TRANE™

TRANE

TCONT402AN32DA
Comfort Control
Owner's Manual

TRANE

COOL HEAT AUTO OFF EMHEAT

AUX HT

ROOM

78°

HEAT ON
SETTING: 85

COOL
SETTING: 88

Mode   Fan   Filter/OD

$

XR402
Comfort
Control

Table Of Contents

Up Arrow - Increase temperature Page 5.

Comfort Information Drawer Page 16.

Down Arrow - Decrease temperature Page 5.

Mode: Cool, Heat, Auto, Off, EMHeat Page 4.

Fan ON / AUTO Page 6.

Filter Reminder / Outdoor Temperature Page 7-8.

Energy Savings Page 10.

Some states do not allow limitations on how long an implied warranty last or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory organization or an authorized service organization in your area. All you need to do is look us up in the Yellow Pages or write to the address given below. If you wish further help or information concerning this warranty, contact:

Trane
Troup Highway
Tyler, Texas 75711-9010
Attention: Manager, Field Operations Excellence

Warranty

Limited Warranty
Low Voltage Comfort Control

This warranty is extended by Trane to the original purchaser and to any succeeding owner of the real property to which the **Comfort Control** is originally affixed, and applies to products purchased and retained for use within the U.S.A. and Canada.

If any part of your **Comfort Control** fails because of a manufacturing defect within 5 years from the date of the original purchase, Warrantor will furnish, without charge, a new Comfort Control. **Any local transportation, related service labor and diagnosis calls are not included.**

This Warranty does not cover failure of your **Comfort Control** if it is damaged while in your possession or if the failure is caused by unreasonable use. In no event shall Warrantor be liable for incedental or consequential damages. **In no event shall any implied warranty of merchandise or fitness for use exceed the terms of the limited warranty stated above.**

Introduction

Congratulations on the purchase of your new Trane XR402 Comfort Control! Your XR402 Comfort Control combines the latest digital control technology with intuitive functions that make this control simple to understand and easy to operate. You'll enjoy lower utility bills at the touch of a button with the energy efficiency features built into your XR402 Comfort Control. Your comfort settings are automatically stored in the XR402 Comfort Control's memory eliminating the need for battery backup in the event of power loss. Simply follow the steps in this instruction manual and begin enjoying the benefits of your new Trane XR402 Comfort Control.

Keypad Functions

MODE

Mode – Pressing this key changes the system mode to Heat, Cool, Automatic or Off.

A border will appear around the mode on the display to show the system mode you've selected.

Mode

COOL HEAT AUTO OFF EMHEAT
ROOM
78
COOL ON
SETTING: 78

COOL HEAT AUTO OFF EMHEAT
ROOM   AUX HT
78°
HEAT ON
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COOL
SETTING: 88
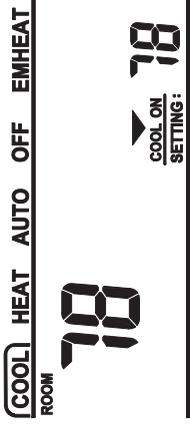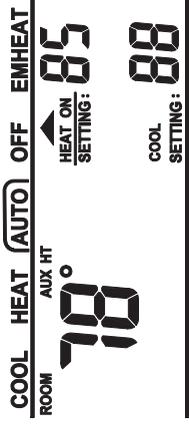
Table 2   Troubleshooting(Continued))

Symptom	Possible Cause	Action
Heating will not come on.	1. System Mode not set to Heat. 2. Minimum off time delay being enforced. 3. Loose connection to control or system. 4. Heating system requires service or control requires replacement.	1. Set Mode to heat and raise the setpoint above room temperature. 2. If heating does not come on within 5 minutes, Check Heating. 3. Check - Repair connections. 4. Repair system / Replace control.
Cooling will not come on.	1. System Mode not set to Cool. 2. Minimum off time delay being enforced 3. Loose connection to control or system. 4. Cooling system requires service or control requires replacement.	1. Set Mode to cool and lower the setpoint below room temperature. 2. If cooling does not come on within 15 minutes, contact servicer. 3. Repair connections. 4. Repair system / Replace control.
Cool ON or Heat ON is displayed, but no warm or cool air is coming from the registers.	1. The heating equipment turns on the fan when the furnace has warmed up to a setpoint. 2. Heating or cooling equipment is not operating.	1. Wait one minute after Heat ON is displayed and then check the registers. 2. Check Heating and Cooling system.
Control does not respond to keypad presses.	1. "Keypad locked" is displayed on LCD. 2. Keypad failure.	1. Unlock keypad - press Up+Down arrow together until "Keypad locked" appears. 2. Replace Control.
Fan does not operate properly in heat or cool mode.	1. Incorrect wiring. 2. Heating or cooling equipment inoperative.	1. Correct wiring. 2. Repair system.
Fan runs all the time.	1. Fan mode set to ON. 2. Shorted control wiring.	1. Set fan mode to AUTO. 2. Check / Repair wiring.
Cooling cycle too fast or too slow. (Narrow or wide temperature swing).	The location of the control and/or the size of the cooling system may be influencing the cycle rate.	Verify cycle rate adjustment Step 20 & 22.
Heating cycle too fast or too slow. (Narrow or wide temperature swing).	The location of the control and/or the size of the heating system may be influencing the cycle rate	Verify cycle rate adjustment Step 24, 26, 28, 30 & 32

Table 2 — Troubleshooting

| Symptom	Possible Cause	Action
Display will not come on.	1. Blown fuse or tripped circuit breaker. 2. Furnace power switch OFF. 3. Furnace blower compartment door or panel loose or not properly installed.	1. Replace fuse or reset breaker. 2. Turn switch to ON. 3. Replace door panel in proper position to engage safety interlock or door switch.
Indoor temperature display is incorrect.	Temperature display needs calibration.	Calibrate Sensor - User Setup Step 59.
Outdoor temperature display is incorrect.	Temperature display needs calibration.	1. Calibrate Sensor - User Setup Step 60. 2. Disconnect outdoor sensor from controls terminal block and check the sensor and field wiring resistance value - Table 2.
Outdoor temperature display shows "--" and Service indicator on solid.	Outdoor temperature sensor open or shorted Outdoor sensor field wiring open or shorted	1. Replace outdoor sensor. 2. Check / repair outdoor sensor field wiring.
Cannot set Heating setpoint above 80 degrees	Deadband between Heating and Cooling set too high	Decrease Deadband setting - User Setup Step 52.
Service indicator Flashing on and off.	Control EEPROM write error.	Press any key and Check / Re-enter Setup Choices.
Service indicator solid on and "--" in temperature display.	Onboard indoor temperature sensor open or shorted	Replace Control
Room & Service icon flashing	Remote indoor temperature sensor open or shorted	1. Check / repair remote indoor sensor or field wiring. 2. Replace remote indoor sensor
Temperature setting will not change. (Example: Cannot set heating higher or cooling lower).	1. Upper and/or lower temperature limits were reached. 2. "Keypad locked" is displayed on LCD.	1. Check the temperature setpoints: Heating limits are 40 - 85F. Cooling limits are 65 - 90F. 2. Unlock keypad - press Up+Down arrow together until icon disappears.
Room temperature overshoots when Energy Savings Key ($) is used or the Heat/Cool settings is changed more than 2 degrees.	Oversized heating or cooling equipment. Control can not respond fast enough to prevent overshooting.	Set Control Response Rate to "Fast" - Step 34.

UP / DOWN Arrow

- Use these keys to raise or lower the Heat or Cool Setting.
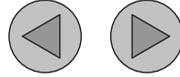
- The first key press turns on the back lighting and a border around the setting to be adjusted without changing the setting.
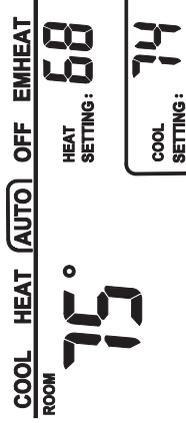
- Pressing the Up or Down arrow again will raise or lower the setting that has the border around it.

- If you press and hold the Up or Down arrow, the temperature setting will advance rapidly.

- When the control is set to Auto mode, pressing the Mode key once changes the position of the border to heat or cool.

Keypad Functions (cont-)

FAN

Fan - Pressing this key selects whether the indoor fan motor runs in automatic or continuous mode.
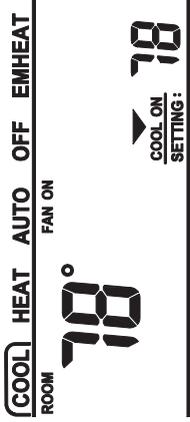
The FAN ON indicates that you have selected to operate the fan in continuous mode.

Pressing the Fan keypad button again returns the indoor fan mode of operation to automatic and FAN ON goes away.

COOL HEAT AUTO OFF EMHEAT
ROOM FAN ON
COOL ON SETTING:

Fan - For variable speed indoor equipment, if you press and hold the Fan button for several seconds, the display changes to the Quick Setup option for continuous fan airflow. Use the UP and DOWN arrow buttons to change the airflow setting. NOTE: This feature is not available if the comfort control is set to BK Output disabled in Installer Setup.

User Setup Options (cont-)

Table 1

Menu Item	Default	Setting (Choices) (Press UP or DOWN arrow)	Step (Press Mode or Fan)
Temperature Display	0	0 = Fahrenheit 1 = Celsius	50
Auto or Manual Changeover	1	0 = Manual 1 = Auto	51
Setpoint Deadband	3	2 - 10 Degrees Fahrenheit 1.5 - 5.0 Degrees Celsius	52
Waiting Icon	1	0 = Disable 1 = Enable	53
Cooling Droop	1	0 = Off 1 = 1 Degree 2 = 2 Degrees	54
Energy Savings - Cooling Setpoint Offset	5	0 - 25 Degrees Fahrenheit 0 - 15 Degrees Celsius	55
Energy Savings - Heating Setpoint Offset	5	0 - 45 Degrees Fahrenheit 0 - 25 Degrees Celsius	56
Indoor Filter Timer Method	0	0 = Calendar Days 1 = Fan Run Time Days	57
Indoor Filter Reminder - Days	30	1 - 180 Days 0 = Disable	58

Comfort Control Setup

Menu Item	Default	Setting (Choices) (Press UP or DOWN arrow)	Step (Press Mode or Fan)
Calibrate Indoor Temperature	0	Calibrated Room Temperature +/- 5 Degrees (1/2 degree increments)	59
Calibrate Outdoor Temperature (Enabled in step 9)	0	Calibrated Outdoor Temperature +/- 5 Degrees (1/2 degree increments)	60
Calibrate Remote Indoor Temperature	0	Calibrated Room Remote IndoorTemperature +/- 5 Degrees (1/2 degree increments)	61
Continous Fan Airflow	50%	35% - 100%	62
Exit User Setup (Press Mode)	SA	CA = Cancel SA = Save US = Default User Settings	99 (Exit)

Note: Pressing the Energy Saving Key (\$) anytime during setup will advance to step 99. Step 99 - Make setting selection and than press MODE to exit.
SAve = Save selections.
USer = Default User setting.
CAncel = Cancel Selections for current session and return tp previous session selections

Lock - Unlock Keypad:

Press and hold Up Arrow and Down Arrow at the same time for several seconds.
("Keypad Locked" icon will display on LCD screen)

User Setup Options

Entering User Setup:
Press and hold the MODE and FAN keypad buttons at the same time.

Keypad Navigation:
- Use the MODE or FAN buttons to navigate forward and backward through the Setup steps.

- Press MODE to advance forward to the next step.

- Press FAN to return to the previous step.

- Use the UP and DOWN arrow keypad buttons to select or change Setup options.

```
      4,0
      STEP
0
  SETTING

SET-UP
```
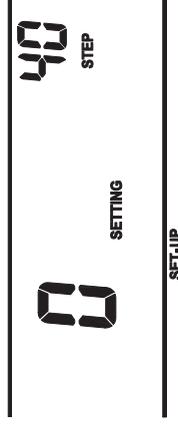

FILTER/OD

(Filter/OD) - When the outdoor sensor is installed, outdoor temperature can be viewed on the Comfort Control's display by simply pressing the "*FILTER/OD*" key.

```
82°
OUTDOOR
```
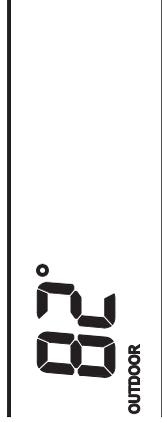
(Filter/OD)

Keypad Functions (cont.)

FILTER/OD

(Filter/OD) - Press this key twice to display how many days remain before time to replace or clean the filter. The "**FILTER/OD**" indicator will flash on the display when the filter timers days remaining reaches zero.

- Press the "**FILTER/OD**" key twice after cleaning or replacing the filter to turn off the filter indicator and reset the timer.

30

DAYS REMAINING FOR FILTER

- If the filter is serviced before the timer expires, press the "**FILTER/OD**" key twice to display the "days remaining for filter". Press the Down arrow to change the remaining days to zero. Press the "**FILTER/OD**" key twice to reset the timer.

(Filter/OD)

Factory Default Settings

User Defined Options and Factory Default Settings: (See Table 1, page 19)

Temperature Display - Fahrenheit or Celsius (Default is Fahrenheit)

Auto or Manual Changeover - (Default is Auto)

Setpoint Deadband - 2 - 10 degrees (Default is 3 degrees)

Waiting Indicator - Enable or Disable (Default is Enable)

Cooling Droop - Off, 1, or 2 degrees (Default is 1 degree)

Energy Saving Cooling Setpoint Offset - 0 - 25 degrees (Default is 5 degrees)

Energy Saving Heating Setpoint Offset - 0 - 45 degrees (Default is 5 degrees)

Indoor Filter Timer Method - Calendar Days or Fan Run Time Days - (Default is Calendar Days)

Indoor Filter Timer Days - 1 - 180 days (Default is 30 days)

Calibrate Indoor Temperature - + / - 5 Degrees (Default is 0 degrees)

Calibrate Outdoor Temperature - + / - 5 Degrees (Default is 0 degrees)

Calibrate Remote Indoor Temperature - + / - 5 Degrees (Default is 0 degrees)

Continuous Fan Airflow - 35% - 100% (Default is 50%)

Calibrate Outdoor Temperature
This option allows calibration (or deliberate miscalibration) of the outdoor temperature sensor. The selected number is number of degrees, plus or minus, which will be added to actual temperature. The number can range between + 5 and - 5 degrees in 1/2 degree increments. Factory default is 0. This adjusted value will be used and displayed as actual temperature. For example, if 2 is selected, 72 degrees actual will read 74 degrees.

Comfort Information Drawer
The drawer attached to the mounting base of the control is designed to provide a convenient location for the user to locate their local servicer. A standard business card can be folded and inserted into the slot on the drawer to remind the User whom to call when service is required.

FILTER/OD

(Filter/OD) - If you press and hold the filter/OD keypad button for several seconds, the display changes to the Quick Setup option for the filter timer. Use the UP or DOWN arrow keypad buttons to change the timer setting if desired, 1 - 180 days.

NOTE: Setting to 0 will disable filter timer.

SETTING
FILTER
SET-UP

(Filter/OD) - Press the filter/OD button again to return to normal display or just wait a few seconds and the display will return on its own.

Keypad Functions
(cont-)

Energy Savings

$ - Use this key to lower your systems energy consumption and save money at the same time! Pressing the Energy Savings keypad button changes the indoor temperature setting to a warmer indoor temperature when the system is operating in the cooling mode and to a cooler indoor temperature setting when operating in the heating mode. Energy Savings will appear on the display.

COOL (HEAT) AUTO OFF EMHEAT
ROOM
70°
HEAT SETTING: 70

COOL (HEAT) AUTO OFF EMHEAT
ROOM
70°
ENERGY SAVINGS
HEAT SETTING: 62
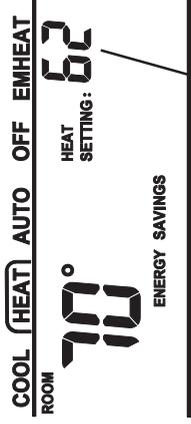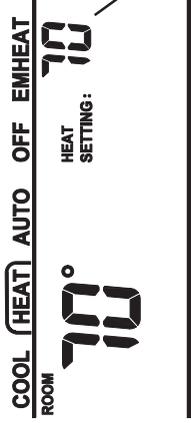
Example: Heating offset of 8 degrees.

Service Indicator
"SERVICE" automatically flashes when an internal fault or error has been detected by the control. See Table 2 on pages 20 & 21.

Wait Indicator
"WAITING" will illuminate when the indoor setpoint is moved in the direction of calling for additional system capacity. **"WAITING"** indicates that the control is adjusting to the new settings.

Calibrate Indoor Temperature
This option allows calibration (or deliberate miscalibration) of the room temperature sensor. The selection is the number of degrees added to actual temperature. The number can range between + 5 and - 5. Factory default is 0. This adjusted value will be used as actual temperature for both display and control action. For example, if 2 is selected, 72 degrees actual will read 74 degrees.

Features
(cont-)

Filter Reminder
"*FILTER/OD*" will automatically flash to remind the homeowner that its time to change the filter once the preset time has expired. Pressing the "*FILTER/OD*" keypad button automatically resets the internal clock timer. Once the timer has been reset, the number of days remaining till the next filter change can easily be determined by simply pressing the "*FILTER/OD*" keypad button. Pressing and holding the "*FILTER/OD*" keypad button provides quick access to the filter timer setup.

Energy Savings
The Energy Savings mode can provide energy savings by offsetting the indoor setpoint to a cooler temperature setting for heating and a warmer temperature setting for cooling. The Energy Savings mode is activated by pressing the Energy Savings key "$" on the control keypad. Pressing the Energy Savings key "$" again deactivates the Energy Savings mode. Pressing and holding the Energy Savings key "$" provides quick access to the offset degree setup for the current operating mode.

Default Factory Settings
The control is shipped with a set of factory default settings. The factory default settings can be restored at any time using the control configuration menu. Please see Page 17 for a complete listing of factory shipped default settings.

HEAT

SETTING   STEP

SET-UP

$

- Press and hold the Energy Savings keypad button to gain Quick Access to the Energy Savings setup screen.
- Use the UP or DOWN arrow keys to change the offset degrees setting.

NOTE: Energy Savings offset degrees are selected separately for heating and cooling. Press the Mode keypad button while viewing this screen to access the Cooling or Heating offset degrees setting, then use the UP or DOWN arrow key to select the desired number of offset degrees.
- Press the Energy Savings keypad button again to return to normal display or just wait a few seconds and the display will return on its own.

Features

Auto Changeover
When the system mode is set to Auto, the control automatically switches between heating and cooling modes to maintain the desired comfort level.

Setpoint Deadband
The number of degrees separating Heating and Cooling setpoints. Neither the heating or cooling system operate when the indoor temperature is within the deadband. The amount of separation between mode setpoints is user defined between 2 and 10 degrees. When the control is set to Auto, and the cooling setpoint is changed to a cooler setting, the heating setpoint also changes to maintain the selected degrees separation.The same action occurs when the heating setpoint is changed to a warmer temperature.

Outdoor Temperature Display - (*sensor must be installed*)
The Outdoor Temperature Sensor is included with your Comfort Control. When installed, it will allow you to view the outdoor temperature from within the conditioned space by pressing the Filter/OD keypad button. The Comfort Control's display will return to normal display on its own within a few seconds.

Backlit Display & Keys
The liquid crystal display and keypad will illuminate whenever a keypad button is pressed to improve thermostat visibility. The back light stays on for 20 seconds after the last key press. The Up and Down arrows are continuously lit.

Cooling Droop
Cooling Droop is an automatic function that cycles the compressor on to improve indoor comfort by removing moisture from the air. The Droop cycle is activated when space temperature is at or below the cooling sensible temperature setpoint. When this function is active, the control will control indoor temperature at 1 or 2 degrees below cooling setpoint. The Droop cycle is deactivated when the indoor temperature rises above the cooling setpoint.

Keypad Lock
Locking the control keypad can help prevent unwanted tampering or changing the control settings by pressing the controls UP and DOWN arrow keypad buttons at the same time and holding for 2 seconds. The "KEYPAD LOCKED" icon will appear on the control's display. Repeating this combination unlocks the keypad.