight up gives best performance but your installation may vary. Loosen the 1.5mm set screw located near the antenna base. Rotate antenna for best reception. Do not rotate antenna more than 180 degrees either direction or you could damage internal wiring. Tighten set screw.

Straight

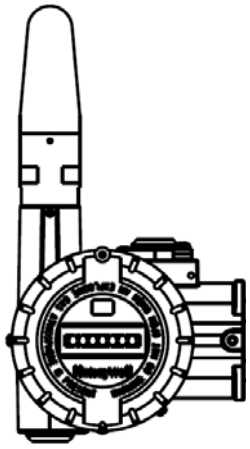


Figure 12 Integral straight antenna

If your model has the integral straight anntena (Figure 12) you can adjust its position by rotating the transmitter housing. (See page 6.) Typically, pointed straight up gives best performance but your installation may vary.

4.3 Remote antenna

Outdoor installation warnings

WARNING

LIVES MAY BE AT RISK! Carefully observe these instructions and any special instructions that are included with the equipment you are installing.

WARNING

Contacting power lines can be lethal.

Look over the site before beginning any installation, and anticipate possible hazards, especially these:

Make sure no power lines are anywhere where possible contact can be made. Antennas, masts, towers, guy wires or cables may lean or fall and contact these lines. People may be injured or killed if they are touching or holding any part of equipment when it contacts electric lines. Make sure there is NO possibility that equipment or personnel can come in contact directly or indirectly with power lines.

Assume all overhead lines are power lines.

The horizontal distance from a tower, mast or antenna to the nearest power line should be at least twice the total length of the mast/antenna combination. This will ensure that the mast will not contact power if it falls either during installation or later.

WARNING

To avoid falling, use safe procedures when working at heights above ground.

Select equipment locations that will allow safe, simple equipment installation.

Don’t work alone. A friend or co-worker can save your life if an accident happens.

Use approved non-conducting ladders and other safety equipment. Make sure all equipment is in good repair.

If a tower or mast begins falling, don’t attempt to catch it. Stand back and let it fall.

If anything such as a wire or mast does come in contact with a power line, DON’T TOUCH IT OR ATTEMPT TO MOVE IT. Instead, save your life by calling the power company.

Don’t attempt to erect antennas or towers on windy days.

WARNING

MAKE SURE ALL TOWERS AND MASTS ARE SECURELY GROUNDED, AND ELECTRICAL CABLES CONNECTED TO ANTENNAS HAVE LIGHTNING ARRESTORS. This will help prevent fire damage or human injury in case of lightning, static build-up, or short circuit within equipment connected to the antenna.

The base of the antenna mast or tower must be connected directly to the building protective ground or to one or more approved grounding rods, using 1 OAWG ground wire and corrosion-resistant connectors.

Refer to the National Electrical Code for grounding details.

Lightning arrestors for antenna feed coaxial cables are available from HyperLink Technologies, Inc.

WARNING

If a person comes in contact with electrical power, and cannot move:

DON'T TOUCH THAT PERSON, OR YOU MAY BE ELECTROCUTED.

Use a non-conductive dry board, stick or rope to push or drag them so they no longer are in contact with electrical power.

Once they are no longer contacting electrical power, administer CPR if you are certified, and make sure that emergency medical aid has been requested.

Directional mounting procedure

Step	Action
1	Secure mast mounting bracket to mast as shown using 2 U-bolts and supplied hardware.
2	Attach antenna to mast mounting bracket as shown using supplied hardware.
3	Adjust antenna to desired tilt and lock into place using the antenna tilt adjustment nut.

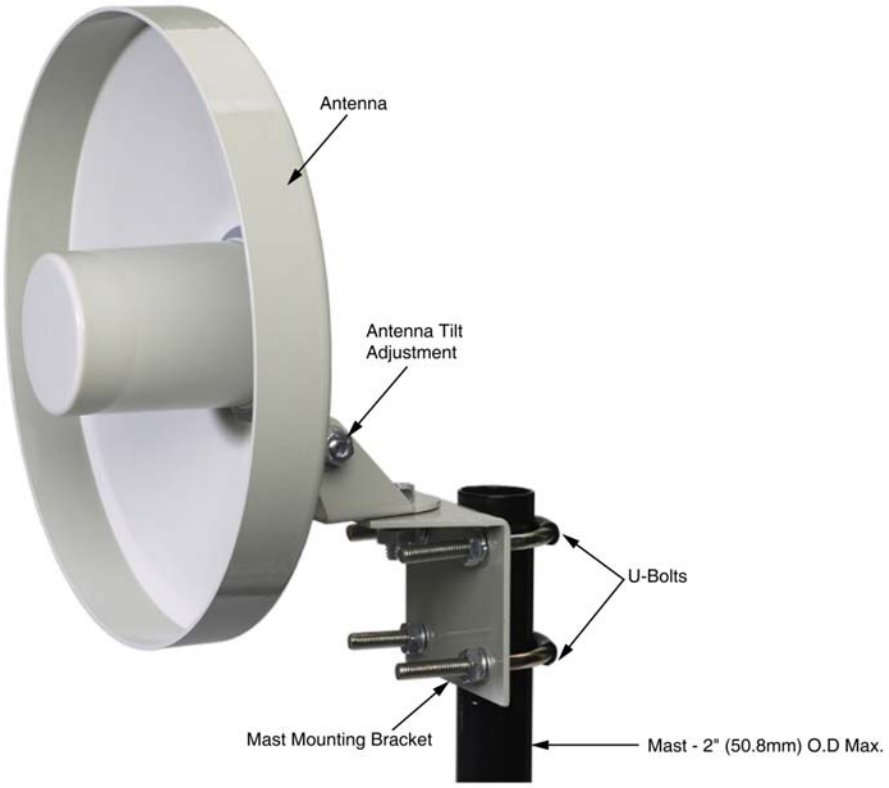


Figure 13 Directional antenna mounting

Omnidirectional mounting procedure

Step	Action
1	Secure mast mounting bracket to mast as shown using 2 U-bolts and supplied hardware.
2	Remove antenna mounting bolt and washer from antenna base.
3	Insert antenna into mounting bracket and secure with washer and antenna mounting bolt. Do not overtighten.
4	Any drain holes in the antenna base must be kept clear for proper operation.

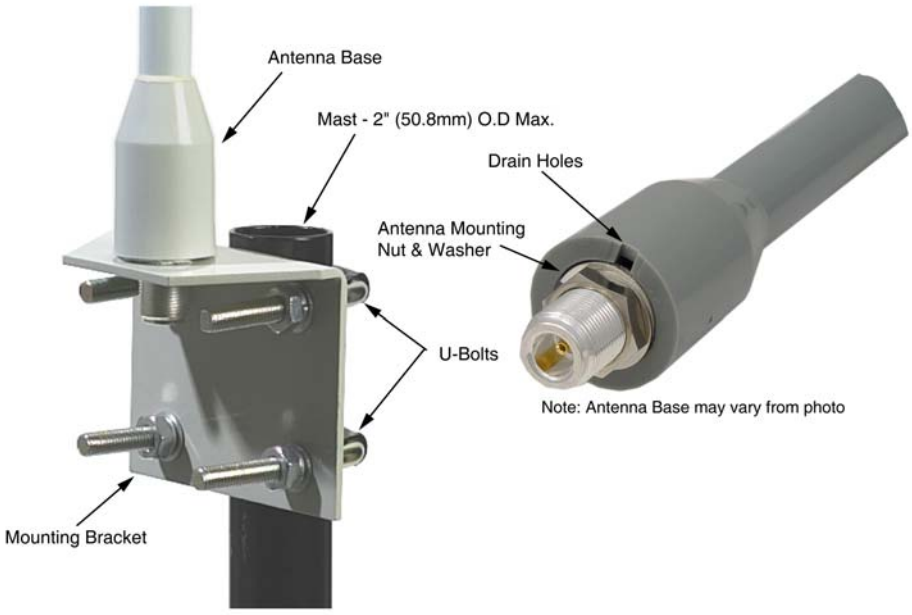


Figure 14 Omnidirection antenna mounting

Connect antenna to transmitter

Using coaxial cable, connect the antenna base to the transmitter's remote antenna connector (located at top right as you face the transmitter display). A lightning arrestor may be required between the antenna and the transmitter, using two cables up to 10m long each. Without lightning arrester, total cable length must not exceed 10m (33 ft.). With lightning arrester total cable length must not exceed 20m (66 ft.). Antenna cable shield shall be bonded to earth ground.

See page for cable types and connection information.

5. Start up

5.1 Connect batteries

WARNING

Risk of death or serious injury from explosion or fire.

Connection and disconnection of the batteries should be done only when the area is non-hazardous.

ATTENTION

Both batteries must be the same model from the same manufacturer. Mixing old and new batteries or different manufacturers is not permitted.

Use only the following 3.6V lithium thionyl chloride (Li-SOCl2) batteries (non-rechargeable), size D. No other batteries are approved for use in XYR 6000 Wireless Transmitters.

- Xeno Energy XL-205F
- Eagle Picher PT-2300H
- Tadiran TL-5930/s
- Honeywell p/n 50026010-001 (Two 3.6V lithium thionyl chloride batteries)
- Honeywell p/n 50026010-002 (Four 3.6V lithium thionyl chloride batteries)
- Honeywell p/n 50026010-003 (Ten 3.6V lithium thionyl chloride batteries)

Step	Action
1	Loosen the M3 locking set screw on the battery end-cap (opposite end from display). See item 1 in Figure 15. Unscrew and remove the end cap.
2	Attach connector to batteries as shown.

3	Screw the end cap back on and tighten the M3 locking screw.

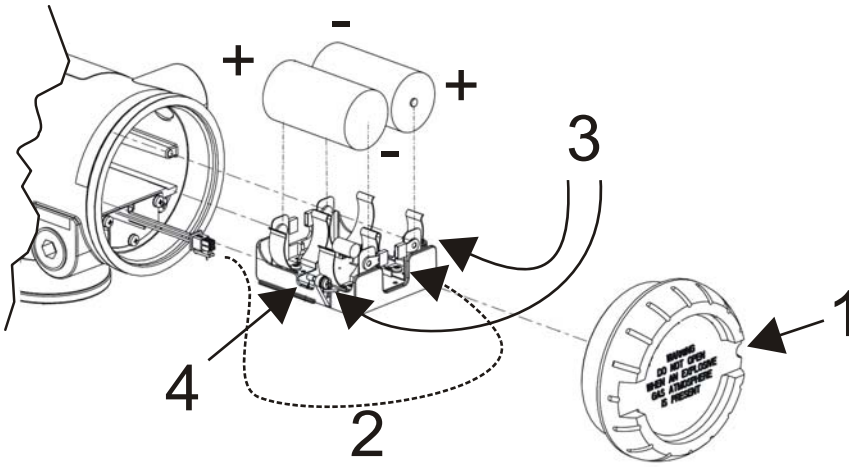


Figure 15 Battery assembly

Display sequence

After power up, the transmitter does a brief self-test of the LCD display. Then it proceeds to Power-On Message, which is the model name of the transmitter. The name is displayed for 2 seconds after which the transmitter displays the process variables and associated status.

Authentication

Before the transmitter can be configured it must be unlocked with a security key so it can join the network. Use the Authentication Device Pocket PC software to receive security keys from the Key Server manager, then aim the Pocket PC at the transmitter and transmit a key.

6. CSA Certified DIVISION 2 / ZONE 2 Installation Drawings

Use the following drawings and accompanying notes and text for hazardous locations. For non-hazardous locations you can use the same drawings without the accompanying notes and text.

PRE REL		
ISS	REVISION & DATE	APPD
A	RELEASED 7/19/07 0031900	RJP

XYR 6000 WIRELESS TRANSMITTERS
CSA CERTIFIED DIVISION 2 / ZONE 2
INSTALLATION DRAWING

NOTES:

1. Division 2 / Zone 2 installation shall be in accordance with the Canadian Electrical Code (CEC), part I, Section 18 for Canada, ANSI/NFPA 70, NEC® Articles 501-4(b) or 505-15(c) for the USA and ANSI/ISA 12.12.01.
2. System Parameters:
   XYR 6000 and Field Transmitter Vmax ≥ Voc or Uo, Imax ≥ Isc or Io;
   XYR 6000 Ci + Field Transmitter Ci + Ccable ≤ Control Apparatus Ca,
   XYR 6000 Li + Field Transmitter Li + Lcable ≤ Control Apparatus La.
3. When the electrical parameters of the cable are unknown, the following values may be used: Capacitance – 197pF/m (60 pF/ft), Inductance – 0.66μH/m (0.020 μH/ft).
4. For Class II and Class III installations and Type 4X / IP66 applications where rigid metal conduit is not used, seal all cable and unused entries against dust and fibers using a NRTL listed cable gland or seal fitting.
5. Transmitters shall have the enclosure bonded to ground in accordance with CEC part I, Section 18-074, Bonding in hazardous locations, and Rule 10-814.
6. Shielded two-wire cable is required for EMC conformity and is recommended for all installations. The 4-20 mA loop shield shall be grounded at the supply end ONLY.
7. Division 2: WARNING: EXPLOSION HAZARD – DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.
8. NO REVISION OF THIS INSTALLATION DRAWING IS PERMITTED WITHOUT AUTHORIZATION FROM CSA.
9. For release approvals see ECO # 0031900.

CERTIFICATION DOCUMENT **ENGINEERING CHANGE ORDERS (ECOs) MUST BE AUTHORIZED BY APPROVALS ENGINEERING**	DRAWN	WF	
	CHECKED		
	DEV ENG	NOTE 9	
	MFG ENG		
	QA ENG		
MASTER FILE TYPE: MS WORD	TOLERANCE UNLESS NOTED ANGULAR DIMENSION		

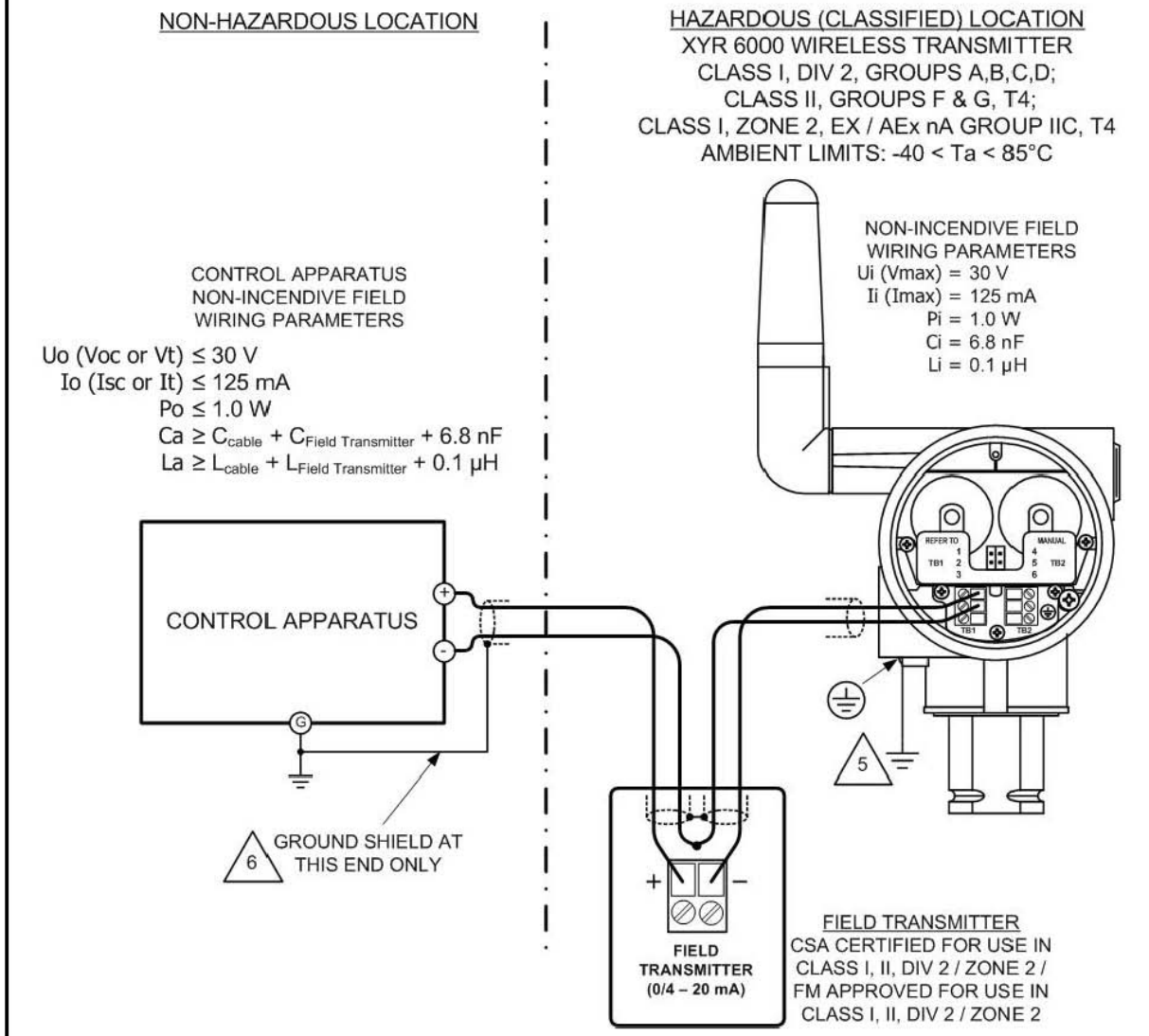
Honeywell

CSA Installation Drawing
XYR 6000 R100 Wireless Transmitters
Division 2 / Zone 2

A/A4	50026071	
SCALE	USED ON	SH.1 OF 6

CSA CERTIFIED DIVISION 2 / ZONE 2
INSTALLATION DRAWING – TWO-WIRE CONFIGURATION

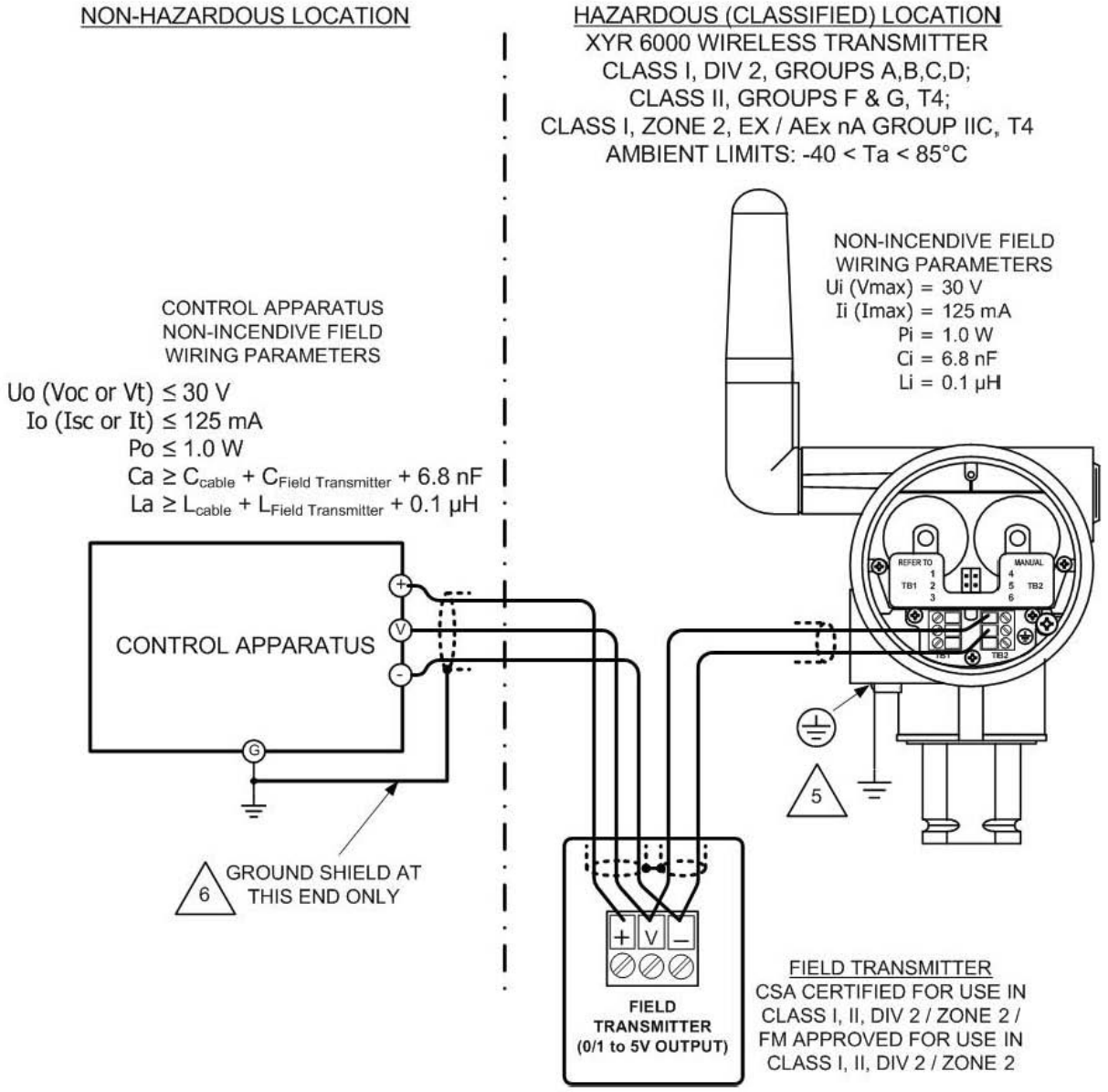
XYR 6000, STIW600, 0–20 mA / 4–20 mA HIGH LEVEL INPUT INTERFACE



Honeywell	A/A4	50026071		
	SCALE NONE	REV A	DATE 07/19/07	SH. 2 of 6

CSA CERTIFIED DIVISION 2 / ZONE 2
INSTALLATION DRAWING – THREE-WIRE CONFIGURATION

XYR 6000, STIW600, 0/1 TO 5V HIGH LEVEL INPUT INTERFACE



Honeywell	A/A4	50026071		
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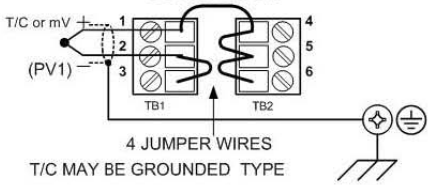
WIRELESS TEMPERATURE TRANSMITTERS
STTW400, STTW820, STTW830 & STTW840

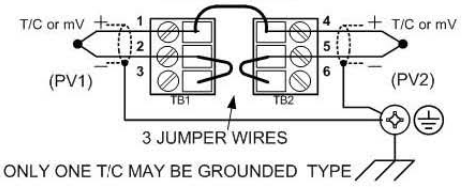
HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, DIV 2, GROUPS A,B,C,D; CLASS II, DIV 2, GROUPS F & G;
CLASS I, ZONE 2, Ex / AEx nA GROUP IIC, T4; AMBIENT LIMITS: -40 < Ta < 85°C

SINGLE THERMOCOUPLE CONNECTION



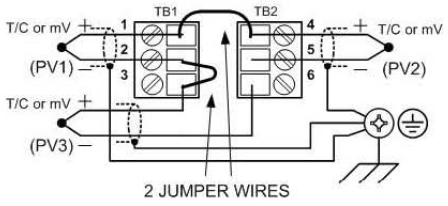
T/C MAY BE GROUNDED TYPE

TWO THERMOCOUPLE CONNECTION



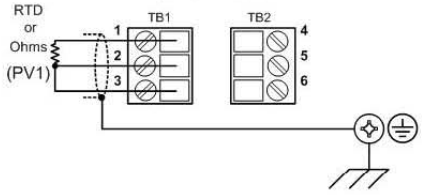
ONLY ONE T/C MAY BE GROUNDED TYPE

THREE THERMOCOUPLE CONNECTION

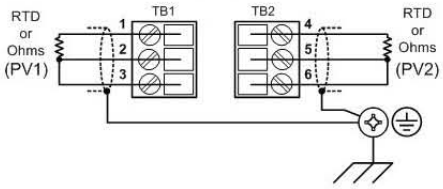


ONLY ONE T/C MAY BE GROUNDED TYPE

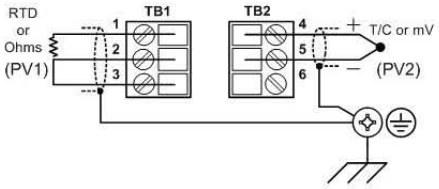
SINGLE RTD



TWO RTD

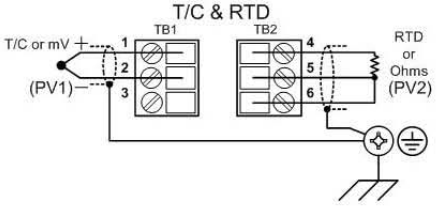


RTD & T/C



T/C MUST BE FLOATING (UNGROUNDED) TYPE

T/C & RTD



T/C MUST BE FLOATING (UNGROUNDED) TYPE

NON-INCENDIVE FIELD WIRING PARAMETERS

$Ca = 100\ \mu F \geq C_{Cable}$
$La = 100\ mH \geq L_{Cable}$

NOTES:

1. Shielded thermocouple/mV or RTD/Ohms cable is required for EMC conformity and is recommended for all remote sensor installations. The shield shall be grounded at the transmitter end only.
2. When remote mounted probe sensors are used and the shield is grounded at the probe, the shield shall not be connected at the transmitter end.
3. Duplex (redundant) sensors that are bonded to the probe are not permitted. All thermocouple/mV inputs and RTD/Ohms inputs must be insulated from ground (the probe) and from each other as noted above.
4. Jumper wires the same gauge as the thermocouple wires are required for single and dual thermocouple input combinations.

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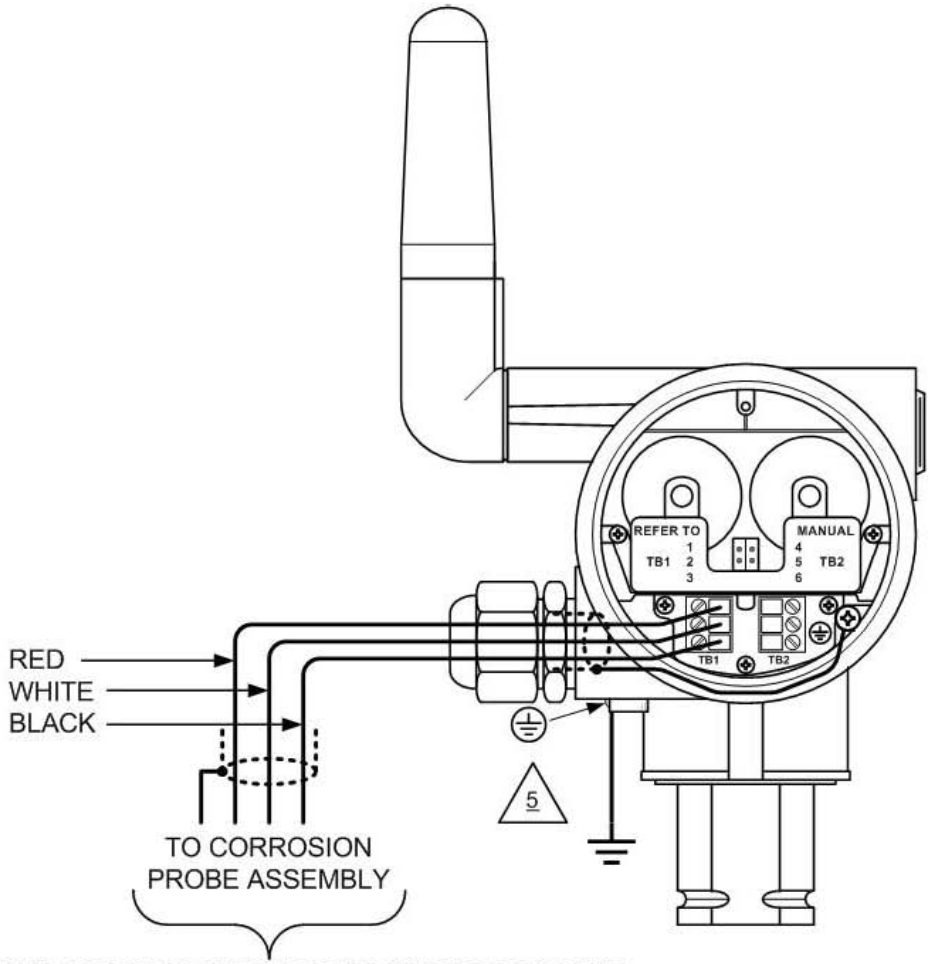
XYR 6000, MODEL CETW6000M
WIRELESS CORROSION TRANSMITTER

HAZARDOUS (CLASSIFIED) LOCATION
CLASS I, DIV 2, GROUPS A,B,C,D; CLASS II, GROUPS F&G, T4;
CLASS I, ZONE 2, Ex / AEx nA GROUP IIC, T4; AMBIENT LIMITS: -30 < Ta < 85°C



PROBE AND PROCESS ELECTRODES MUST BE PASSIVE ELEMENTS ONLY. PROBE AND CABLE PARAMETERS MUST NOT EXCEED 100 µF ≥ C_{PROBE} + C_{CABLE} AND 100 mH ≥ L_{PROBE} + L_{CABLE}

NOTE: Probes used with the Corrosion Transmitter must be acceptable to the authority having jurisdiction with respect to pressure and temperature rating.

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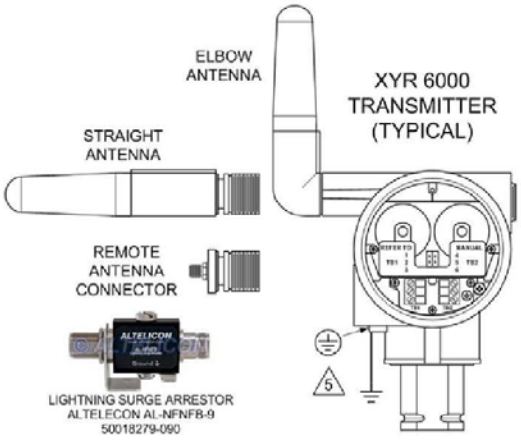
Model	Description	
STGW944	Series 900 Wireless Transmitter, Dual Head Gage Pressure (GP)	0-20 to 0-500 psi / 0-1.4 to 0-35 bar
STGW974		0-300 to 0-3000 psi / 0-21 to 0-210 bar
STDW924	Series 900 Wireless Transmitter, Differential Pressure (DP)	0-10" to 0-400" H_2O / 0-25 to 0-1000 mbar
STDW930		0-5 to 0-100 psi / 0-0.34 to 0-7 bar
STDW974		0-100 to 0-3000 psi / 0-7 to 0-210 bar
STGW94L	Series 900 Wireless Transmitter, In-Line Gage & Absolute Pressure	0-20 to 0-500 psi / 0-1.4 to 0-35 bar
STGW97L		0-100 to 0-3000 psi / 0-7 to 0-210 bar
STGW98L		0-100 to 0-3000 psi / 0-7 to 0-210 bar
STAW94L		0-20 to 0-500 psi / 0-1.4 to 0-35 barA
STTW400	Wireless Temperature Transmitter	Transmitter Only with Remote Sensors: 3 T/C's or 2 RTD's
STTW820 STTW830 STTW840		Transmitter Integrally Mounted to Thermowell or Probe Assembly
STIW600	Wireless High Level Input Interface	4-20 mA Analog Input
CETW6000M	SmartCET Wireless Transmitter, Corrosion Monitoring	Millivolt Input from Remote Mounted Corrosion Probe

The above listed wireless transmitters may include an omnidirectional or unidirectional high-gain antenna. The high-gain antenna may be installed remote from the XYR 6000 with the cable length not to exceed 20m (66 ft). The antenna cable shield shall be bonded to earth ground.

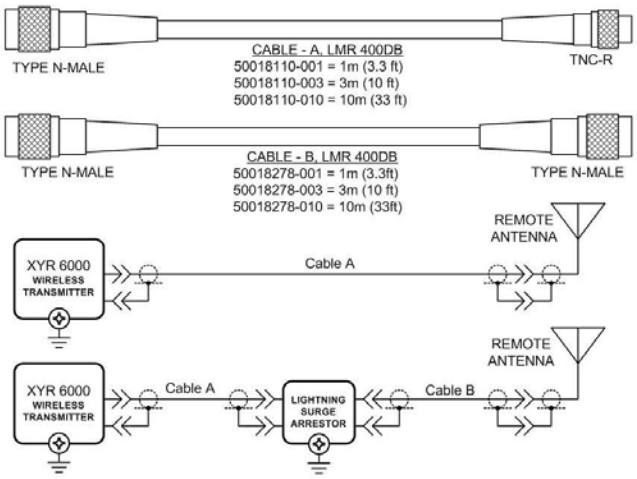
Non-Incendive Field Wiring parameters for remote antennas, cables & lightning arrestor:
Ca ≤ 100 µF, La ≤ 48 mH.

ANTENNA OPTIONS

REMOTE ANTENNAS MUST BE PASSIVE ELEMENTS ONLY



REMOTE ANTENNA CABLES



CABLE PARAMETERS			LIGHTNING SURGE ARRESTOR PARAMETERS
CABLE A, B LENGTH	CAPACITANCE	INDUCTANCE	
1 m	78.4 pF	0.2 µH	CAPACITANCE = 1 pF
3 m	235.2 pF	0.6 µH	INDUCTANCE = 10 nH
10 m	784 pF	2.0 µH	

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	SCALE NONE	REV A	DATE 07/19/07	SH. 6 of 6

Honeywell

Honeywell International
Process Solutions
2500 West Union Hills
Phoenix, AZ 85027