TEMPERATURE TRANSMITTER
OPERATING INSTRUCTIONS

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Limited Warranty

Hampshire Controls Corporation warrants each manufactured item against defects in material and workmanship, when used as recommended, for a period of one year from original purchase. Products believed to have such defects must be returned to the factory by prepaid transportation.

Hampshire Controls' obligation under this warranty is limited to the repair or replacement, at its option, of those items which upon examination prove to be defective. Such repair or replacement will be made without charge.

This warranty will be void if repairs or alterations are made or attempted without factory authorization; or if the item has been subject to misuse, negligence or accident.

Hampshire Controls Corporation assumes no liability for consequential damages of any kind. The purchaser, by acceptance of the product, assumes all liability of the consequence of its use or misuse.

Hampshire Controls Corporation makes no other warranty, whether expressed or implied, in connection with the sale or use of its products.
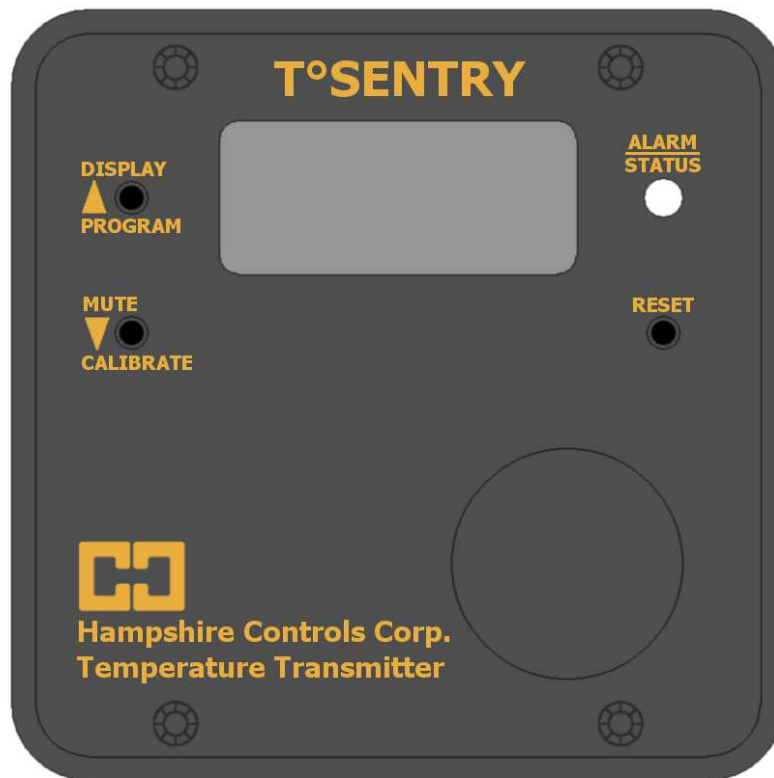
Table of Contents

User Interface

The user interface of the Temperature Transmitter consists of the following:

- 3.5 digit LCD
- Alarm & Status LED (*STATUS*)
- Audible alarm indicator (buzzer)
- Display, program & increment button (*DISP/PROG*)
- Mute (silence), calibrate & decrement button (*MUTE/CAL*)
- Reset button (*RESET*)

Throughout this manual you will encounter the following instructions for operating the buttons on the user interface:

Tap   Briefly press and release the button.

Press-and-hold   Press the button and continue to hold it in its pressed state until instructed otherwise.

Release   Release the button from its pressed state.

Connecting the Antenna

Carefully thread the included antenna onto the connector located on the upper left side of the Temperature Transmitter case. Tighten the connection with your fingers, no tools are required. Flex and rotate the antenna to an upright position as shown below.

Sensor Probe

The probe supplied with the Temperature Transmitter is a highly accurate temperature sensor. The sensor may be put in water or other mild aqueous solutions from 0°C to 100°C.

NOTE: Avoid submerging the probe in solvents or harsh chemicals. Use protective thermo-wells when monitoring such materials.

NOTE: The warranty does NOT cover damage to probes or electronics that is caused by exceeding temperature limitations, or damage to probes caused by using them in solvents or other unsuitable environments.

NOTE: If the displayed temperature shows a consistent high (> 100°C) or low (< -100°C) value, most likely, the probe has failed. The unit must be returned for probe replacement and recalibration.

Probe Installation

The probe may be used in air or in simulated product.

If installing the sensor in a refrigerator, try to place the probe in a water and glycol chlorine solution to stop bacteria formation.

If installing the sensor in a cabinet or enclosure (particularly freezers), make sure to use good techniques to prevent room moisture from getting into the cabinet. Whenever possible, install the probe through an existing access port provided by the cabinet manufacturer, then reseal the port.

Alternatively, the probe can be run under, over, or through the door-sealing gasket. Often a door gasket will have a joint at one or more corners. Open that joint slightly by carefully making a slit with a razor blade. Insert the probe wire and then reseal the joint with flexible silicone sealing compound. Inside the cabinet, run the probe wire so that it will not become snagged during loading, unloading or cleaning procedures.

Probe Location

Install the sensor probe in a location where it will respond to the average temperature of the space being monitored and not to local conditions caused by door openings, etc.

The object of the probe location is to provide some safety for the area being monitored without generating "false" or nuisance alarms. For example, locating the sensor probe on the bottom of a chest freezer will result in the alarm being sounded later than if it was located near the top. However, locating the sensor too close to the top of the chest freezer could result in the alarm being sounded due to routine lid opening. Choose a probe location that offers the safety desired for the enclosure contents.

Installing Batteries

The Temperature Transmitter uses three AA sized batteries. For optimum battery life Hampshire Controls Corp. recommends using lithium batteries such as Energizer Ultimate Lithium (L91) or equivalent. The Temperature Transmitter will operate for approximately one year on a fresh set of L91 batteries under normal operating conditions. High quality alkaline batteries may be used, but with moderately decreased lifetime.

NOTE: The following conditions will shorten battery life.
- RF interference or congestion in the 2.4GHz band (Wi-Fi).
- Excessive time spent in an alarm state (flashing LED & chirping buzzer).
- Excessive time spent in the *Web Configuration* or *Calibration* modes.
- Excessive use of the LCD display (see *Constant Display* on page 12).

The battery orientation is shown in the diagram below.

<p style="text-align:center">**BE CAREFUL TO INSERT THE BATTERIES IN THE PROPER ORIENTATION!**
Do not mix batteries of different ages, types, or manufacturers!</p>
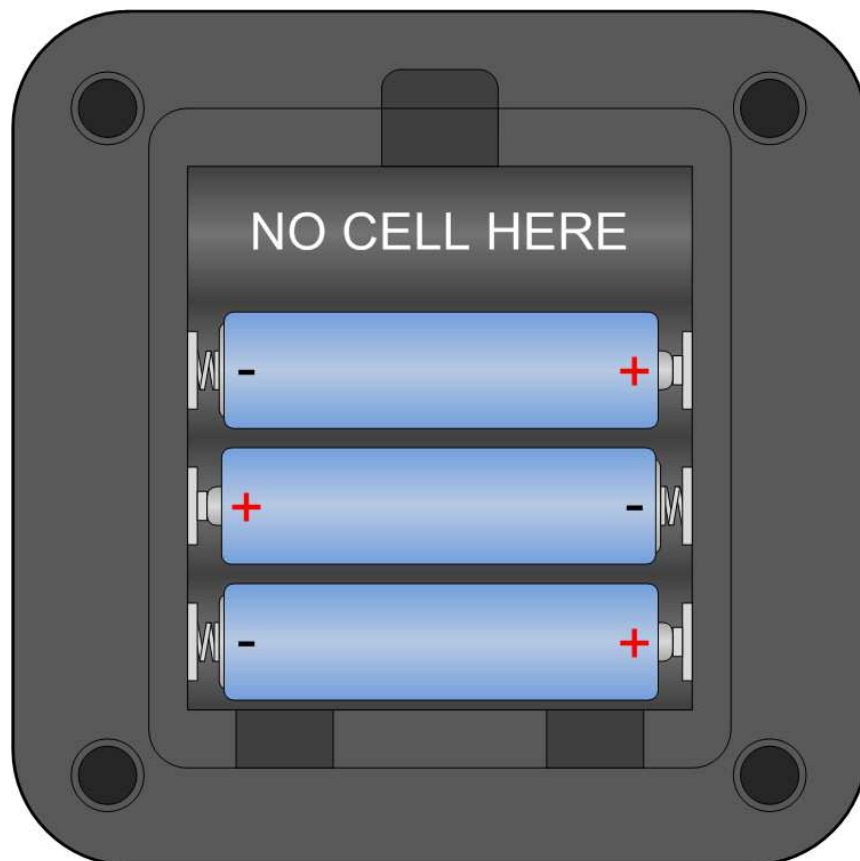
Power-up Sequence

There is no on/off switch on the Temperature Transmitter. The device will turn on when all three batteries are inserted. The power-up sequence takes about 20 seconds, during which the device will go through the following states:

For the first 10 seconds the LCD will show all segments and the *STATUS* LED will be solid red 🔴. During this interval the device can be put into *Web Configuration Mode* or *Calibration Mode* by pressing and holding the *DISP/PROG* or the *MUTE/CAL* button respectively. These two modes are described later in this document.

If no buttons are pressed, after the 10 second delay has elapsed, the device will start its boot procedure. The buzzer will emit a short beep and the LED will change to green 🟢. The Wi-Fi electronics will power-up, and the unit will try to connect to the network SSID which was entered during the *Web Configuration*. During the connection attempt the *STATUS* LED will quickly flash green 🟢🟢🟢. If the connection is successful, the LED will slowly flash green 3 times 🟢…🟢…🟢 and then turn off. If the connection fails, the LED will blink red 🔴 once every 5 seconds, until the next connection attempt (every 60 seconds).

NOTE: See *Connecting to a Network* (page 8) if the Temperature Transmitter fails to connect on initial power-up.

If the Wi-Fi connection was successful, the LCD will display the following sequence:

The initials of Hampshire Controls Corp.
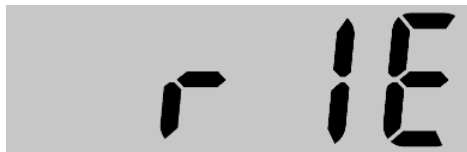
The firmware version number.

The current battery (cell) voltage.

Finally the current probe temperature.

Each value will be displayed for three seconds. After displaying the temperature, the LCD will turn off (blank display). The device is now in its operational state. During normal operation the probe temperature will be read, and a wireless temperature transmission will take place, every 3 minutes.

Connecting to a Network

If your Temperature Transmitter was not factory-configured to connect to your wireless (Wi-Fi) network, you will need to perform this configuration step yourself. This section describes the method used to configure the network connection settings of the Temperature Transmitter.
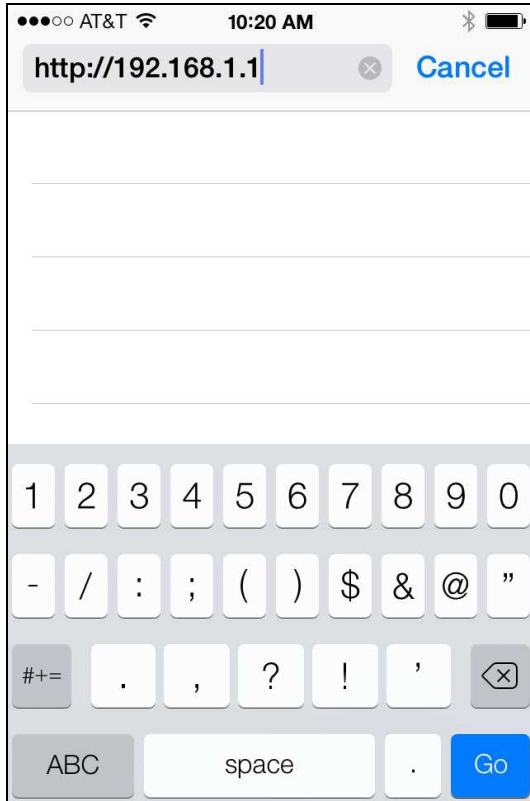
Web Configuration Mode

In order to use the *Web Configuration Mode*, you will need a wireless device such as a laptop computer or a smartphone capable of connecting to an IEEE Standard 802.11B/G wireless network. Your wireless device must be configured to obtain its IP address using DHCP (see your devices manual, on-line help, or an IT professional for instructions).

If you have installed the three provided AA batteries in your Temperature Transmitter, it will be powered on. To enter the Web Configuration mode you must tap the *RESET* button. The *STATUS* LED will illuminate red ⬤. When this occurs, immediately press-and-hold the *DISP/PROG* button until the *STATUS* LED starts flashing red and green ⬤⬤. Release the *DISP/PROG* button. When the *STATUS* LED stops flashing and turns green ⬤ the sensor is in *Web Configuration* mode.
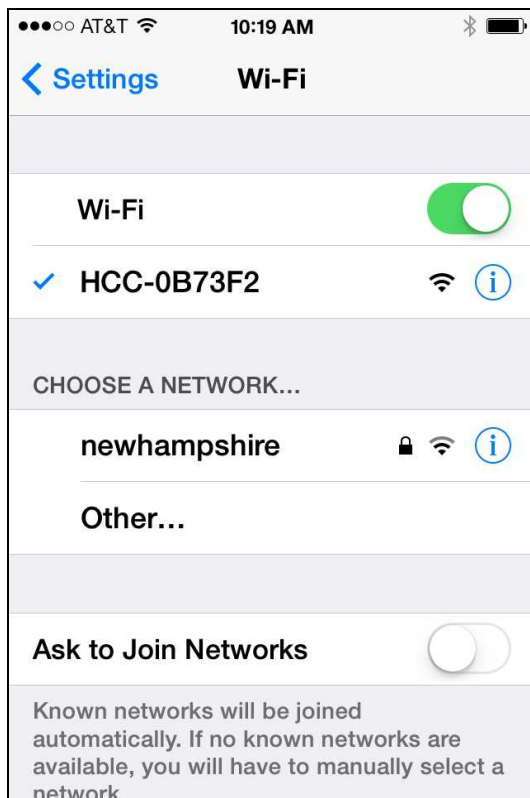
Now, on your wireless device, go to the wireless network configuration and search for new wireless networks. You should see a network with an SSID similar to **HCC-0B73F2**, where the last six characters will be a random sequence containing 0-9 and A-F. Connect your device to this network as shown in the adjacent image.

●●●○○ AT&T 📶   10:20 AM   ∗ ▬

http://192.168.1.1   ⊗   Cancel

1	2	3	4	5	6	7	8	9	0
-	/	:	;	(	)	$	&	@	"

#+=   .   ,   ?   !   '   ⌫

ABC   space   .   Go

Once your device is connected and has been assigned an IP address, open a web browser and enter **HTTP://192.168.1.1** into the address bar and press the ENTER key or click the GO button.

●●●○○ AT&T 📶   10:20 AM   ∗ ▬

192.168.1.1   ↻

Hampshire Controls Sensor Configuration

Configuration Menu

Reboot the module
Set Wi-Fi Access Point
Set IP Configuration
Alarm and Display Settings

System Information

Application (CoLA): HccWirelessTempAlarm (2014-02-03 10:18)
Platform version: 1.6.0.52 (2013-12-11 11:28)
AR4100 version: 2.1.9.173.7
MAC address: 00:08:7B:0B:73:F2

‹   ›   ⬆   📖   ▭
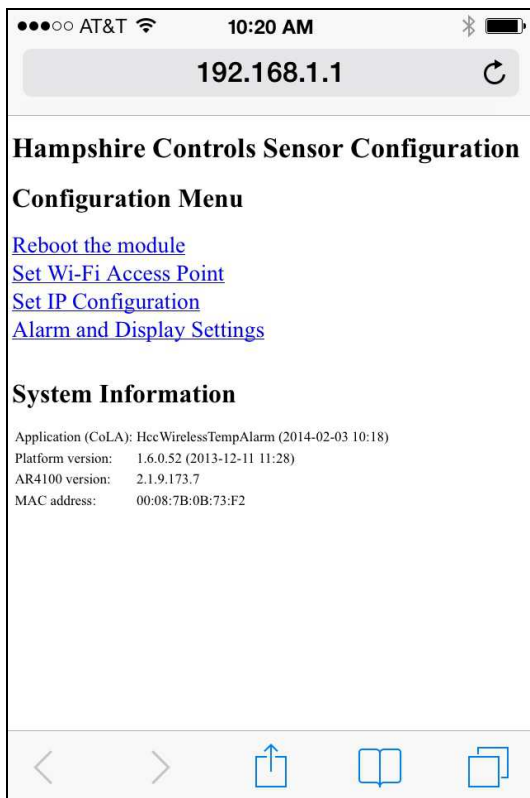
The Temperature Transmitter will now serve you its main configuration page, which will look like the image shown to the left.

To configure the wireless network settings on the Temperature Transmitter click on *Set Wi-Fi Access Point*.

This page also lists the sensors MAC address, which may be required by some network administrators to enforce security settings.

Depending on your device options, this menu may have other options.

●●●○○ AT&T 🛜   10:21 AM   ✳ ▪▪▪▪

192.168.1.1   ↻

Hampshire Controls Sensor Configuration

Set Wi-Fi Access Point

Enter information about the AP to connect to:
SSID: newhampshire
Security: WPA2 ▾
Encryption: AES ▾
Key:
WEP key index: 1 ▾

Save Settings

Available Networks

SSID	Security	Channel	RSSI
newhampshire	WPA2-PSK-AES	6	27

Cancel

‹   ›   ⬆   📖   ❐

Type in the SSID for your wireless network, then select the proper security settings and enter the network passphrase.

Contact your System/Network Administrator or IT professional for any assistance with these settings.

For your convenience, the Temperature Transmitter performs a network search prior to serving this page. Any detected networks are displayed under *Available Networks*.

Click on *Save Settings* when you are finished. You will be returned to the main menu. Select *Set IP Configuration* to continue with the network setup.

●●●○○ AT&T 🛜   10:21 AM   ✳ ▪▪▪▪

192.168.1.1   ↻

Hampshire Controls Sensor Configuration

IP Configuration

○ Use DHCP
◉ Use static IP

Static IP: 192.168.0.240
Subnet: 255.255.255.0
Gateway: 192.168.0.1
DNS Server: 192.168.0.1
Monitoring System IP: 192.168.0.132

Save Settings
Cancel

‹   ›   ⬆   📖   ❐

On this page you must first select "Use static IP".

After selecting "Use Static IP" you must fill in the *Static IP*, *Subnet*, *Gateway*, and *DNS Server* fields.

DHCP is NOT currently supported!

Contact your System/Network Administrator or IT professional for any assistance with these settings.

Finally, you must enter the IP Address of the **T°Sentry ALERT System** server in the *Monitoring System IP* field.

Click on *Save Settings* when you are finished. You will be returned to the main menu. Select *Alarm and Display Settings* to configure the Temperature Transmitter Unit ID and temperature alarm limit setting.
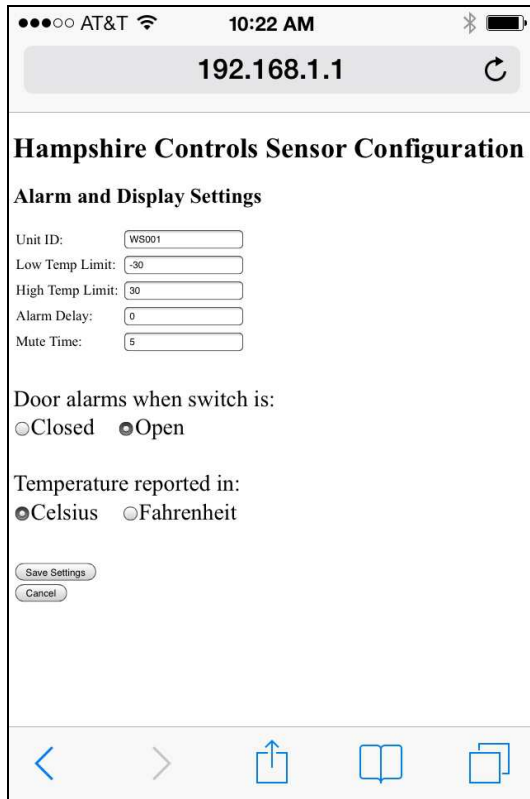
This is the final step in the Web Configuration.

First select a unique 5 character Unit ID. This will identify the Temperature Transmitter on the **T°Sentry ALERT System** server.

You may then change the other alarm and display options (See *Programming Mode,* page 15, for more information).

Select *Save Settings* when you are done. Select *Reboot the module* from the main menu or tap the *RESET* button to reboot the Temperature Transmitter.

Depending on your device options, this menu may have other options.

If the Temperature Transmitter fails to connect to your network after the initial Web Configuration, you should first repeat the Web Configuration to verify that the settings you entered were correct. Some common mistakes are incorrect case in the SSID or network password, or mistyping values on the IP configuration page.

Operating the Display

You may view the current temperature on the display at any time by tapping the *DISP/PROG* button. Tapping the button repeatedly will sequence through the following readings:

The current temperature.

The minimum temperature since the last *RESET*.

The maximum temperature since the last *RESET*.

Finally the average battery (cell) voltage during the past hour. Nominal cell voltage should range from about 1.150 to 1.800 for AA size 1.5V Alkaline or Lithium batteries. At voltages near 1.150, the low battery alarm will be activated.

If the *DISP/PROG* button is tapped again it will cycle back to the current temperature. If the button is not tapped for a period of 5 seconds at any time, the display will turn off.

NOTE: The "current" temperature is updated every three minutes during normal operation, just prior to the wireless temperature transmission. Pressing the *DISP/PROG* button does not cause the sensor to take a new probe temperature reading.

Min/Max Reset

The minimum and maximum temperature readings can be reset by pressing-and-holding the *MUTE/CAL* button at any time during the normal operating mode. You may release the *MUTE/CAL* button after you hear a short beep. The min/max values will also be cleared when the *RESET* button is pressed, or when the batteries are changed.

Constant Display

If you would like to have continuous display of the current probe temperature, the option is available. To toggle the constant display setting, you first must enter the *Programming Mode* (see page 15) by pressing-and-holding the *DISP/PROG* button for 5 seconds, until you hear a short beep. Release the *DISP/PROG* button and then press-and-hold the *MUTE/CAL* button for 5 seconds. After you hear one beep for enable or two beeps for disable, you may release the *MUTE/CAL* button. Program Mode will exit and the display will either be blank, or will continuously display the current temperature, updated every three minutes.

Battery life will be decreased by approximately one month when using this feature.

Alarm Conditions

Temperature Alarms

The Temperature Transmitter has programmable low and high temperature limits as well as an alarm delay time which control when the alarm indication is activated. The alarm conditions are checked every 3 minutes following each new temperature reading. Alarm processing is based on the following flowchart.
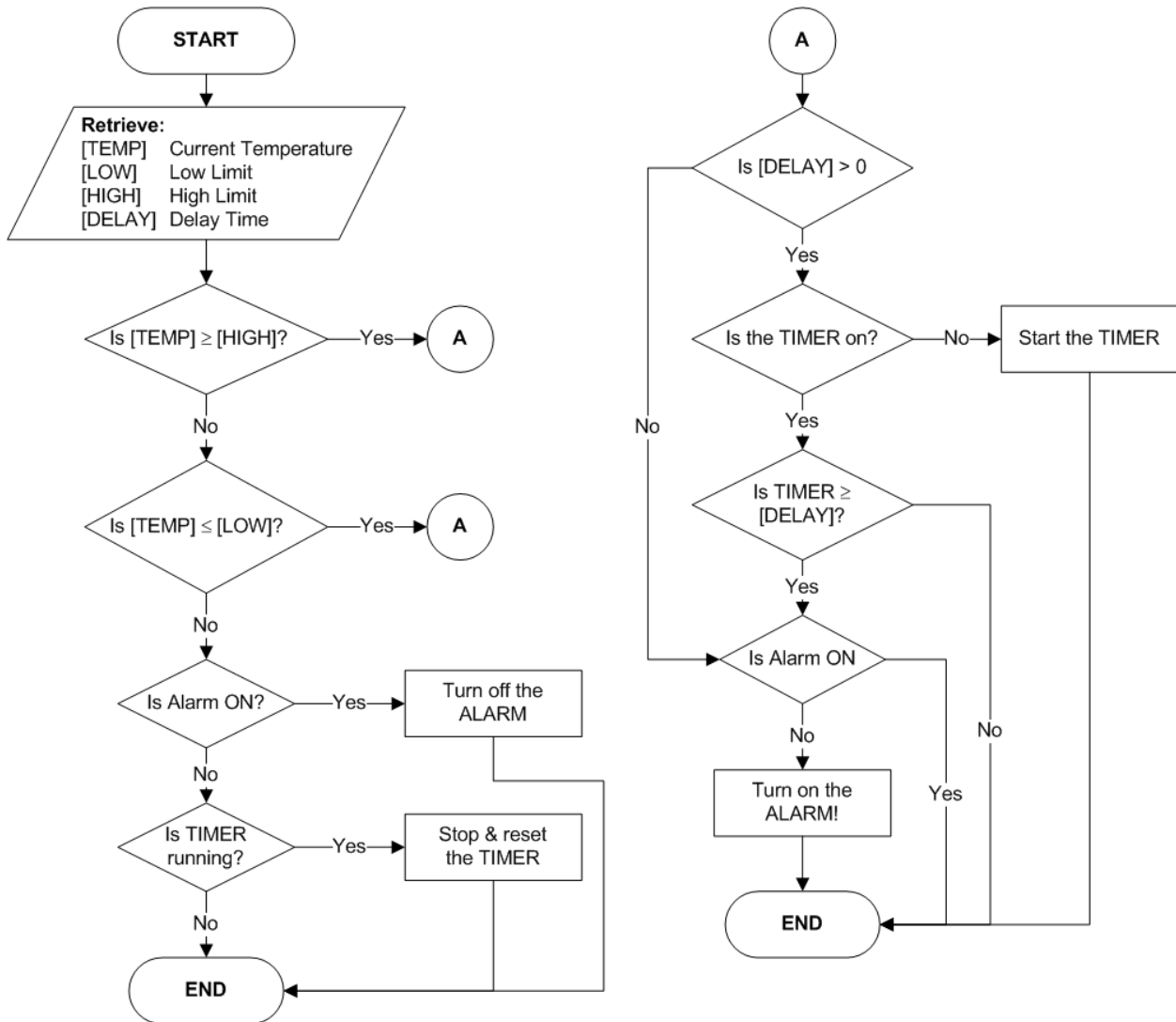
The local temperature alarm is indicated by a triple beep from the buzzer and 5 slow red flashes ●…●…●…●…● of the LED repeated every 15 seconds.

NOTE: Depending on the configuration of the *T°Sentry ALERT System* software, alert messages may be sent before, after, or at the same time (within 3 minutes) as the Temperature Transmitter local alarm.

Door Switch Alarm (Optional)

A dry-contact switch input is available as an option on the Temperature Transmitter. Normally this input is used in conjunction with a magnetic reed switch mounted to a refrigerator or freezer door. If the door is left open for an unusually long period of time, an alarm condition is generated. The switch input can be used with either normally open (NO) or normally closed (NC) contacts. The door switch alarm uses the same delay time as the low/high temperature alarms. The door switch alarm is indicated by a double beep from the buzzer and 5 slow red flashes 🔴…🔴…🔴…🔴…🔴 of the LED repeated every 15 seconds.

NOTE: Depending on the configuration of the *T°Sentry ALERT System* software, alert messages may be sent before, after, or at the same time (within 3 minutes) as the Temperature Transmitter local alarm.

Battery Low Condition

The Temperature Transmitter constantly monitors the state of the batteries. When a low battery level is detected a "battery low" notification is added to the Wi-Fi transmissions. The **T°Sentry ALERT System** will then send "battery low" warning messages to those on the Temperature Transmitter contact list. The battery low condition is also indicated locally by a single beep from the buzzer and 5 red flashes on the *STATUS* LED repeated every 15 minutes.

Communication Fault

As with any wireless communication system, disruptions can sometimes occur. The Temperature Transmitter can detect some disruptions and try to reestablish the connection to the network. However, if the interference or outage prevents the Temperature Transmitter from reconnecting to the network, the **T°Sentry ALERT System** will send "communication failure" alerts to those on the Temperature Transmitter contact list if no data has been received from the Temperature Transmitter for 20 minutes or more.

There is no defined local alarm for this condition. However, during reconnect attempts, the LED quickly flash green 🟢🟢🟢, and then slowly flash green 3 times 🟢…🟢…🟢 or blink red 🔴 once every 5 seconds to indicate connection or failure to connect. If you witness this, there may be a network connection problem.

Certain communication faults may cause the unit to reset. If this occurs, the Temperature Transmitter will go through the full power-up sequence discussed on page 7.

NOTE: If communication faults occur too frequently under normal operating conditions, installation of additional Wireless Access Points (WAP) may be required. The WAPs should be strategically placed to minimize the overall distance between each Temperature Transmitter and its nearest WAP. Additionally, a wireless site survey should be conducted periodically to determine the optimal settings for the wireless network, and to decrease the likelihood of interference due to nearby networks.

Programming Mode

To enter *Programming Mode* press-and-hold the *DISP/PROG* button for 5 seconds. You will hear a beep. The LCD will turn on and show the following:

Lo

This indicates that you are about to change the *Low Temperature Alarm Limit*. If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current *Low Temperature Alarm Limit* will be displayed on the LCD.

- 30.0

To increase the low limit tap the *DISP/PROG* button, to decrease the low limit tap the *MUTE/CAL* button. When you are finished, or if you do not want to change the value, simply wait. If no buttons are tapped for 5 seconds, the current value will be saved and the next option will be displayed.

Hi

This indicates that you are about to change the *Low Temperature Alarm Limit*. If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current *Low Temperature Alarm Limit* will be displayed on the LCD.

30.0

To increase the high limit tap the *DISP/PROG* button, to decrease the high limit tap the *MUTE/CAL* button. When you are finished, or if you do not want to change the value, simply wait. If no buttons are tapped for 5 seconds, the current value will be saved and the next option will be displayed.

dEL

This indicates that you are about to change the *Alarm Delay* (in minutes). If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current *Alarm Delay* will be displayed on the LCD.

0

To increase the alarm delay tap the *DISP/PROG* button, to decrease the alarm delay tap the *MUTE/CAL* button. When you are finished, or if you do not want to change the value, simply wait. If no buttons are tapped for 5 seconds, the current value will be saved and the next option will be displayed.

SiL

This indicates that you are about to change the *Alarm Mute* or *Silence Period* (in minutes). If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current *Silence Period* will be displayed on the LCD.

To increase the silence period tap the *DISP/PROG* button, to decrease the silence period tap the *MUTE/CAL* button. When you are finished, or if you do not want to change the value, simply wait. If no buttons are tapped for 5 seconds, the current value will be saved and the next option will be displayed.

This indicates that you are about to change the *Door Switch Alarm Polarity*. If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current *Switch Polarity* will be displayed on the LCD.

The door switch alarm polarity options are *Alarm on OPEN* or *Alarm on CLOSED* indicated by the two LCDs shown to the left. *Alarm on OPEN* indicates that the alarm will be triggered when the contacts of the switch are open-circuit. Tap either the *DISP/PROG* or *MUTE/CAL* button to toggle between the two options.

If your Temperature Transmitter does not have the Door Switch option, this value must be set to CLo.

This indicates that you are about to change the temperature display to either degrees Celsius or degrees Fahrenheit. If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current selection will be displayed on the LCD.

Tap either the *DISP/PROG* or *MUTE/CAL* button to toggle between the two options.

This indicates that you are about to change the calibration method to either *one point* or *two points*. If you tap either the *DISP/PROG* button or the *MUTE/CAL* button the current selection will be displayed on the LCD.

1Pt is for field calibration using a single known temperature. *2Pt* is primarily for factory calibration at 0°C and 40°C. Tap either the *DISP/PROG* or *MUTE/CAL* button to toggle between the two options.

After the 5 second timeout following the CAL mode programming, any modified settings will be saved, the display will turn off and the device will return to its normal operation.

You may exit *Program Mode* at any time by pressing-and-holding the *DISP/PROG* button for 5 seconds. You will hear two short beeps and the display will turn off. **MODIFICATIONS TO THE SETTINGS WILL NOT BE SAVED!**

Calibration Mode

Calibration Mode is entered by pressing-and-holding the *MUTE/CAL* button during the 10 second power-up delay. If the Temperature Transmitter is in its normal operating mode, you must first tap the *RESET* button. The *STATUS* LED will illuminate red ●. When the *STATUS* LED illuminates, immediately press-and-hold the *MUTE/CAL* button until the *STATUS* LED turns off. Release the *MUTE/CAL* button. The LCD will turn on and may display either the current temperature or the current analog-to-digital converter (A/D) reading.

It is recommended to change the temperature display to °C in the Sensor Settings before beginning any calibration.

One-Point Calibration (Offset)

If *One-Point Calibration* (*1Pt*) has been selected, the LCD will display the current probe temperature. The temperature readout will update every half second. To change the calibration of the sensor you can tap the *DISP/PROG* button to increase the sensor readout or the *MUTE/CAL* button to decrease the sensor readout until it matches the reading of a calibrated thermometer. Each button tap adjusts the calibration offset by 0.05°C. The decimal digit on the LCD may flicker ±0.1°C, this is within the accuracy limits of the Temperature Transmitter.

Once you are satisfied with the temperature reading on the LDC, press-and-hold the *DISP/PROG* button until you hear a beep. Release the *DISP/PROG* button and then tap the *RESET* button to re-boot the sensor. The sensor will use the new calibration offset when it restarts.

For best results, the sensor probe and the calibrated thermometer probe should be in very close proximity. Both probes should be immersed in, and acclimated to a liquid of uniform temperature. The temperature of the calibration medium should be close to the expected nominal probe temperature of the sensors intended application (i.e. room, refrigerator or freezer monitoring).

If you find that the sensor reading is correct at the calibration temperature but incorrect at a higher or lower temperature, the sensor will require a *Two-Point Calibration* (*2Pt*) using the method described in the following section. If you do not have the equipment to perform the *Two-Point Calibration*, contact Hampshire Controls Corp. to arrange for factory recalibration.

Performing the *One-Point Calibration* at two different temperatures does not constitute a *Two-Point Calibration*. Only the most current *One-Point Calibration* value is stored.

Two-Point Calibration (Offset & Slope)

If *Two-Point Calibration* (*2Pt*) has been selected, the LCD may display either the current temperature or the current value of the A/D in hexadecimal (hex) format. The display will update every half second. To toggle between temperature and hex tap the *MUTE/CAL* button. An example of both readouts is shown below.

Temperature display is easily noted by the decimal point.

Hexadecimal display may contain the numbers 0-9 and the letters A-F.

During *Two-Point Calibration* you can also activate the ±0.1°C hysteresis that is used during normal operation to stabilize the temperature readout. Hysteresis is indicated by the tilde symbol on the display.

For field calibration, select the temperature readout and turn off hysteresis.

Now immerse the probe into a water bath at 0°C. Verify the water bath temperature using a calibrated thermometer. Let the Temperature Transmitter temperature reading stabilize. The decimal digit may flicker ±0.1°C. When you are satisfied that the reading on the Temperature Transmitter has stabilized, press-and-hold the *MUTE/CAL* button until you hear a short beep, then release the button. You have now set the zero-degree offset.

The readout should now display **0.0** ±0.1°C.

Next, immerse the probe in a 40°C water bath. Verify the water bath temperature using a calibrated thermometer. Let the Temperature Transmitter temperature reading stabilize. The decimal digit may flicker ±0.1°C. When you are satisfied that the reading on the Temperature Transmitter has stabilized, press-and-hold the *DISP/PROG* button until you hear a short beep, then release the button. You have now set the forty-degree point.

The readout should now display **40.0** ±0.1°C.

Return the probe to the 0°C water bath and verify the reading is still acceptable. Tap the *RESET* button to return the Temperature Transmitter to normal operation.

If the STATUS LED starts to flash red ● at any time during the calibration, then the Temperature Transmitter requires a factory recalibration. Please contact Hampshire Controls Corp. to arrange for recalibration. Tap the *RESET* button to exit the *Calibration Mode*.

Specifications

Power Requirements: Three 1.5V AA Batteries, approximate battery life is 1 year

Sensor: 100 ohm RTD in 4" s.s. sheath, waterproof, with 10' Teflon 22 ga. twisted pair

Temperature Range: -100 to +100°C (-148 to +212°F)

Resolution: Centigrade display: 0.1°C (over full range)
Fahrenheit display: 0.2 °F (-148 to +199.8°F), 1.0°F (+200 to +212°F)

Accuracy: ±0.2°C (±0.36°F)

Mechanical: Case is black ABS plastic, 4"w x 4"h x 1.6"d
Wall mount with Velcro, or set on bottom edge
Wires and antenna exit through sides

Outputs: Wi-Fi (IEEE Std. 802.11b/g) transmission via UDP/IP every 3 minutes (Requires Hampshire Controls *T°Sentry ALERT System* software)

Special Options: Dry contact input for use with a magnetic reed switch

Care and Cleaning

The Temperature Transmitter case is not watertight. Avoid spilling liquids on the case, as it could cause damage to internal electrical components.

When cleaning the case or the LCD display, use only a soft, lint-free cloth, which is dry or slightly moistened with water. Avoid using alcohol or any harsh chemicals.

Acronyms & Definitions

AP	Access Point (also WAP - Wireless AP)
DHCP	Dynamic Host Configuration Protocol
IEEE	Institute of Electrical and Electronics Engineers
IP	Internet Protocol
LCD	Liquid Crystal Display
LED	Light Emitting Diode
Local alarm	An audible or visual indication of an alarm condition by the Temperature Transmitter at the location of the equipment being monitored.
SSID	Service Set Identifier
UDP	User Datagram Protocol
Wi-Fi	A term used to describe products that conform to IEEE Standard 802.11 for wireless network communication.

Revision History

Revision	Date	Comments
D.1	3 Feb 2014	Initial draft.
D.2	3 Feb 2014	Battery display correction. 2Pt cal instruction correction.
D.3	6 Feb 2014	Corrected calibration display update time.
D.4	12 Feb 2014	Corrected boot sequence. Added Program Mode exit. Updated battery low indication.
D.5	27 Feb 2014	Updated name and graphics. Added additional battery warning. Removed WPS section. Added min/max reset. Added display toggle. Updated door switch setting text.
D.6	20 Mar 2014	Corrected instructions relating to Static IP vs. DHCP.
D.7	25 Mar 2014	Updated Status LED description to match firmware revision R1E.
1.0	3 Apr 2014	Initial release. Added specifications page, care instructions, probe information, warranty information.
1.1	21 Apr 2014	Updated power-up sequence. Added comm-fault note.
1.2	21 Oct 2014	Minor corrections.