

**OneWireless**  
**XYR 6000 Temperature Transmitter**  
**User's Manual**

34-ST-25-16  
Release 100  
6/7/07

**Release 100**

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## About This Document

This document describes preparation, operation and maintenance of the XYR 6000 Wireless Temperature Transmitters. Mounting, installation and wiring 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

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## References

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

### Document Title

XYR 6000 Transmitters Quick Start Guide  
Getting Started with Honeywell OneWireless Solutions  
OneWireless Wireless Builder User's Guide  
OneWireless Builder Parameter Reference

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# Symbol Definitions

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

Symbol	Definition
	<b>ATTENTION:</b> Identifies information that requires special consideration.
	<b>TIP:</b> Identifies advice or hints for the user, often in terms of performing a task.
<b>CAUTION</b>	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.
	<b>CAUTION:</b> 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. <b>CAUTION</b> symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	<b>WARNING:</b> Indicates a potentially hazardous situation, which, if not avoided, could result in serious injury or death. <b>WARNING</b> symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	<b>WARNING, Risk of electrical shock:</b> Potential shock hazard where HAZARDOUS LIVE voltages greater than 30 Vrms, 42.4 Vpeak, or 60 VDC may be accessible.
	<b>ESD HAZARD:</b> Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices.
	<b>Protective Earth (PE) terminal:</b> Provided for connection of the protective earth (green or green/yellow) supply system conductor.
	<b>Functional earth terminal:</b> 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.
	<b>Earth Ground: Functional earth connection.</b> NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.
	<b>Chassis Ground:</b> 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.

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# 1. Introduction

## 1.1 Purpose

This manual describes the Honeywell OneWireless XYR 6000 Temperature Transmitter function, operation and maintenance.

## 1.2 Scope

The manual includes:

- Details of topics that relate uniquely to the Honeywell XYR 6000 Temperature Transmitter,
- This manual does not cover installation, mounting, or wiring. See XYR 6000 Transmitter Quick Start Guide (document 34-XY-25-15).

## 1.3 OneWireless network overview

OneWireless is an all digital, serial, two-way communication mesh network that interconnects industrial field sensors to a central system.

OneWireless has defined standards to which field devices and operator stations communicate with one another. The communications protocol is built as an "open system" to allow all field devices and equipment that are built to OneWireless standard to be integrated into a system, regardless of the device manufacturer. This interoperability of devices using OneWireless technology is to become an industry standard for automation systems.

## 1.4 About the transmitter

The XYR 6000 Temperature Transmitter is furnished with OneWireless interface to operate in a compatible distributed OneWireless system. The transmitter will interoperate with any OneWireless-registered device.

The transmitter includes OneWireless electronics for operating in a 2.4GHz network. It features function block architecture.

### Inputs

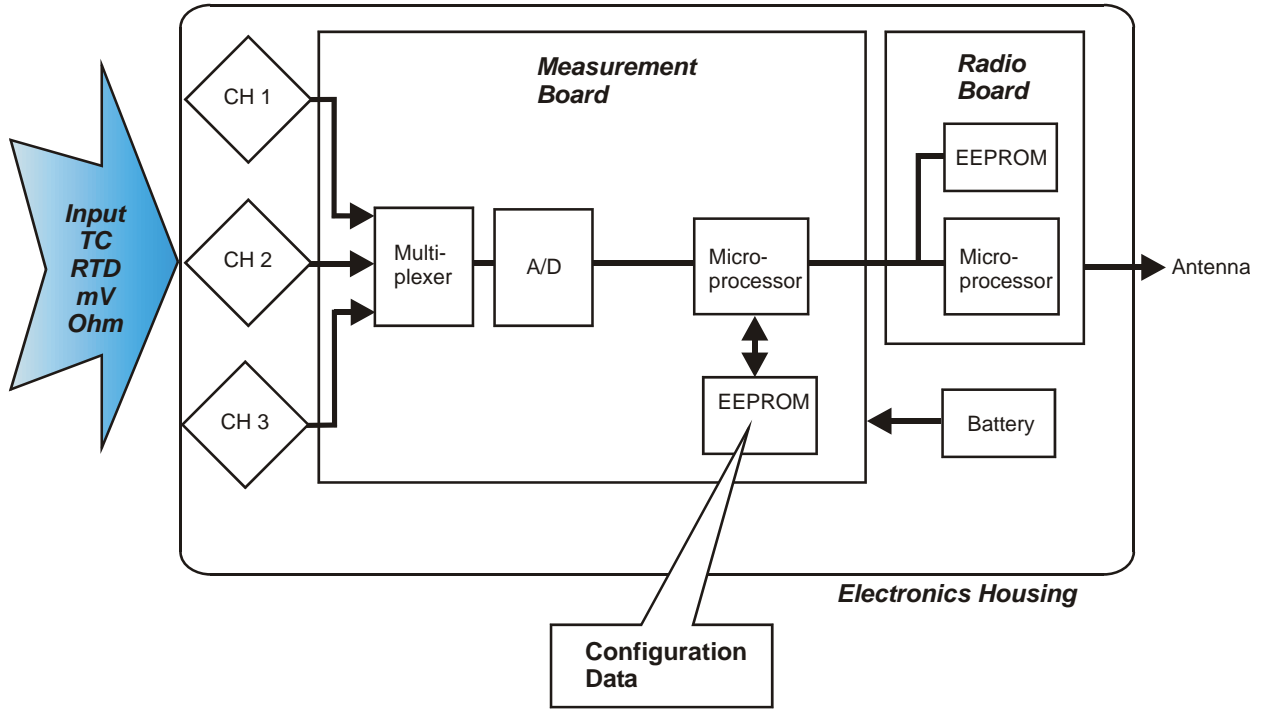
The transmitter supports three input channels.

- Up to three T/C channels
- Up to two RTD channels
- Channel 3 must be T/C or mV
- Input types
  - Thermocouple (B, E, J, K, N, R, S, T)
  - RTD (Pt100, Pt200, Pt500)
  - mV (0 to 10, 0 to 50, 0 to 100)
  - Ohm (0 to 100, 0 to 200, 0 to 500, 0 to 1000)

**1. Introduction**  
1.4. About the transmitter

The transmitter measures the analog signal from temperature sensors, or millivolt & ohm value and transmits a digital output signal proportional to the measured value for direct digital communications with systems.

The Process Variable (PV) is available for monitoring and alarm purposes. Available PV update rates are 1, 5, 10, 30 seconds and are set on Wireless Builder. Slower update rates extend battery life. Figure 1 shows a block diagram of the XYR 6000 Temperature transmitter's operating functions.




**Figure 1 XYR 6000 Functional Diagram**

## 2. Specifications

### 2.1 Certifications and approvals

#### Transmitter

Approval / Item	Ratings / Description
Nonincendive	Nonincendive, CL I, Div 2, Groups A,B,C & D, CL II & III, Div 2, Groups F & G, T4 Ta = 85°C
Non-Sparking	CL I, Ex/AEx nC IIC T4; Ta = 85°C, Zone 2 Ex II 3 GD, EEx nA IIC T4; Ta = 85°C, Zone 2
Process Connections	 <p>Division 2 / Zone 2 apparatus may only be connected to processes classified as non-hazardous or Division 2 / Zone 2. Connection to hazardous (flammable or ignition capable) Division 1 / Zone 0, or 1 process is not permitted.</p>
Enclosure Type	Type 4X, IP 66/67

For detailed transmitter specifications see the following Specification and Model Selection Guides.

- XYR 6000 Wireless Transmitter Temperature (document 34-XY-03-29)

#### Authentication Device

Install the Authentication Device application on any PDA having

- Windows Mobile version 4.2+
- infrared port.

## 3. Preparation

### 3.1 Installation

Refer to the XYR 6000 Transmitter Quick Start Guide (document 34-XY-25-21) for installation, mounting and wiring of your XYR 6000 transmitter.

### 3.2 Configuration

The XYR 6000 Transmitter contains the electronics interface compatible for connecting to the OneWireless network. An operator uses the Wireless Builder application to configure blocks, to change operating parameters, and to create linkages between blocks that make up the transmitter's configuration. These changes are written to the transmitter when it is authenticated by a security key.

### 3.3 Connecting to network

Use Authentication Device to connect your transmitter to the OneWireless network. See page 18.

### 3.4 Calibrating the transmitter

#### Methods of calibration

Calibration can be done at the transmitter or at Wireless Builder (Method Manager). For all calibration methods at the transmitter, Wireless Builder must be used to unlock and take the channel out of service.

- User calibration - Calibrates the channel to the low and high range values for the selected channel's input type.
- Restore calibration - Calibration constants for the selected channel are restored to factory defaults.
- Clear calibration - Factory or user calibration constants for the selected channel are cleared.

Additional calibration commands are available in Wireless Builder.

**User calibration**

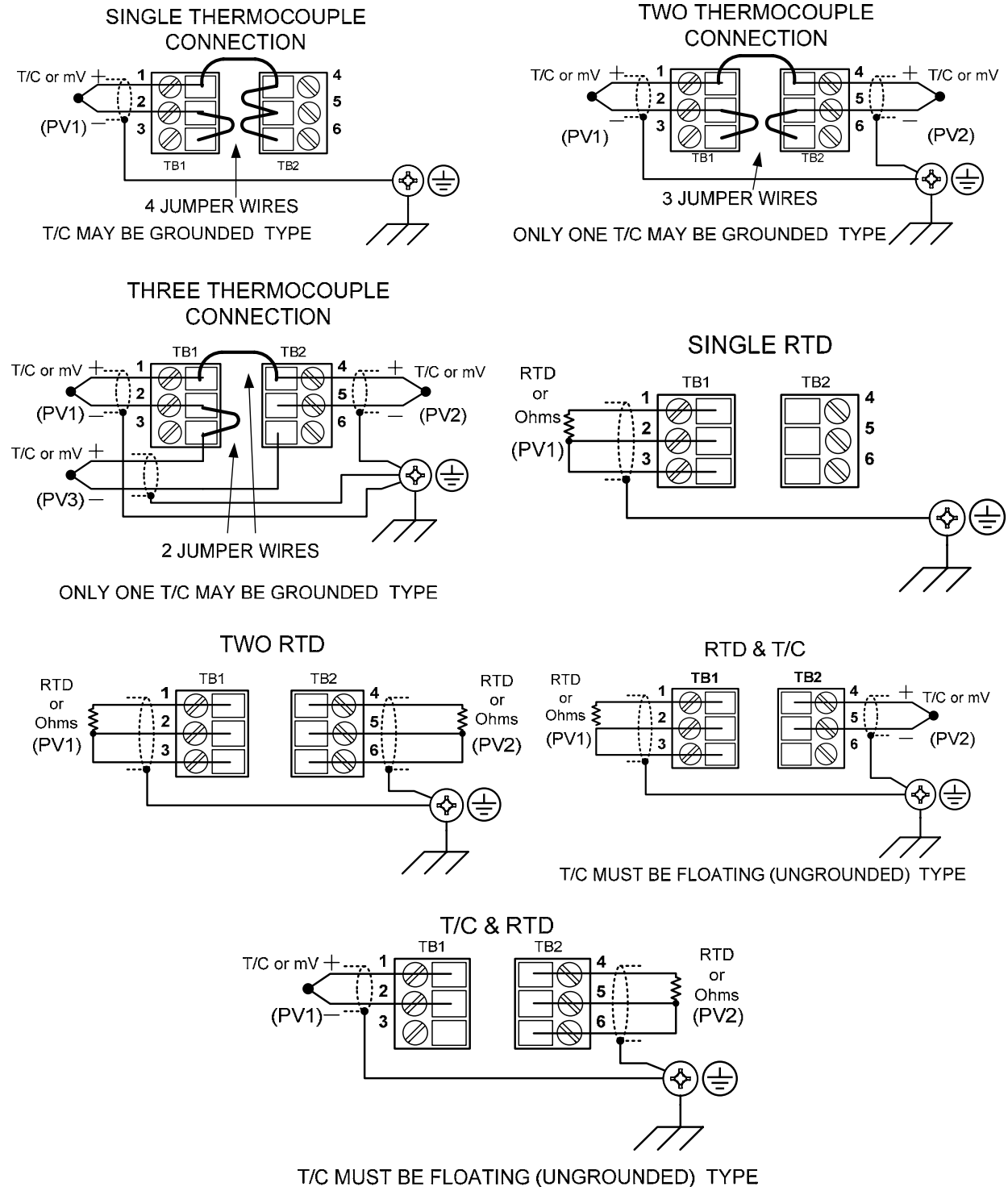
Calibrates the channel to the default low and high range values for the channel's input type.

**Table 1 User calibration**

Step	Action
1	In Wireless Builder, set the transmitter's channel to OOS (Out of Service).
2	In Wireless Builder, set the transmitter's Write Lock to Unlocked.
3	Loosen the M3 locking set screw on the transmitter's battery end-cap (opposite end from display). Unscrew and remove the end cap.
4	See Figure 2 for terminal connections. If your PV is connected to the channel, disconnect it first, then connect a calibrator source to the channel's terminals. It is not necessary to disconnect any jumper wires on the terminals.
5	At the transmitter display, verify the channel's PV value is followed by an out of service (OUT SVC) message.  Use Authentication Device's Device Local Configuration buttons to navigate to the transmitter's CAL menu.  If CAL menu is passcode protected, enter the passcode.  If the channel is not out of service a WRONG MODE message will be displayed. Go to step 1.  If the transmitter is locked a LOCKED message will be displayed. Go to step 2.
6	Select the channel for calibration (CH 1, CH 2 or CH 3). Select USER CAL. Follow displayed instructions. <ul style="list-style-type: none"> <li>• Using your calibration source, apply the low calibration value indicated on display. For TC apply cold junction compensated mV value. For RTD apply equivalent resistance value.</li> <li>• Press Enter to accept the value. Display will say BUSY, then CAL LO COMPLETE.</li> <li>• Press Enter to continue.</li> <li>• Apply the high calibration input value indicated on display.</li> <li>• Press Enter to accept the value. Display will say BUSY, then SUCCESS. Otherwise, the display will show one of the calibration error messages listed in Table 2.</li> <li>• Press Enter to return to PV display.</li> </ul>
7	Repeat steps 2 through 6 for each channel you want to calibrate.
8	Reverse steps 3 and 4.
9	When ready, in Wireless Builder return the transmitter's channel to service and set Write Lock to Locked.

### 3. Preparation

#### 3.4. Calibrating the transmitter



**Figure 2 Terminal connections for calibration**

**Table 2 Calibration error messages**

<b>Message</b>	<b>Meaning</b>
CALIBRATION_FAIL	<p>1. Calibration gain is greater than 5%.</p> <p>2. Calibration offset is greater than 5% of sensor span.</p> <p>(TC span is in mV. RTD span is in Ohms.)</p>
BAD TRIM POINT	<p>CAL_POINT_HI is greater than sensor high range value OR CAL_POINT_LO is less than greater than sensor low range value.</p>
BAD_USER_CALIBRATION	<p>CAL_SOURCE is user and user calibration constants contain invalid values.</p>
BAD_FACTORY_CALIBRATION	<p>1. CAL_SOURCE is factory and factory calibration constants do not contain valid values.</p> <p>2. CAL_RESTORE command was issued but factory calibration constants do not contain valid values.</p>
BAD_SENSOR	<p>Sensor is bad or faulty input thermocouple.</p>
BAD UNITS	<p>Units in CAL UNITS parameter are invalid or not supported by the sensor type.</p>
INTERNAL ERROR	<p>An error occurred during calibration that prevents calibration from being completed successfully.</p>
SUCCESS WITH EXCESS	<p>The calibration succeeded but the calculated calibration values are greater than 5 percent beyond the normal calibration values. Typically this indicates that the applied calibration value was significantly different from the expected value or that the sensor is not within expected tolerances for the applied characterization.</p>

### 3. Preparation

#### 3.4. Calibrating the transmitter

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#### Restore calibration

Step	Action
1	In Wireless Builder, set the transmitter's channel to OOS (Out of Service).
2	In Wireless Builder, set the transmitter's Write Lock to Unlocked.
3	At the transmitter display, verify the channel's PV value is followed by an out of service (OUT SVC) message.  Use Authentication Device's Device Local Configuration buttons to navigate to the transmitter's CAL menu.  If CAL menu is passcode protected, enter the passcode.  If the channel is not out of service a WRONG MODE message will be displayed. Go to step 1.  If the transmitter is locked a LOCKED message will be displayed. Go to step 2.
4	Select the channel (CH 1, CH 2 or CH 3).  Select CAL RSTR  Press Enter to continue.  Display will say BUSY, then SUCCESS.  If unsuccessful the display will show BAD_FACTORY_CALIBRATION.
5	When ready, in Wireless Builder return the transmitter's channel to service and set Write Lock to Locked.

---

### Clear calibration

Step	Action
1	In Wireless Builder, set the transmitter's channel to OOS (Out of Service).
2	In Wireless Builder, set the transmitter's Write Lock to Unlocked.
3	At the transmitter display, verify the channel's PV value is followed by an out of service (OUT SVC) message.  Use Authentication Device's Device Local Configuration buttons to navigate to the transmitter's CAL menu.  If CAL menu is passcode protected, enter the passcode.  If the channel is not out of service a WRONG MODE message will be displayed. Go to step 1.  If the transmitter is locked a LOCKED message will be displayed. Go to step 2.
4	Select the channel (CH 1, CH 2 or CH 3).  Select CAL CLR  Press Enter to continue.  Display will say BUSY, then SUCCESS.  Repeat for each channel desired.
5	When ready, in Wireless Builder return the transmitter's channel to service and set Write Lock to Locked.

---

## 4. Function blocks

### 4.1 Introduction

This section explains the construction and contents of the XYR 6000 Temperature Transmitter Function Blocks.

### 4.2 Block description

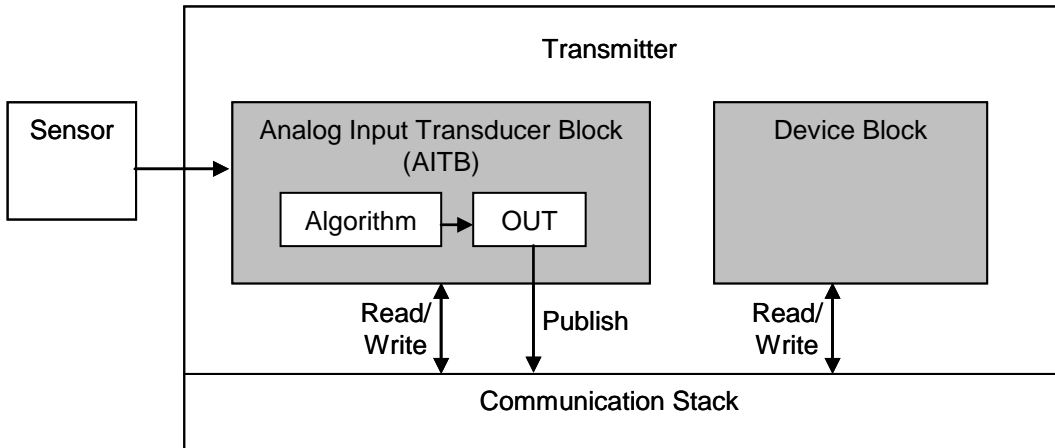
#### Block types

Blocks are the key elements that make up the transmitter’s configuration. The blocks contain data (block objects and parameters) which define the application, such as the inputs and outputs, signal processing and connections to other applications. The XYR 6000 Transmitter contains the following block types.

Block Type	Function
Device	Contains parameters related to the overall field device rather than a specific input or output channel within it. A field device has exactly one device block.
AITB	Contains parameters related to a specific process input or output channel in a measurement or actuation device. An AITB defines a measurement sensor channel for an analog process variable represented by a floating-point value. There is one AITB per sensor.
Radio	Contains parameters related to radio communication between the transmitter and the multimode(s).

#### Block diagram

Figure 3 shows the blocks of the XYR 6000 Transmitter.



**Figure 3 Block Diagram**

Each of these blocks contains parameters that are standard WNSIA-transmitter defined parameters. The AITB and device blocks contain standard parameters common to all XYR 6000 transmitter models (that is, pressure, temperature, corrosion, HLAI) as well as temperature-specific parameters. The radio block contains parameters for communication with the wireless network.

## **4.3 Parameter details**

The transmitter itself displays a few basic parameters, such as tag, serial number, device revision, build, device address, WF ID.

For more information on parameters, refer to the following documents.

- OneWireless Wireless Builder User's Guide
- OneWireless Builder Parameter Reference

## 5. Operation

### 5.1 Overview

#### Display modes

The transmitter has the following display modes.

- Test. Appears briefly after power-up to self-test the display.
- PV display. Default mode of the transmitter displays the PV and any status messages. See below.
- Quick view of parameters. Displays read-only parameters then returns to PV display. See page 15.
- Menu. Displays the menu. See page 16.

#### Authentication Device

To navigate the transmitter displays and menus, hold the Authentication Device no more than 6" from the transmitter and aim the infrared beam at the transmitter display while tapping the Device Local Configuration buttons (Table 7).

### 5.2 Transmitter PV display

In PV display, the following information is displayed in sequence.

Item displayed	Example	Details
Channel number	1	Channel number 1, 2, or 3
PV value	350	Latest PV value.
PV engineering units	Deg F	See Table 3.
PV status	BAD	See Table 4. If PV status is not displayed then the PV value is good.
Device status	LOW BATT	See Table 5. If device status is not displayed then the device status is normal.  If two or more device status messages are in effect they are displayed alternating with the PV.

**Table 3 PV engineering units**

Engineering units	Description
Deg C	Degrees Celsius
Deg F	Degrees Fahrenheit
mV	Millivolts
Ohm	Ohms

**Table 4 PV status**

PV status	Cause - Action
(blank)	<ul style="list-style-type: none"> <li>PV is normal – no action required</li> </ul>
BAD	<ul style="list-style-type: none"> <li>Possible calibration error – Clear calibration</li> <li>AITB can not execute due to internal firmware state – Attempt cold restart of device.</li> <li>AITB can not execute due to hardware fault – Replace sensor board</li> <li>Sensor failure – Check input connections</li> <li>Sensor failure – Check bad T/C or RTD</li> </ul>
BAD CONFIG	<ul style="list-style-type: none"> <li>Configuration is bad – Check possible units and range settings for input type and correct AITB configuration.</li> </ul>
BAD E FAIL	<ul style="list-style-type: none"> <li>Hardware fault detected - Replace sensor board</li> </ul>
OUTSVC	<ul style="list-style-type: none"> <li>Channel is out of service – Restore mode to Auto in Wireless Builder</li> </ul>
UNC	<ul style="list-style-type: none"> <li>Warning: Input inaccurate due to uncertain input data integrity.</li> <li>Warning: Input inaccurate due to input conversion limitations or resolution.</li> <li>Warning: Input outside of characterized range. Value is estimated.</li> </ul>

**Table 5 Device status**

Status	Root Status Bit	Definition	What to do
(blank)		Device status is normal	No action required
E FAIL	DEV_ST_ELEC_FAIL	Electrical Failure detected on Sensor Board. Could be caused by one of the status items marked by *.	Replace sensor board
IP ERR	DEV_ST_INPUT_FAIL	Input Error	Possible meter body sensor failure.
LOW BAT	DEV_ST_LOW_BAT	Batter Voltage Critically Low	Replace batteries as soon as possible.
IP1 FLT		Input 1 failure	
IP2 FLT		Input 2 failure	
IP3 FLT		Input 3 failure	
CFG ERR	DEV_ST_CONF_ERR	Configuration Check Error.	Database is corrupted. Cold start and reload configuration.
CAL ERR	DEV_ST_CAL_ERR	Calibration Data Invalid or could not be read.	Use Cal Clear, Restore, or User Calibrate.
NO RADIO	DEV_ST_RADIO_ERR	Radio Board is not accessible.	Check radio board installed. Replace radio board.

## 5. Operation

### 5.2. Transmitter PV display

Status	Root Status Bit	Definition	What to do
HEAP ERR*	DEV_ST_HEAP_ERR	Heap Allocation Failure. Software detected heap shortage and some communication packets may have been dropped.	Clear by warm restart of device. If condition persists contact Honeywell service.
FW ERR*	DEV_ST_DEV_FW_ERR	Sensor Board Firmware Error. The software did not pass verification tests.	Contact Honeywell service for replacement module.
WDT ERR*	DEV_ST_WDT_ERR	Sensor Watch Dog Timeout. The processor was restarted due to unexpected operation.	Clear by warm restart of device. If condition persists contact Honeywell service.
ROM ERR*	DEV_ST_ROM_FAULT	Startup diagnostics detected defect in Sensor Read Only Memory	Replace sensor module.
RAM ERR*	DEV_ST_RAM_FAULT	Startup diagnostics detected defect in Processor Random Access Memory	Replace sensor module.
NVM ERR*	DEV_ST_NVM_FAULT	Startup diagnostics detected defect in Sensor Non-Volatile Memory	Replace sensor module.
AD ERR*	DEV_ST_AD_FAULT	Diagnostics detected defect with Analog to Digital Converter.	Replace sensor module.
BAD RADIO SPI	radio diag status Bit 0	Radio detected loss of communication with sensor board over the inter-processor communication link.	The sensor module or radio board is not functioning properly. Reset both the radio and sensor module. If condition persists contact Honeywell service.
BAD RADIO EEPROM	radio diag status Bit 1	Radio EEPROM SPI Communication failure	The radio will not be able to perform firmware upgrades but will operate normally using installed code. Replace radio board.
RADIO WDT RESET	radio diag status Bit 2	Radio Watch Dog Timeout detected	The radio firmware is not operating normally. Restart radio board. If condition persists install new firmware or replace radio module.
BAD RADIO FHSS	radio diag status Bit 3	Radio Frequency Hopping Spread Spectrum Radio circuitry failure	The radio processor detected error on internal radio circuitry. Replace radio board.

## 5.3 Transmitter quick view of parameters

If you press the up or down arrow key during the PV display, the following quick view parameters are shown sequentially, then the PV display resumes.

Parameter	Description
Transmitter type	HONEYWELL XYR 6000 TEMPERATURE
Tag	The name given to this transmitter
Serial number	Transmitter serial number
Device revision	This parameter changes whenever objects and parameters are added, deleted, or the data type or range changes. It does not change if the application firmware changes without affecting the device description.
Build	Sensor firmware number

## 5.4 Transmitter menu

### Menu tree

At the PV display, press Enter to access the menus. To interact with the menus use the Device Local Configuration. See page 19.

**Table 6 Menu tree**

Menu item	Description																																	
CAL	Calibration menu. May be password-protected. See Table 7 on page 19 for password number entry.																																	
CH-1	Channel 1.																																	
CH-2	Channel 2.																																	
CH-3	Channel 3.																																	
CAL RSTR	Restores selected channel to factory calibration.																																	
USER CAL	Lets you calibrate selected channel's low and high points.																																	
CAL CLR	Clear the factory and user calibration.																																	
EXIT	Exits calibration menu and returns to PV display.																																	
RADIO	Radio menu																																	
PRI RSSI	<p>Primary receive signal strength. Read only. Signal strength 00 is too weak to connect to the network.</p> <table border="1"> <thead> <tr> <th><u>Displayed Value</u></th> <th><u>Value dBm</u></th> <th><u>Rx Margin dB</u></th> </tr> </thead> <tbody> <tr> <td>00</td> <td>&lt; -86</td> <td>&lt; 10</td> </tr> <tr> <td>01</td> <td>-86 to -81</td> <td>10 to 15</td> </tr> <tr> <td>02</td> <td>-80 to -75</td> <td>16 to 21</td> </tr> <tr> <td>03</td> <td>-74 to -69</td> <td>22 to 27</td> </tr> <tr> <td>04</td> <td>-68 to -63</td> <td>28 to 33</td> </tr> <tr> <td>05</td> <td>-62 to -57</td> <td>34 to 39</td> </tr> <tr> <td>06</td> <td>-56 to -51</td> <td>40 to 45</td> </tr> <tr> <td>07</td> <td>-50 to -45</td> <td>46 to 51</td> </tr> <tr> <td>08</td> <td>-44 to -11</td> <td>52 to 85</td> </tr> <tr> <td>09</td> <td>≥ -10</td> <td>Saturation</td> </tr> </tbody> </table>	<u>Displayed Value</u>	<u>Value dBm</u>	<u>Rx Margin dB</u>	00	< -86	< 10	01	-86 to -81	10 to 15	02	-80 to -75	16 to 21	03	-74 to -69	22 to 27	04	-68 to -63	28 to 33	05	-62 to -57	34 to 39	06	-56 to -51	40 to 45	07	-50 to -45	46 to 51	08	-44 to -11	52 to 85	09	≥ -10	Saturation
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08	-44 to -11	52 to 85																																
09	≥ -10	Saturation																																
SEC RSSI	Secondary receive signal strength. Same as PRI RSSI. Read only.																																	
NWK STAT	<p>Network status. Read only.</p> <p>CONNECTED means the transmitter radio and a multinode have detected each other. It does not necessarily mean security has been enabled or that the Wireless Builder has sensed the transmitter.</p> <p>NOT CONNECTED means radio communications with a multinode have not been established, or signal strength is too weak.</p>																																	

Menu item	Description
WFN ID	Wireless Field Network ID. Read only.
DEV ADD	Device address. Read only.
TX POWER	Radio transmit power. Read only.

## 5.5 Authentication device menus

### Overview

Hold the Authentication Device no more than 6” from the transmitter and aim the infrared beam at the transmitter display while tapping on the screen command or button.

### Main menu

The main menu is shown below.

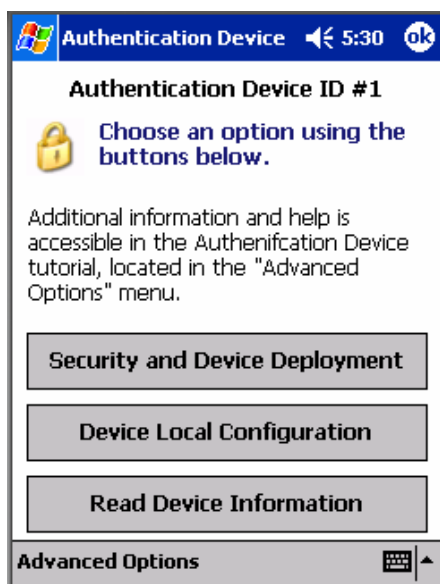


Figure 4 Main menu

## 5. Operation

### 5.5. Authentication device menus

---

#### Security and Device Deployment

Use this to receive and transmit security keys for connecting the transmitter to the OneWireless network.



**Figure 5 Security and Device Deployment**

To connect your transmitter to the OneWireless network perform the following steps.

Step	Action
1	If the Authentication Device does not contain any security keys, receive security keys from the PC application Key Server Manager.
2	If the keys in the Authentication Device are not valid or are expired, select Advanced, Clear Keys From Handheld, then repeat step 1 to obtain new keys.
3	When the Authentication Device has valid unexpired keys, aim it at the transmitter and transmit a key to the transmitter. This authenticates the transmitter as a valid device and connects it to the OneWireless network. To verify your transmitter has been authenticated, see Security under Read Device Info (page 20).

For more details on keys, refer to Getting Started with Honeywell OneWireless Solutions.

## Device Local Configuration

Use Device Local Configuration buttons (Table 7) to navigate the transmitter menus (Table 6) and to make selections and changes.

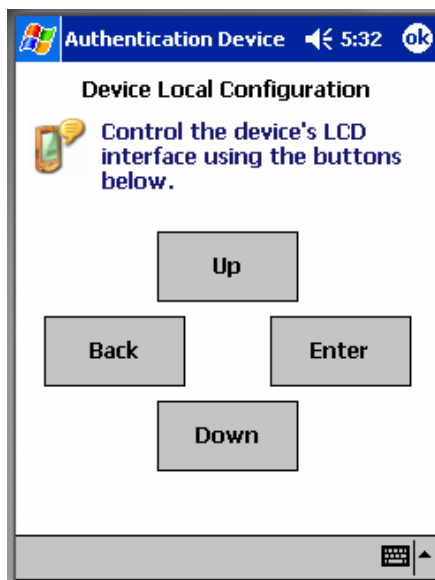


Figure 6 Device Local Configuration screen

Table 7 Buttons for Device Local Configuration

Button	Function
Enter	<ul style="list-style-type: none"> <li>• Enter the Menu Tree.</li> <li>• Enter submenu of the menu that is appearing on the screen.</li> <li>• Execute action.</li> <li>• Submit the entered number while doing number entry.</li> <li>• Read value of certain displayed parameters.</li> </ul>
Up	<ul style="list-style-type: none"> <li>• Go to the next menu in the same level.</li> <li>• View quick view parameters in Normal Display Sequence (PV Display).</li> <li>• During number entry, increment the digit or change +/- sign.</li> </ul>
Down	<ul style="list-style-type: none"> <li>• Go to the previous menu in the same level.</li> <li>• View quick view parameters in Normal Display Sequence (PV Display).</li> <li>• During number entry, decrement the digit or change +/- sign.</li> </ul>
Back	<ul style="list-style-type: none"> <li>• Go to the upper menu level.</li> <li>• When changing a number value, move cursor to the left/more significant digit, then wrap around to the least significant digit.</li> </ul>

## 5. Operation

### 5.5. Authentication device menus

#### Read Device Information

Use this to read the device information shown in Figure 7. Similar to quick view parameters on the transmitter display. (See page 15.)



Figure 7 Read Device Information

Item	Description
Tag	The name given to this transmitter
Serial	Transmitter serial number
DevAddr	Device Address in hexadecimal.
DevRev	Device Revision. This parameter changes whenever objects and parameters are added, deleted, or their data type or range changes. It does not change if the application firmware changes without affecting the device description. Range: 0 to 65535.
Build	Sensor and radio firmware build numbers.
WFN ID	Wireless Field Network ID. Range: 0 to 255.
FH Mode	Frequency group or frequency channel selection used by the wireless network of the device. The value must match the value set in the gateway and interface nodes to allow communication between the device and the wireless network.  Modes:  US Channel number 1  US Channel number 6  US Channel number 11  Guard bands outside US Channel number 1, 6 and 11

Item	Description
	EU Channel number 1 EU Channel number 7 EU Channel number 13 Guard bands outside EU Channels 1, 7 and 13
FH ID	Frequency hopping pattern used by the wireless network of the device. The value must match the value set in the gateway and interface nodes to allow communication between the device and the wireless network. Range: 0 to 255
Security	Security Disabled - the transmitter has not been authenticated with a security key.  Security Establishing - a security key has been sent to the transmitter and the transmitter is waiting for authentication by a multinode.  Security Enabled - the transmitter has been authenticated and is connected to the OneWireless network.

## 5. Operation

### 5.5. Authentication device menus

#### Advanced Options

Advanced options are non-typical configuration commands.

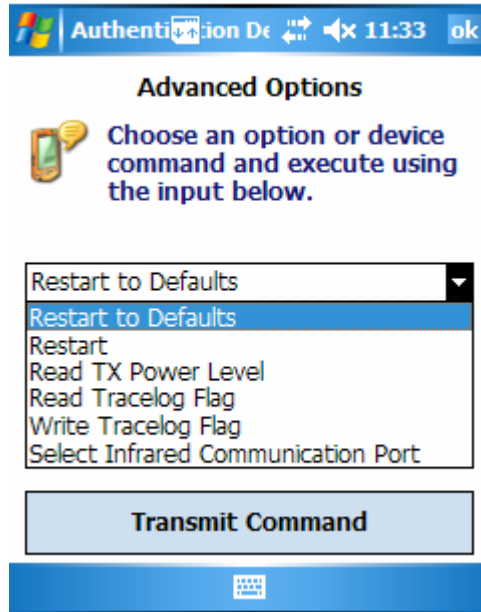


Figure 8 Advanced Options

Table 8 Advanced Options

Item	Description
Restart To Defaults	Commands the transmitter to restart to factory default configuration. Network and security configurations will be cleared.
Restart	Commands the transmitter to restart with the current configuration.
Read TX Power Level	Reads the transmission power level of the transmitter radio.
Read Tracelog Flag	Not available for transmitters. Used with multinodes. Reads conditional tracelog flag value. Tracelog flags are used to enable and disable logging functionality used for field support by development engineering.
Write Tracelog Flag	Not available for transmitters. Used with multinodes. Writes conditional tracelog flag value. Tracelog flags are used to enable and disable logging functionality used for field support by development engineering.
Select Infrared Communication Port	Overrides the detected infrared communication port detected on your PDA. If infrared communication is not functioning, you can override the detected settings using this option.

## 6. Maintenance/Repair

### 6.1 Introduction

This section provides information about preventive maintenance routines and replacing damaged parts. The topics covered in this section are:

Preventive maintenance of the meter body barrier diaphragms and process piping to the transmitter.

Replacement of damaged parts such as the transmitter PWA and meter body.

## 6.2 Replacing display/sensor module

### 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 9 Display/sensor module replacement**

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 9. Unscrew and remove the end cap.
3	Loosen the two screws on the display/sensor module. See items 2 in Figure 9.
4	Disconnect each connector on the display/sensor module. See items 3 in Figure 9.
5	Install new sensor module. Be sure to orient display/sensor module in the proper viewing orientation before tightening two sensor compartment screws.
	Reverse steps 1-4.
	Torque screws to 0,4 – 0,6 N-M (3.5 – 5.3 Lb-in).
	Honeywell recommends lubricating the end cap O-ring with a Silicon Grease such as Dow Corning #33 or equivalent before replacing the end cap.
	Return transmitter to service.

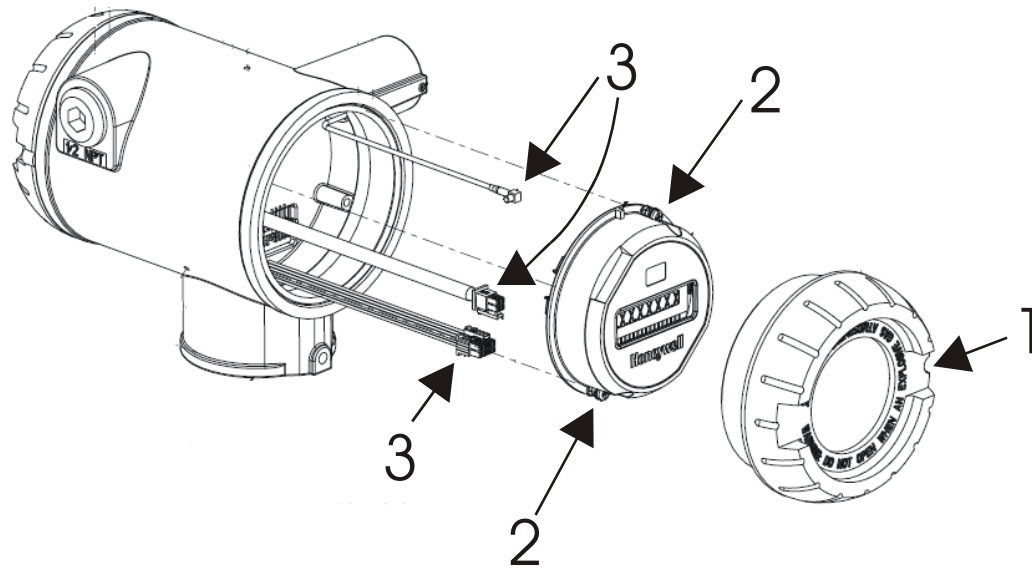


Figure 9 Display/sensor module removal and replacement

## 6.3 Replacing batteries

### When to replace

When the transmitter displays a LO BATT message you have 2-4 weeks to replace both batteries before they expire. When batteries are removed or expired, all transmitter data is retained in the transmitter's non-volatile memory.

### Tools required

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

### Procedure



#### ATTENTION

Batteries must be replaced only by a trained service technician.

---



#### WARNINGS

- Risk of death or serious injury by explosion. Do not open transmitter enclosure when an explosive gas atmosphere is present.
  - The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not recharge, disassemble, heat above 100°C (212°F), or incinerate.
- 

**Table 10 Battery replacement procedure**

Step	Action
	<p><b>ATTENTION</b></p> <p>You must replace both batteries. Both batteries must be the same model from the same manufacturer. Mixing old and new batteries or different manufacturers is not permitted.</p> <p>Use only the following 3.6V lithium thionyl chloride (Li-SOCl<sub>2</sub>) batteries (non-rechargeable), size D. No other batteries are approved for use in XYR 6000 Wireless Transmitters.</p> <ul style="list-style-type: none"><li>• Xeno Energy XL-205F</li><li>• Eagle Picher PT-2300H</li><li>• Tadiran TL-5930/s</li><li>• Honeywell p/n 50026010-001 (Two 3.6V lithium thionyl chloride batteries)</li><li>• Honeywell p/n 50026010-002 (Four 3.6V lithium thionyl chloride batteries)</li><li>• Honeywell p/n 50026010-003 (Ten 3.6V lithium thionyl chloride batteries)</li></ul>
1	Loosen the M3 locking set screw on the battery end-cap (opposite end from display). See item 1 in Figure 10. Unscrew and remove the end cap.
2	Using thumb and forefinger, squeeze the battery connector at top and bottom to disengage the locking mechanism, then pull to disconnect. See item 2 in Figure 10.

- | Step | Action  |
|------|---|
| 3    | Loosen the two battery holder retaining screws (closest to the batteries). See item 3 in Figure 10. The screws are captive.   |
| 4    | Pull the battery holder out of the transmitter.   |
| 5    | Remove the old batteries from the battery holder. If needed, pry out the batteries by using a slotted screwdriver as a lever in the holder's side slots. See item 4 in Figure 10. |
| 6    | Insert the new batteries using correct polarity shown on the battery holder.  |
| 7    | Insert the battery holder into the transmitter. Reattach the screws and tighten to 0,4 – 0,6 N-M (3.5 – 5.3 Lb-in).   |
- Re-connect battery connector.
- Honeywell recommends lubricating the end cap O-ring with a Silicon Grease such as Dow Corning #33 or equivalent before replacing the end cap.
- |   |  |
|---|--|
| 8 | Screw the end cap back on and tighten the M3 locking screw.  |
| 9 | Dispose of used battery promptly per local regulations or the battery manufacturer's recommendations. Keep away from children. Do not disassemble and do not dispose of in fire. |

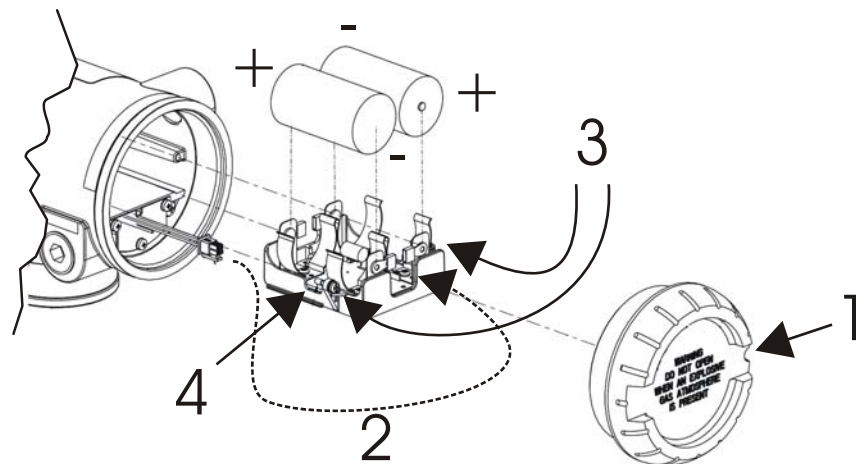


Figure 10 Battery replacement

## 6.4 Replacing antenna

### Tools required

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

### Procedure



#### ATTENTION

You must replace your antenna with the same type, that is, elbow, straight, or remote. Changing to a different antenna type is not permitted by approval agencies.

---



#### CAUTION

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

---



#### 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.

---

**Table 11 Antenna replacement procedure**

<b>Step</b>	<b>Action</b>
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 11. Unscrew and remove the front end cap.
3	Loosen the two screws on the display/sensor module. See items 2 in Figure 11.
4	Remove the display/sensor module from the transmitter body and disconnect the antenna connector from CN2 connector on the display/sensor module. See item 3 in Figure 11.
5	Loosen the locking set screw at the antenna base. Unscrew the antenna from the transmitter. Remove the antenna and its connector from the transmitter. See Figure 11.
6	Feed the new antenna's connector through the antenna hole to the front of the transmitter. Do not connect to display/sensor module yet. Screw new antenna into transmitter body until finger-tight, then back off 180 degrees to permit adjustment later.
7	Attach antenna connector to CN2 connector on display/sensor module. See item 3 in Figure 11.
8	Insert display/sensor module. Orient in the proper viewing orientation before tightening two sensor compartment screws. See items 2 in Figure 11. Torque screws to 0,4 – 0,6 N-M (3.5 – 5.3 Lb-in).
9	Replace the front end cap. Honeywell recommends lubricating the front end cap O-ring with a Silicon Grease such as Dow Corning #33 or equivalent before replacing the end cap.
10	Adjust antenna for best reception. Don't rotate antenna more than 180 degrees either direction or you could twist and break the antenna wiring inside. Tighten the antenna locking set screw.

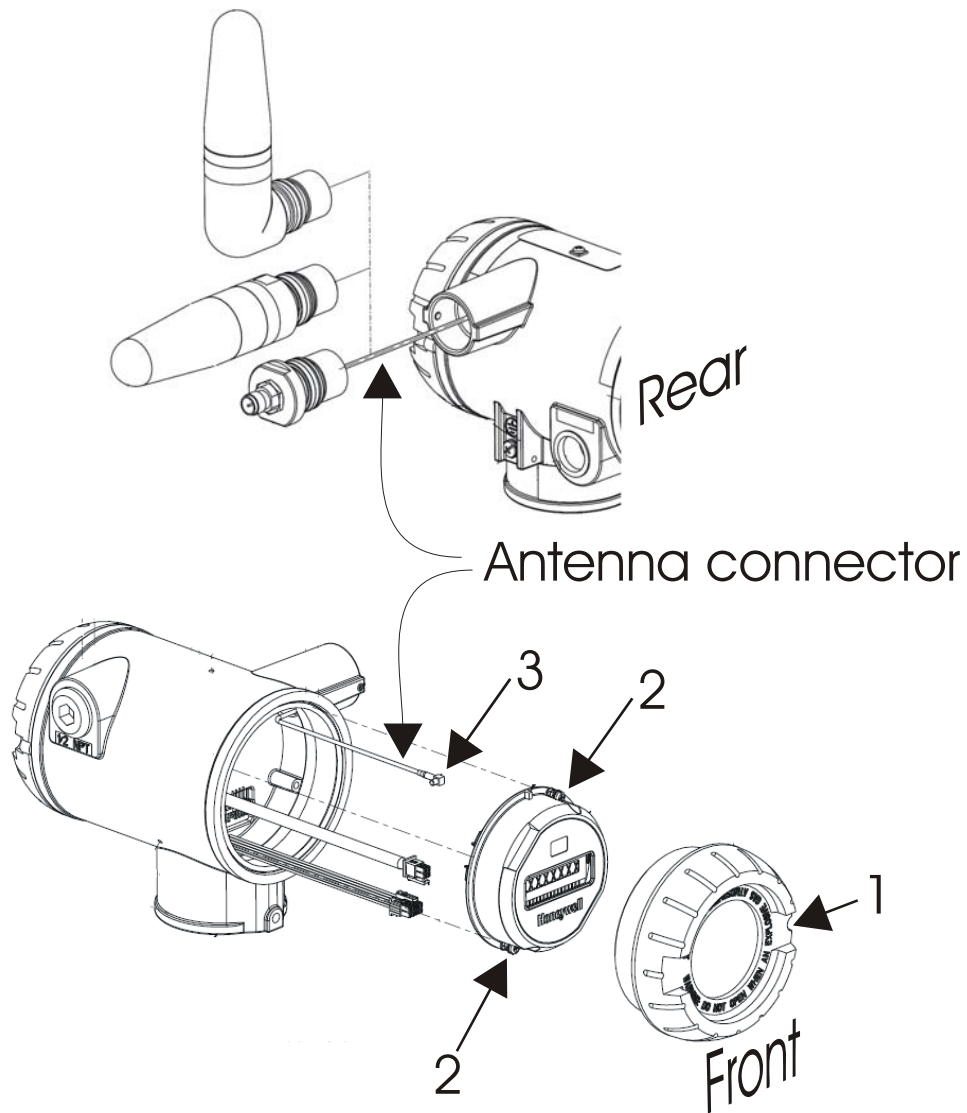


Figure 11 Antenna replacement

## 6.5 Parts

For other replacement parts refer to XYR 6000 Wireless Transmitter Temperature Specification (document 34-XY-03-29).



