



APPENDIX H

: USER'S MANUAL



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THZ-100

Owners Manual



Control the Experience.

500 Mamaroneck Avenue, Harrison, NY 10528

Phone: (914) 835-4484 Fax: (914) 835-4532

MS-780 Owner's Manual ©2010 URC,Inc.

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Control the Experience.

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1 General Description

- 1.1 This thermostat enables intelligent HVAC control as part of a URC automated system. It uses the ZigBee (802.15.4) wireless networking standard to communicate with the Control4 system
- 1.2 The Control4 Thermostat features a backlit LCD display showing time, temperature, date, fan status, hold status, and HVAC operating mode. The front panel allows for temperature setpoint adjustment, HVAC mode change, variable hold options and fan control. It can also operate as a stand-alone set-point thermometer if it loses communication with the system.

2 Front View



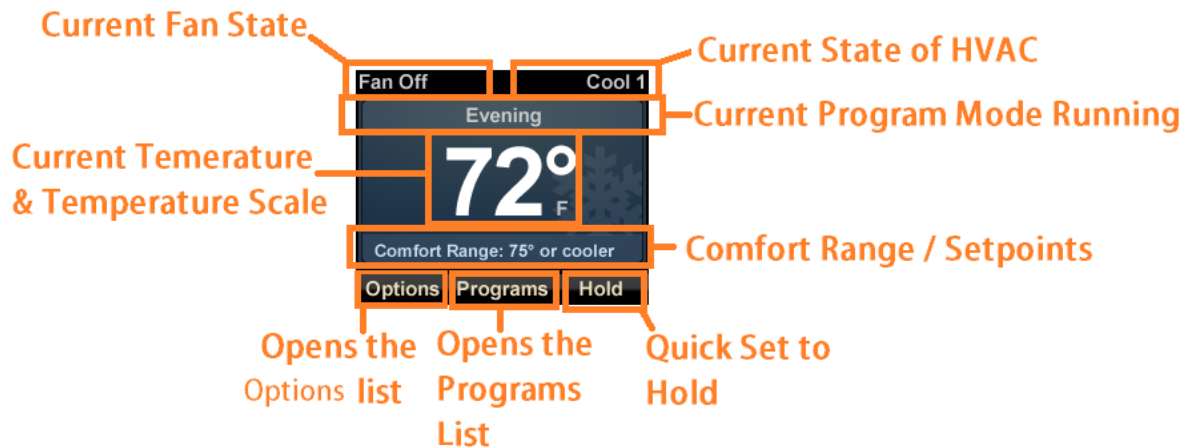
- 2.1 2 inch Color LCD screen.
- 2.2 Three hard buttons labeled by the screen
- 2.3 Up and Down buttons for adjusting Temp or selecting line items.



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3 SCREEN



3.1 Current Thermostat Temperature

3.1.1 This will display what the current temperature the thermostat is currently reporting.

3.1.2 This number needs to be supported in either Celsius or Fahrenheit.

3.2 Current State of the HVAC (Text Display)

This area of text will notify what the HVAC system is currently doing.

3.3 **Temperature Scale:** Will display the current temperature scale that the thermostat is using - Fahrenheit (F°) or Celsius (C°)

3.4 **Current Program Mode Running:** This area of text will notify what the current program running is.

3.5 **Current Fan State:** This text will display what the current fan mode running is

3.6 CLIMATE CONTROL MAIN SCREEN LCD BUTTONS

3.6.1 Underneath the LCD screen are three hard buttons that when pressed will react to the command that is directly above them on the LCD screen.

3.6.2 Options: When the Menu Options button is pressed then the LCD screen will change from the Climate Control Screen to the Menu Options Menu screen.

3.6.3 Programs: When the Programs button is pressed then the LCD screen will change from the Climate Control Screen to the Programs screen.

3.6.4 Hold: When the Hold button is pressed it will put the thermostat into the Permanent Hold Program mode.

4 Wiring the Base Plate Terminals

4.1 Below is the total number of connectors that are required to make the



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thermostat work with different types of Heating and Cooling.

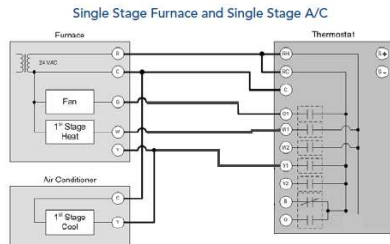
4.2 Please refer to section for different heat and cooling wiring set up.

4.3 The thermostat will control and be powered by these 24v North American HVAC systems:

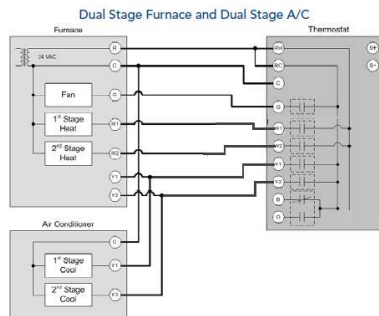
4.3.1 Heat Only: Gas, oil, or Electric Furnace heat without central air conditioning.

4.3.2 Cool Only: Central Air Conditioning without Heat.

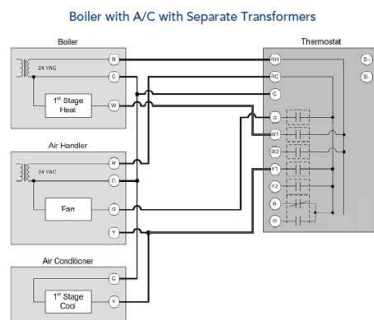
4.3.3 Heat/Cool: Gas, oil, or Electric Furnace heating with central air conditioning.



4.3.4 Heat/ Cool: Dual Stage: 2 stages of Gas, oil, or Electric Furnace with two stages of central air conditioning.



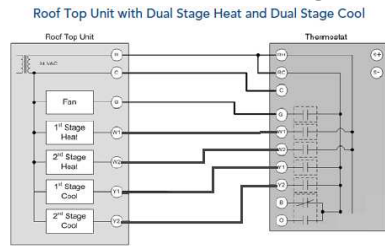
4.3.5 Heat/Cool (Separate Transformers):



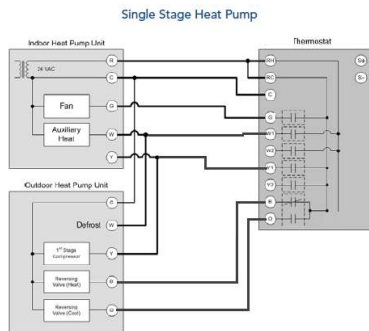
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4.3.6 Heat / Cool (Roof Top Unit / Dual Stage): This is when the Heater and Air conditioner are dual stage and are in a single unit.



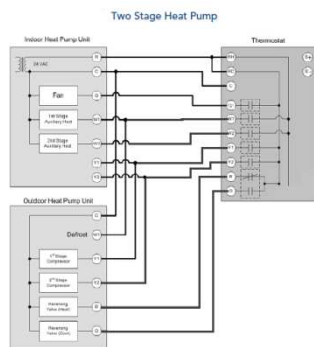
4.3.7 Heat pump: Single-stage heat pump (backup or auxiliary heat).



4.3.8 Heat only with fan: Gas, oil, or Electric Furnace heat without central air conditioning.

4.3.9 Hot water heat (no fan): Gas, oil or hot water heat without central air conditioning.

4.3.10 Multi-stage heat pump: Heat pump with backup or auxiliary heating.



4.3.10.1 Conventional multi-stage system #1: 2 heat stages & 2 cooling stages

4.3.10.2 Conventional multi-stage system #2: 2 heat stages

4.3.10.3 Conventional multi-stage system #3: 1 heat stage, 2 cooling stages

4.3.11 Radiant Floor With 2nd Stage Furnace (Oil/Gas or Electric):

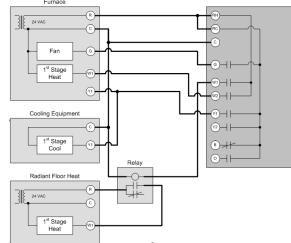


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4.3.11.1 We will support a radiant floor with the use of a separate relay. (URC will not stock relay.) A radiant floor with the relay connects like a conventional system. The only item is that when the call for heat on the Radiant floor then the FAN "G" should not turn ON. The fan should only turn on when the 2nd stage is called for.



5 Back Panel:

5.1 Below is the total number of connectors that are required to make the thermostat work with different types of Heating and Cooling.

5.1.1 Please refer to section for different heat and cooling wiring set up.

5.1.1.1 RH: 24 VAC from the heating system

5.1.1.2 RC: 24 VAC from the cooling system.

5.1.1.2.1 Note: If a separate 24 VAC is not supplied to the RC terminal, you should install a jumper from RH to RC.

5.1.1.3 C: 24 VAC common

5.1.1.4 G: Fan Terminal.

5.1.1.4.1 If you are using a single speed fan, connect it to the "G" terminal, since the fan speed is set to Low by default.

5.1.1.4.2 On a multi-speed fan, "G" is the lowest speed.

5.1.1.5 W1: 1st stage heat or AUX heat for a heat pump system.

5.1.1.6 W2: 2nd stage heat or 2nd Stage AUX heat for a heat pump.

5.1.1.7 Y1: 1st stage compressor (Air Conditioner)

5.1.1.8 Y2: 2nd stage compressor (Air Conditioner)

5.1.1.9 B: Reversing valve (heat)

5.1.1.10 O: Reversing valve (cool)

5.1.1.11 S+: External Temperature Sensor (Power +).

5.1.1.11.1 Thermostat (THZ-100) will only support one hardwired Thermostat)



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5.1.1.12 S-: External Temperature Sensor (Power -).

5.1.1.12.1 Thermostat (THZ-100) will only support one hardwired
Thermostat

6 Specifications

6.1 Microprocessor: ARM 32-bit Cortex™-M3 150Mhz

6.2 FLASH: 128 Kbytes of SRAM, 512 Kbytes of Flash memory

6.3 Display: 2.0 inch QCIF

6.4 Display Resolution: 176(H) X RGB X 220(V)

6.5 Dimension: 3.25" X 1.00" X 2.75"

6.6 RF Range (radio frequency): 50 to 100 feet, depending upon the environment

6.7 RF Frequency: 2.4GHz



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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning!

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Note : The manufacturer is not responsible for any Radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

FCC Caution

This device complies 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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Federal Communication Commission (FCC) Radiation Exposure Statement

The device and the antenna for this device must be installed to ensure a minimum separation distance of 20 cm more from a person's body. Other operating configurations should be avoided.



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Regulatory Information to the user

CE conformity Notice

Products with "CE" marking comply with the R&TTE Directive 1995/5/EC, EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EEC issued by the commission of the European Community.

1) R&TTE Directive

- EMC : ETSI EN 301 489-1,17
- RF : ETSI EN 300 328
- LVD : EN 60950-1

2) EMC Directive

- Emission : EN 55022
- Immunity : EN 55024
- Power : EN-61000-3-2, 3

Universal Remote Control

Certification	CE2200
Type No.(Model No.)	THZ-100
Batch/Serial No.	-
Power Rating	AC 24V
Frequency band	2.4GHz



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