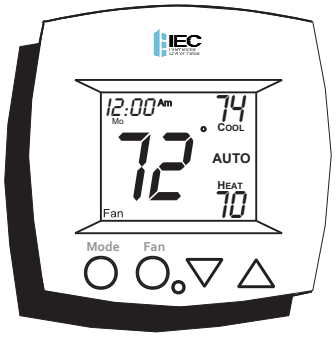
OWNER'S MANUAL

P/N E055-71520317 w/logo
P/N E055-71520319 no logo

FAN COIL PROGRAMMABLE DIGITAL THERMOSTAT



- 2- or 4-pipe configurable
- Dual or Single Setpoint
- 7 Day Programmable
- 3 Occupied, 1 Unoccupied
- Easy to program
- Large, easy to read display
- Soft-Glow Backlight
- Auto-Changeover
- Locking Keypad
- Override capable

- *Auto-Changeover is available in 4-pipe systems, in 2-pipe systems with Electric Heat, or when used with G100-71520306 accessory, auto-changeover sensor.*

IEC International Environmental

Table Of Contents

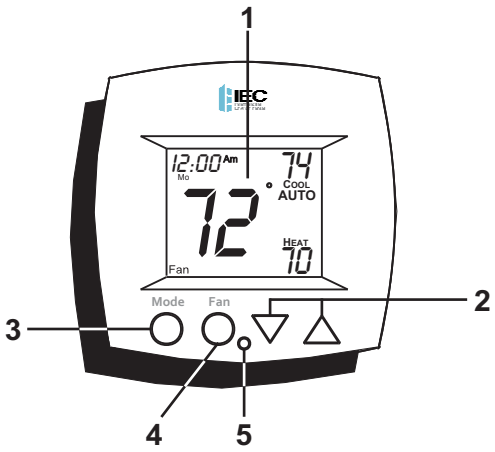
CAUTION 

Follow Installation Instructions carefully. Disconnect Power to the Heater/Air Conditioner before removing the old thermostat and installing the new thermostat.

WARNING

P/N E055-71520317 and P/N E055-71520319

Front Panel



1 Liquid Crystal Display

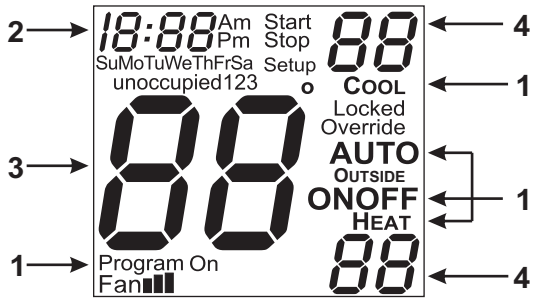
2 Up/Down Buttons

3 Mode Button

4 Fan/Override Button

5 Heat or Cool Indicator
Heat = Red, Cool = Green

Display



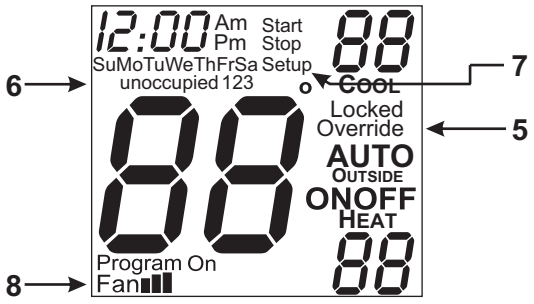
1 Mode Indicators - *Page 7-10*
Selects the operational mode of the equipment.
HEAT - Indicates the heating mode.
COOL - Indicates the cooling mode.
AUTO - Indicates the system will automatically changeover between heat and cool modes as the temperature varies.
PROGRAM ON - Indicates the time period program is enabled to run.
OFF - Indicates heating and cooling are turned off.

2 Clock with Day of the Week - *Page 6*
Indicates the current time and day. This clock is also used to program the time period schedules.

3 Room Temperature Display
Indicates <u>current</u> room temperature.

4 Desired Set Temperature - *Page 11*
Indicates <u>desired</u> room temperature(s).

Display



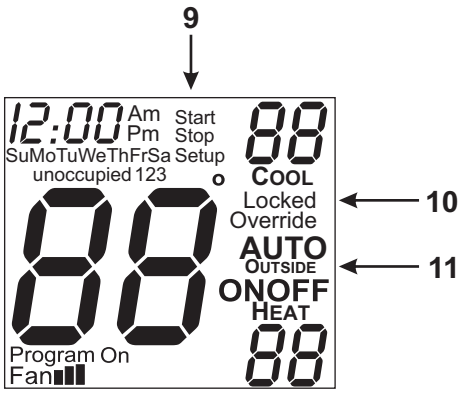
5 Override icon - *Pages 12 & 21*
Indicates the program is currently being overridden for up to six hours.

6 Occupied & Unoccupied icons - *Pages 13-16*
Indicates the program number: Occupied 1,2,3 or Unoccupied.

7 Setup icon - *Pages 18-22*
Indicates the thermostat is in the advanced setup mode.

8 Fan icon - *Page 11*
Indicates fan operation.
Fan = low speed
Fan = medium speed
Fan = high speed
When only the **Fan** icon is displayed, the fan is in the Auto mode and will run only when necessary to heat or cool.

Display

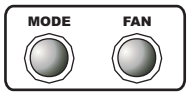


9 **Start & Stop** icons - *Pages 14-16*
Appear when programming occupied time periods.

10 **Locked** icon - *Page 30*
Indicates keypad has been locked.

11 **Outside** icon - *Pages 21 & 31*
Indicates the temperature displayed is from the optional outside sensor.

Quick Start *Set the Clock and Go*



Press the MODE and FAN buttons at the same time for two seconds to enter Setup screens.

During Setup and Programming: Pressing the UP or DOWN button will modify the flashing selection.

To adjust the Clock or Day use

buttons.

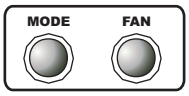
Setting the Clock

Tip: To change hours quickly, press and hold the FAN button and press the UP or DOWN button.

Press

Setting the Day

Press the MODE and FAN buttons at the same time to return to normal operation.



The thermostat is preprogrammed from the factory to operate a 4 pipe system without the need for further programming. To optimize the installation of this thermostat for a 2 pipe system, follow the instructions in the Advanced Setup section, on *Page 19*

Selecting the Heat or Cool Mode 4-Pipe Operation

Select Mode by Pressing the MODE Button

Heating Only

The **HEAT** setting indicates the temperature the room has to reach before the heating source will turn on to heat the room.

Cooling Only

The **COOL** setting indicates the temperature the room has to reach before the cooling source will turn on to cool the room.

Heating or Cooling

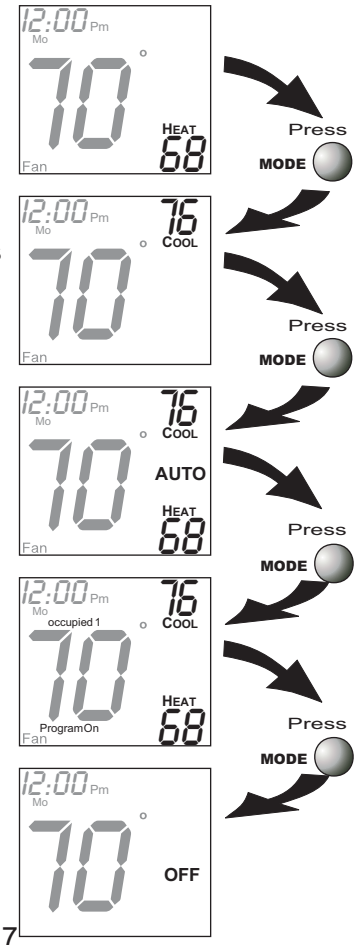
AUTO will automatically select heat or cool based on room temperature demand.

Time Schedule for Heating or Cooling

Program On will activate the stored timer operation for the heating and cooling setpoints (occupied or unoccupied periods).

Off

OFF indicates both heating and cooling are turned off.



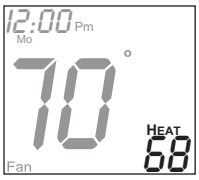
Selecting the Heat or Cool Mode 2-Pipe Operation

Heat Only

See Step #6 on page 19. In the Advanced Setup Section, select option 1: Heat only system.

Heating Only

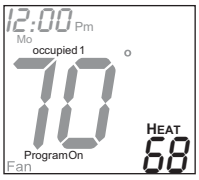
The **HEAT** setting indicates the temperature the room has to reach before the heating source will turn on to heat the room.



Press **MODE**

Time Schedule for Heating or Cooling

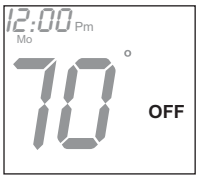
Program On will activate the stored timer operation for the heating and cooling setpoints (occupied or unoccupied periods).



Press **MODE**

Off

OFF indicates both heating and cooling are turned off.



Selecting the Heat or Cool Mode 2-Pipe Operation

Cool Only

See Step #6 on page 19. In the Advanced Setup Section, select option 2: Cool only system.

Cooling Only

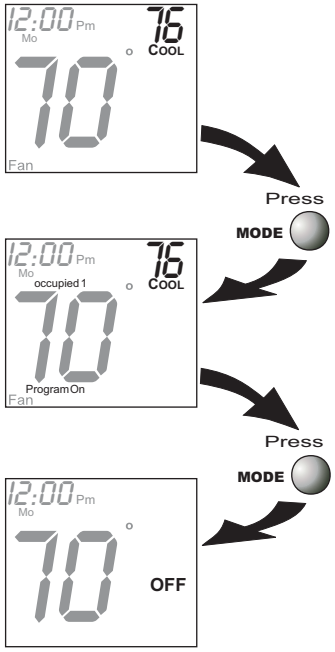
The **COOL** setting indicates the temperature the room has to reach before the cooling source will turn on to cool the room.

Time Schedule for Heating or Cooling

Program On will activate the stored timer operation for the heating and cooling setpoints (occupied or unoccupied periods).

Off

OFF indicates both heating and cooling are turned off.

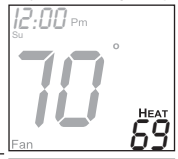


Selecting the Heat or Cool Mode 2-Pipe Operation

Heating and/or Cooling

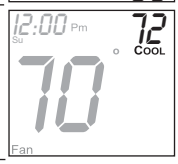
Step #6 = 3 in Advanced Setup (page 19), and the accessory changeover sensor (G100-71520306) is used.
Step #6 = 4 or 5 in Advanced Setup (page 19).
Operation is the same as a 4-pipe system (page 7).

HEAT indicates the temperature the room has to reach before the heating source energizes. If the water supply is cold, this screen and heating would be locked out.



Press MODE

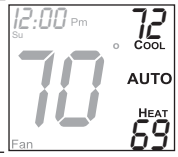
COOL indicates the temperature the room has to reach before the cooling source energizes. If the water supply is hot, this screen and cooling would be locked out.



Press MODE

If step #6 = 3, this screen will not appear.

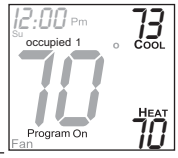
AUTO will automatically select heat or cool based on the room temperature demand.



Press MODE

If step #6 = 3, only heat <u>or</u> cool will appear.

Program On will activate the stored timer operation for the heating and cooling setpoints.



Press MODE

OFF indicates both heating and cooling are turned off.

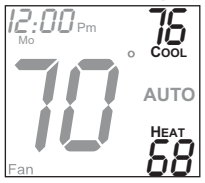
Note: *If the water temperature is changed during the year, the thermostat will then automatically lock out the incorrect mode.*

Basic Operation

Selecting Your Desired Temperature (adjusting the setpoints)

AUTO OR PROGRAM MODE

Pressing the UP or DOWN button in Auto **or** Program mode will adjust **both** the heat and cool set temperatures simultaneously.



Adjust the desired set temperature with the

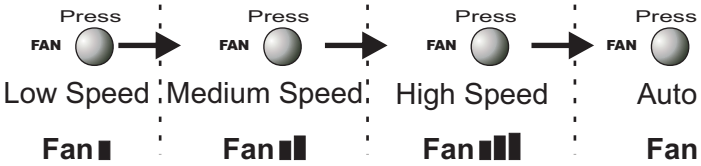
buttons.

Fan Operation

Press FAN

Pressing the FAN button will run the fan in low, medium, or high speed continuously *(see below and page 28)*.

When only the **Fan** icon is displayed, the fan is in the Auto mode and will run only when necessary to heat or cool *(see below and page 28)*.



Note: *If the thermostat is placed in the Off mode, the fan will de-energize (see page 7).*

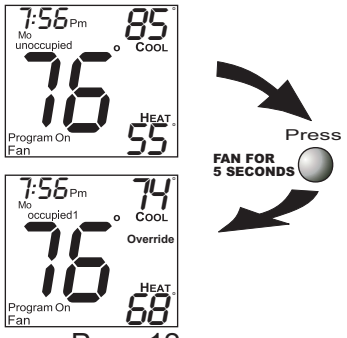
Basic Operation

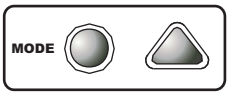
Overriding the Daily Schedule

Pressing and holding the FAN button for 5 seconds may be used to interrupt the normal time schedule programming of the thermostat. The override feature may only be used when the thermostat is running the time schedule, in Program On mode.

Unoccupied Operation - During programmed, unoccupied periods pressing and holding the FAN button for 5 seconds will temporarily force the thermostat into Occupied 1 comfort settings for one to six hours *(step #13, page 21)*. The Override icon will be illuminated during this time. If you press and hold the FAN button while the thermostat is currently overriding the daily schedule, this will reset the timer, returning the thermostat to the correct time period program for the day.

Occupied Operation - Pressing and holding the FAN button for 5 seconds during a programmed Occupied time period will have no effect.





Press the MODE button. While holding MODE, press the UP button for two seconds to enter time period programming.

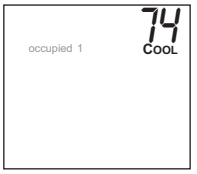
Select the maximum # of occupied periods to be used on any one day. Typically, most installations use only Occupied 1.

(1,2 or 3)

Press MODE

Adjust the cooling setpoint for Occupied 1.

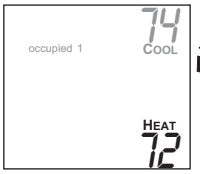
(35˚- 99˚, OF)



Press MODE

Adjust the heating setpoint for Occupied 1.

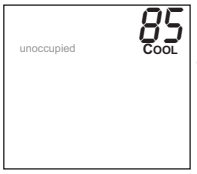
(OF, 35˚- 99˚)



Press MODE

Adjust the cooling setpoint for unoccupied periods.

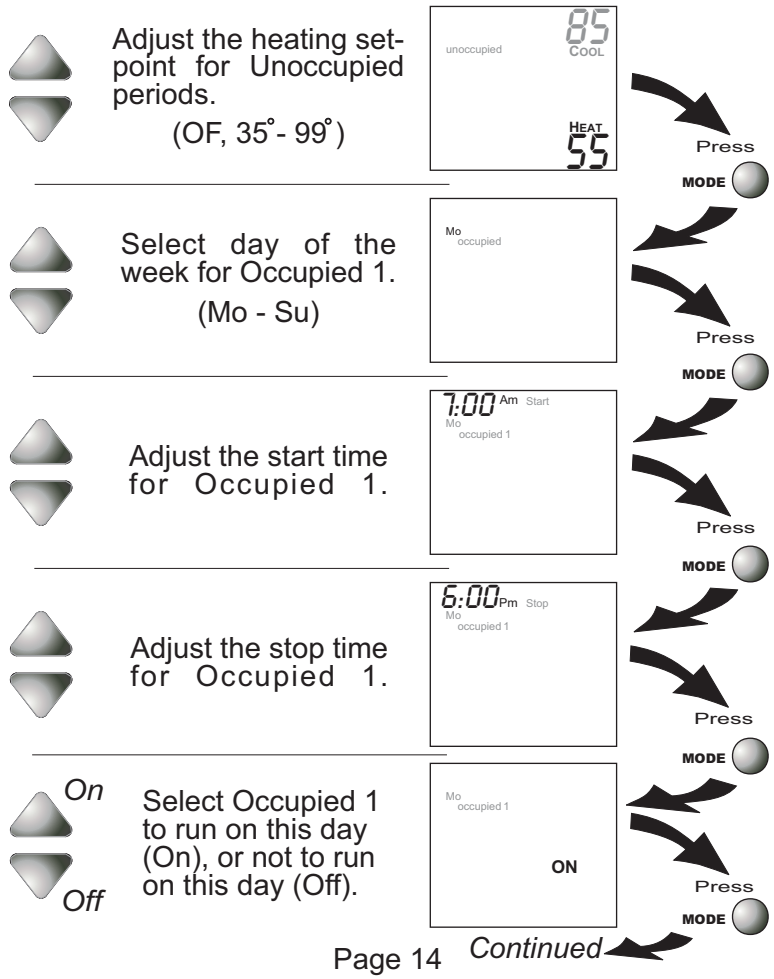
(35˚- 99˚, OF)



Press MODE

Continued

Programming Occupied & Unoccupied Periods

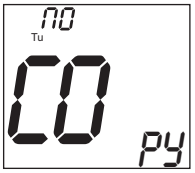


The copy command becomes available after the maximum # of occupied periods are programmed in a day. This example uses 1 as the maximum occupied periods ever programmed in one day.

Yes

Select Yes or No to copy the previous day's program to this day.

No



If Yes is selected:

Press MODE

Selecting Yes, then pressing mode will copy the previous day's program and then will ask the same copy question again. If yes is selected each time, this routine will repeat until Saturday is copied to Sunday. After Saturday is copied to Sunday, the copy command is unavailable.

If No is selected:

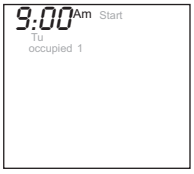
Press MODE

Select day of the week for Occupied 1.

(Tu - Mo)

Press MODE

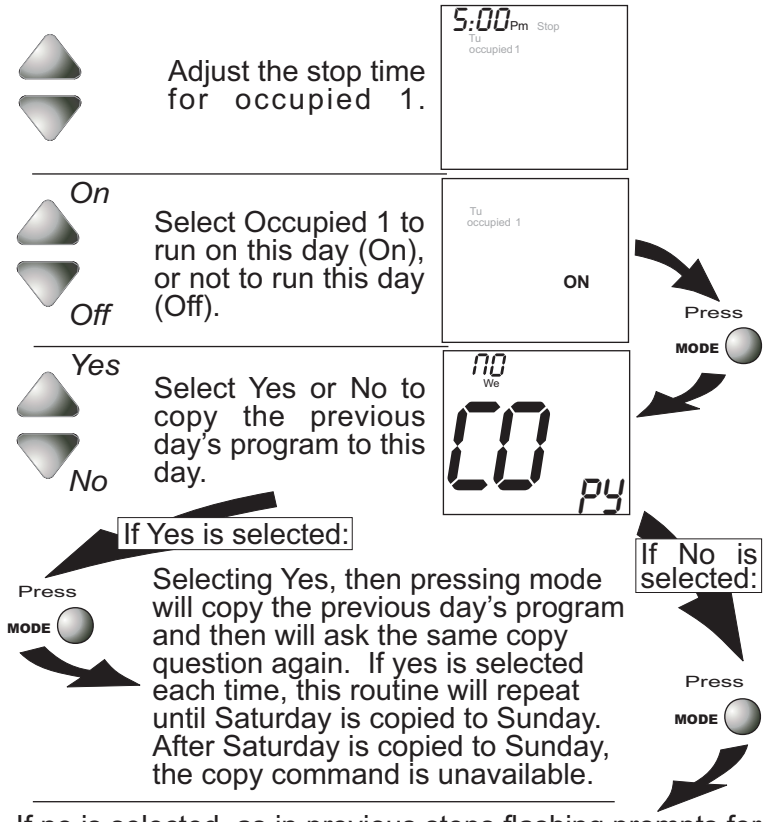
Adjust the start time for occupied 1.



Press MODE

Continued

Programming Occupied & Unoccupied Periods

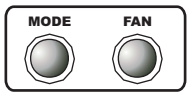


If no is selected, as in previous steps flashing prompts for input will appear for start and stop times for Occupied 1. If more than one occupied period was selected on page 13, then cool/heat setpoints, and start/stop times for additional occupied periods will be prompted.

PROGRAMMING NOTES

- **<u>You will be prompted to enter both heat and cool setpoints even if the thermostat is configured for heat only, or cool only.</u>**
- If only 1 Occupied period is selected, the Occupied 2 & 3 steps will be skipped. Further, if only 2 Occupieds are selected, the Occupied 3 steps will be skipped.
- Heat & Cool setpoints for Occupied 1 are the same for each day. Heat & Cool setpoints for Occupied 2 & 3 can be adjusted differently for each day, if desired.
- **If the start time is set for later than the stop time,** the program will run from the start time to midnight and from midnight to the stop time on the same day. *For example: 9:00pm start, 8:00am stop, on MTWTF. This program will run from 12:00am MTWTF to 8:00am MTWTF and again from 9:00pm MTWTF to 12:00pm MTWTF.*
- The Unoccupied settings take effect at all times when: (**1**) the program is on **and** (**2**) the current time is outside a preset occupied period. For this reason start and stop times aren't necessary for unoccupied.
- If the **same** start and stop times are programmed in for an occupied period, then it will run 24 hours.
- If one occupied period starts and stops within another occupied period, the lower occupied # has priority. *For example: If Occupied 3 is programmed to be "on" 24 hours, and Occupied 2 is programmed to run that day, then Occupied 2 settings will take over from Occupied 3 between Occupied 2 start and stop times.*
- When the time period programming for Unoccupied is in the Override mode (*see page 12*), the Heat & Cool setpoints for Occupied 1 are used.

Advanced Setup



Press the MODE and FAN buttons at the same time for 10 seconds to enter Advanced Setup screens.

NOTE: *Each step # is located at the top right corner of the display for easy reference.*

Adjust the time of day.

Tip: To change hours quickly, press and hold the FAN button and press the UP or DOWN buttons.

Press MODE

Select the day of the week.

Press MODE

Display On

Select Display operation:
On = Full Display
Off = Minimal display

Display Off

See Page 28

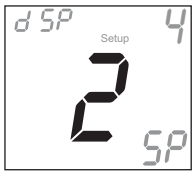
Press MODE

Continued

Advanced Setup

Select Display operation:
1 = Single Setpoint
2 = Dual Setpoint

See Page 32



Note: *When Single Setpoint is selected, the heating or cooling setpoint will always be displayed. To display the room temperature, press and hold the MODE button for two seconds. The degree icon will blink when the large number is displaying room temperature and will remain solid when displaying the heating or cooling setpoint.*

Press MODE

4
2

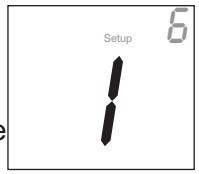
Select fan coil system type:
2 = 2-pipe fan coil
4 = 4-pipe fan coil

Step #6 only appears if step #5 = 2.

2 PIPE SYSTEM OPERATION

Press MODE

1= Heat only system
2= Cool only system
3= Heat/Cool Auto changeover
4= Heat/Cool Aux Electric heat, Lockout Electric Heat when Hot Water is available
5= Heat/Cool total electric heat, **no** Hot Water, **only** Electric Heat.

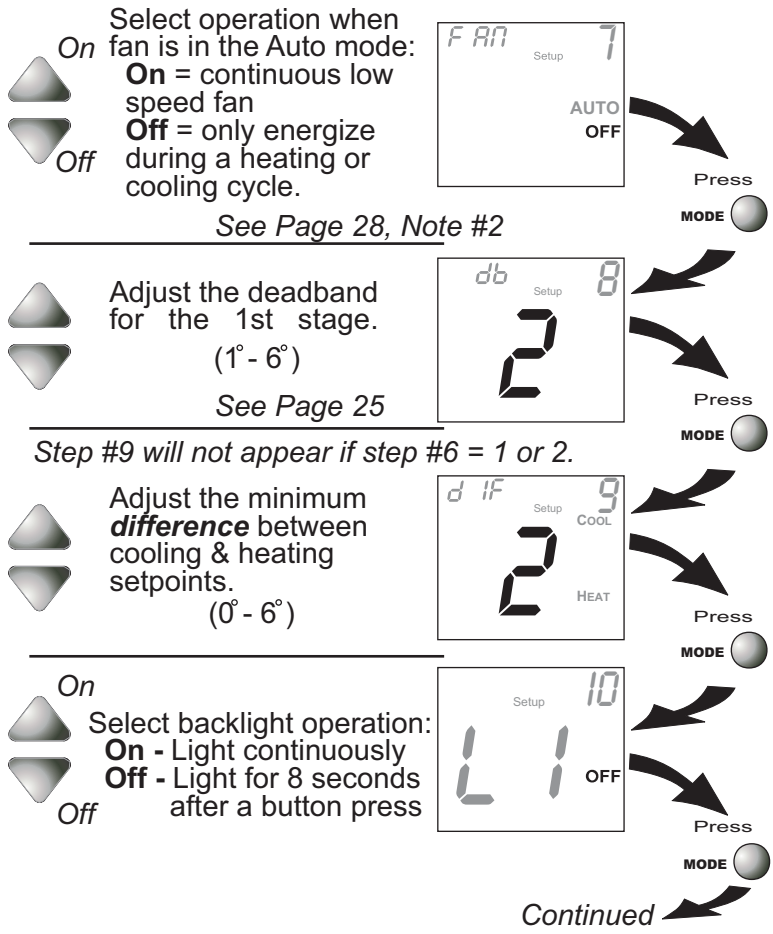


Press MODE

Continued

Note: #3 & #4 require accessory changeover sensor

Advanced Setup



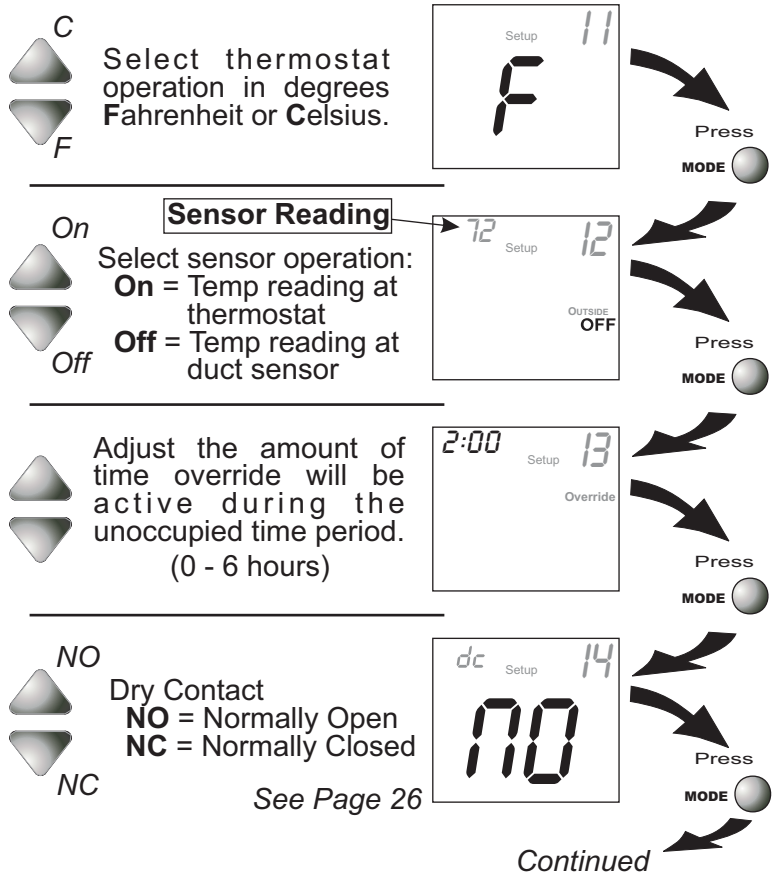
See Page 28, Note #2

See Page 25

Step #9 will not appear if step #6 = 1 or 2.

Continued

Advanced Setup



See Page 26

Continued

Advanced Setup

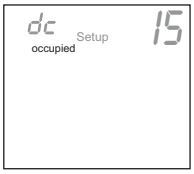
Occupied

Unoccupied

Select Dry Contact operation:

Occupied = the thermostat will enter the Occupied mode when the Dry Contact Contact is closed.

Unoccupied = the thermostat will enter the Unoccupied mode when the Dry Contact is closed.



Step #16 only appears if step #15 = Unoccupied.

Press MODE

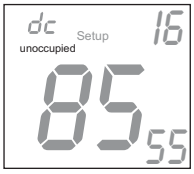
Unoccupied Setpoints

Off

Select Dry Contact Unoccupied operation:

Unoccupied = when the Dry Contact is closed, the thermostat will control to the Unoccupied setpoints.

Off = when the Dry Contact is closed, the thermostat will turn off.



After programming is complete, press the MODE and FAN buttons at the same time for two seconds to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

Advanced Setup

Advanced Setup Table

Step #	Description	Range	Factory Default
1	Time of Day	24 hour	12:00 am
2	Day of the Week	Mo - Su	Mo
3	Display Blanking	On / Off	On
4	Single or Dual Setpoint	1 / 2	2
5	2- or 4-Pipe System	2 / 4	4
6	2-Pipe System Operation	1 - 5	1
7	Fan Auto Operation	On / Off	Off
8	Deadband/Temp. Swing 1st Stage	1° - 6°	2°
9	Minimum Heat/Cool Differential	0° - 6°	2°
10	Thermoglow Backlight	On / Off	Off
11	Fahrenheit or Celsius	F / C	F
12	Read Only Duct Sensor?	On / Off	Off
13	Override Timer Length	0 - 6 hours	2 hours
14	Dry Contact Polarity	NO / NC	NO
15	Dry Contact Operation	Occupied / Unoccupied	Occupied
16	Dry Contact Setpoints	Unoccupied / Off	Unoccupied

About Advanced Features & Operation

✻ CALIBRATION - Under normal circumstances it will not be necessary to adjust the calibration of the temperature sensor. If calibration is required, please contact a trained HVAC technician to correctly perform the following procedure.

1

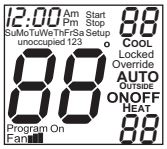
MODE

Place the thermostat in the OFF mode.

2

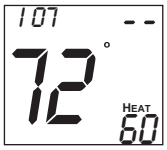
MODE

Press and hold the MODE button. While holding the MODE button, press and hold the DOWN button for 5 seconds. All icons will appear on the display.



3

Press the MODE button once. The thermostat temperature will be displayed and may be calibrated using the UP or DOWN button.



4

MODE

After calibration is complete, press the MODE button **once** to save your changes and return to normal operation.

✻ CLOCK BACKUP - In the event of a power loss, the thermostat's internal clock will continue to keep proper time for a minimum of 48 hours without external power or batteries.

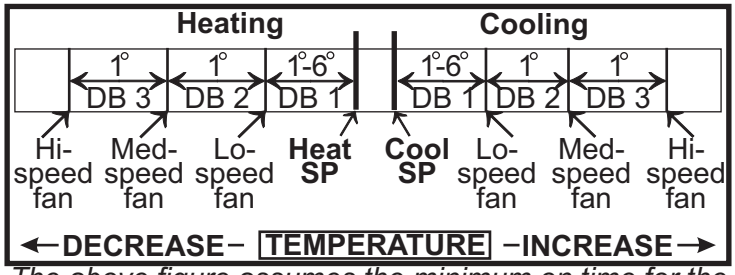
About Advanced Features & Operation

✻ DEADBAND OPERATION - Controls one Heat and one Cool stage with a three speed fan (see below).

The **low speed fan** for heat or cool is turned on when: The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #8, page 20).* This 1st stage deadband is adjustable from 1-6 degrees and the default is two degrees.

The **medium speed fan** for heat or cool is turned on when: The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #8, page 20), plus the 2nd stage deadband.* This 2nd stage deadband is fixed at one degree and is not adjustable.

The **high speed fan** for heat or cool is turned on when: The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (step #8, page 20), plus the 2nd stage deadband, plus the 3rd stage deadband.* This 3rd stage deadband is fixed at one degree and is not adjustable.



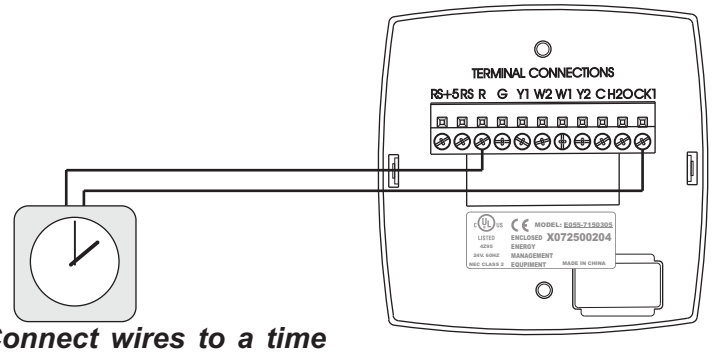
The above figure assumes the minimum on time for the prior stage has been met to allow the next stage to turn on, once the deadbands have been exceeded.

About Advanced Features & Operation

- DRY CONTACT SWITCH - This feature allows an external device such as a Central Time Clock, Occupancy Sensor, or a Telephone activated device to force one or more thermostats into Occupied 1 or Unoccupied *(steps #14 and 15, page 21-22)*.

  When the CK1 and R terminals are shorted together, and the thermostat is programmed for Occupied operation *(step #15, page 22)* the thermostat will be forced into Occupied 1 setpoints and the Occupied 1 icon will blink.

  Note: *The thermostat must be in Program On mode for this feature to have any effect.*



Connect wires to a time clock or other device to force the thermostat into Occupied 1 or Unoccupied.

Dry Contact use note of caution

CAUTION

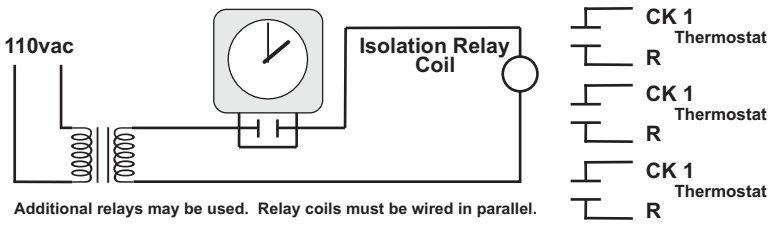
Auxiliary Input Control and Multiple HVAC Control Potential Phasing Problems

WARNING

When using the auxiliary input (CK1 & R) or controlling multiple HVAC units with a single thermostat, it is possible to encounter transformer phasing problems that will interfere with thermostat operation. Connecting transformers that are not phased correctly may result in a direct short, which could damage transformers and/or the thermostat. Phasing problems are likely if the units share a common ground with secondary grounded transformers.

SOLUTION: If possible, phase all HVAC units together. If phasing is impractical, isolation relays may be used to isolate the transformers. To isolate the auxiliary input, use a separate transformer for the auxiliary control device, usually a time clock. Connect the device to an isolation relay coil. Connect one set of isolated contacts to each thermostat at **CK1** and **R**. See diagram A.

Diagram A- Auxiliary Control



Additional relays may be used. Relay coils must be wired in parallel.

About Advanced Features & Operation

❇ FACTORY DEFAULTS - If, for any reason, you desire to return all the stored settings back to the factory default settings, follow the instructions below.

WARNING: This will reset all Time Period and Advanced Programming to the default settings. Any information entered prior to this reset will be permanently lost.

1

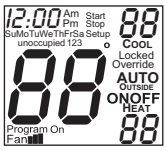
MODE

Place the thermostat in the OFF mode.

2

MODE

Press and hold the MODE button. While holding the MODE button, press and hold the DOWN button for 5 seconds. All icons will appear on the display.



3

FAN

After all of the icons appear, release the MODE and DOWN buttons. Then press and hold the FAN button for 5 seconds.

4

MODE

After the letters **Fd** appear on the display (Factory Default), release the FAN button. Press the MODE button **twice** to return to normal operation.

About Advanced Features & Operation

- FAN OPERATION - Fan operation is available in four different modes:

  Fan: When only the fan icon is displayed, this indicates that the fan is in the Auto mode, will only energize during a heating or cooling cycle, and will modulate fan speeds based on temperature demand *(see page 25)*.

  Fan▮, **Fan**▮▮, or **Fan**▮▮▮ : Pressing the FAN button will cause the low, medium, or high speed fan icon to appear *(see page 11)*, indicating that the fan will run continuously. The fan will de-energize if the thermostat is placed in the Off mode or an unoccupied time period *(see page 26)*.

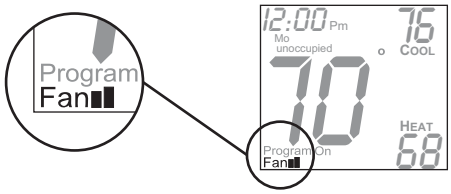
  Notes:
  1) If a Duct sensor is connected to this thermostat, then the fan should be programmed for continuous operation (step #7, page 20). This will provide airflow over the Duct sensor and provide more accurate temperature readings.

  2) If the fan is programmed for continuous operation (step #7, page 20), the low speed fan will run continuously when the fan is in the Auto mode and during occupied time periods, but will de-energize if the thermostat is placed in the Off mode.

- MINIMAL DISPLAY - When the thermostat is programmed for a minimal display *(step #3, page 18)*, only the time of day will appear. When a button is pressed the full, normal display will appear for 10 seconds.

About Advanced Features & Operation

- ENERGY SAVING SMART FAN - This feature automatically de-energizes the fan during an Unoccupied time period, except when necessary to heat or cool *(see page 28)*.



Note: *The fan will not de-energize during an Unoccupied time period if it has been programmed for continuous operation (step #7, page 20)*.

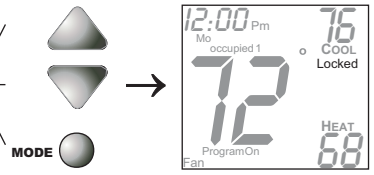
- HEAT/COOL DIFFERENTIAL - The Heat and Cool setpoints will not be allowed to come any closer to each other than the value set in Advanced Setup *step #9, on page 20*. This minimum difference is enforced during Auto-changeover and Program On operation.

Note: *To increase the spread between the heating and cooling setpoints in the Auto-changeover mode press the MODE button until only the heat setpoint is displayed; adjust to the desired setpoint. Press the MODE button until only the cool setpoint is displayed; adjust to the desired setpoint. Press the MODE button again to enter the Auto-changeover mode where both the heat and cool setpoints are displayed.*

About Advanced Features & Operation

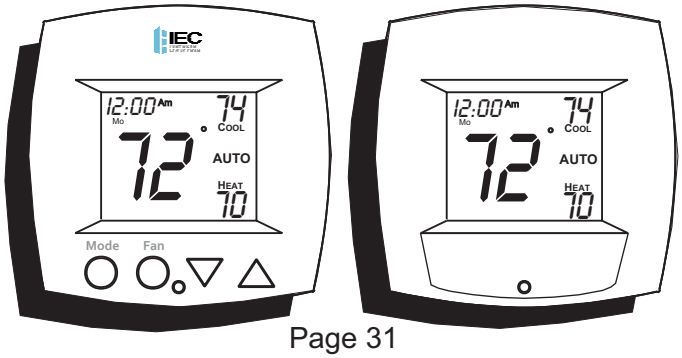
- KEYPAD LOCKOUT - To prevent unauthorized use of the thermostat, the front panel buttons may be disabled. To disable, or 'lock' the keypad, press and hold the MODE button. While holding the MODE button, press the UP and DOWN buttons together. The LOCKED icon will appear on the display, then release the buttons.

Press all three buttons in the order outlined above for keypad lockout



To ***unlock*** the keypad, press and hold the MODE button. While holding the MODE button, press the UP and DOWN buttons together. The LOCKED icon will disappear from the display, then release the buttons.

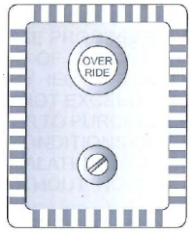
- LOCKING COVER w/Tamper Proof Screws *(G100-71520308 w/ logo G100-71520309 w/out logo)*



About Advanced Features & Operation

- OUTSIDE SENSOR - To view an Outside Sensor *(step #12, page 21)*, enter the Advanced Setup by pressing and holding the MODE button. While holding MODE, press the FAN button for 5 seconds to enter Setup screens. Advance to setup step #12 by repeatedly pressing the MODE button. If an optional outside sensor is connected, the outside temperature will appear in the clock display.

- REMOTE SENSOR **(P/N G100-71520313)** - The thermostat is programmed from the factory to automatically recognize when a Remote Sensor is connected (*step #12, page 21).*



The Remote Sensor measures indoor air temperature and sends this information to the thermostat; it measures temperature with a range of 32° to 99° F.

The Remote Sensor should be connected to the thermostat using solid conductor CAT 5, CAT 5e, or CAT 6 type network communication cable. This is an unshielded cable with four twisted pairs of 24 gauge solid wire; *DO NOT use stranded cable*. The cable length should not exceed 250 feet. If less than 75 feet of cable is required to connect the thermostat to the Duct Sensor, a three conductor thermostat cable (18-24 gauge) may be used; this cable is NOT suitable for any length greater than 75 feet.

Important: Do not use shielded wire. Do not run sensor wiring in the same conduit as the 24vac wiring. Electrical interference may cause the sensor to give incorrect temperature readings.

About Advanced Features & Operation

- SINGLE SETPOINT BEHAVIOR - When configured for *Single Setpoint* operation *(step #4, page 19)*, the degree icon will blink when the large number is displaying room temperature and will remain solid when displaying the heating or cooling setpoint. In the Auto and Program On modes the deadband is enforced both above and below the setpoint. To avoid short cycling, a deadband of at least two degrees is recommended *(step #8, page 20)*. To display the room temperature press and hold the MODE button for two seconds. Release the MODE button to return to the normal display.

Warranty

INTERNATIONAL ENVIRONMENTAL CORPORATION - TERMS AND CONDITIONS

1. ORDER ACKNOWLEDGEMENTS SHALL ONLY BE BINDING UPON INTERNATIONAL ENVIRONMENTAL CORPORATION (HEREINAFTER REFERRED TO AS IEC) IF GENERATED AND AUTHORIZED BY A REPRESENTATIVE OF IEC AT ITS OFFICE IN OKLAHOMA CITY, OKLAHOMA.
2. IEC DOES NOT BUILD ITEMS TO PLANS AND SPECIFICATIONS. IEC AGREES TO FURNISH ONLY THE ITEMS AS DESCRIBED IN IEC'S ORDER ACKNOWLEDGEMENT UNLESS IEC'S OFFICE IN OKLAHOMA CITY, OKLAHOMA, HAS PREVIOUSLY RECEIVED AND ACCEPTED, IN WRITING, APPROVED SUBMITTALS FROM PURCHASER.
3. PRICES QUOTED ARE FIRM ONLY IF PURCHASER RELEASES THE GOODS COVERED BY THIS ORDER FOR IMMEDIATE PRODUCTION BY IEC WITHIN NINETY (90) DAYS FROM THE DATE OF PURCHASER'S OFFER TO PURCHASE AND FOR SHIPMENT BY IEC WITHIN THE ACKNOWLEDGED SHIPPING DATE WHICH SHALL NOT EXCEED SIX (6) MONTHS FROM THE DATE OF PURCHASER'S OFFER TO PURCHASE. IF PURCHASER DOES NOT MEET THE TERMS AND CONDITIONS OF THIS PARAGRAPH, THE PRICES ARE SUBJECT TO ESCALATION TO THOSE PRICES IN EFFECT AT TIME OF SHIPMENT WITHOUT NOTICE TO PURCHASER.
4. ALL PRICES ARE F.O.B. IEC'S FACTORY WITH FULL FREIGHT ALLOWED UNLESS NOTED OTHERWISE BY IEC. TITLE TO AND RISK OF LOSS TO THE GOODS PASSES TO THE PURCHASER WHEN DELIVERED TO THE CARRIER F.O.B. IEC'S SHIPPING POINT. PURCHASER MUST INSPECT THE GOODS UPON ARRIVAL.
5. IF GOODS ARE RELEASED FOR PRODUCTION BUT IEC IS PREVENTED BY THE PURCHASER FROM SHIPPING UPON COMPLETION OR BY THE ACKNOWLEDGED SHIPPING DATE, WHICHEVER IS LATER, IEC MAY AT IT'S OPTION, IN ADDITION TO ALL OTHER REMEDIES, INVOICE THE PURCHASER TO BE PAYABLE WITHIN THIRTY (30) DAYS AND STORE THE GOODS AT PURCHASER'S SOLE EXPENSE.
6. TITLE TO AND RISK OF LOSS TO THE GOODS PASSES TO THE PURCHASER F.O.B. IEC'S SHIPPING POINT.

Warranty

7. (a.) IEC WARRANTS FOR A PERIOD OF EIGHTEEN (18) MONTHS FROM THE DATE OF SHIPMENT OR TWELVE (12) MONTHS FROM DATE OF START UP (WHICHEVER OCCURS FIRST), THAT THE GOODS SOLD SHALL BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP, EXCEPT THAT IEC MAKES NO GUARANTEE AGAINST CORROSION OR ABRASION OF ANY GOODS AND MAKES NO GUARANTEE WHATSOEVER FOR DAMAGES IN ANY WAY RELATING TO MOLD, FUNGUS OR BACTERIA, OR ANY GOODS MANUFACTURED OR SUPPLIED BY OTHERS. IEC MAKES NO OTHER EXPRESS WARRANTY, AND NO AFFIRMATION BY IEC OR ITS REPRESENTATIVES, BY WORD OR ACTION, SHALL CONSTITUTE A WARRANTY.

   (b.) IEC MAKES NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

   (c.) IN THE EVENT OF A BREACH OF THE ABOVE WARRANTY OR NEGLIGENCE ON THE PART OF IEC, IEC SHALL ONLY BE OBLIGATED TO EITHER REPAIR OR REPLACE, AT IEC'S OPTION, THE GOODS, AND THE AFORESAID OBLIGATION OF IEC TO REPAIR OR REPLACE THE GOODS IS THE PURCHASER'S EXCLUSIVE REMEDY. **IEC SHALL NOT, IN ANY MANNER WHATSOEVER, BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR EXPENSES FOR BREACH OF WARRANTY, OR FOR NEGLIGENCE ON THE PART OF IEC**.

   (d.) ALL PARTS SHALL BE RETURNED TO IEC'S FACTORY IN OKLAHOMA CITY, OKLAHOMA, OR OTHER AUTHORIZED SERVICE STATION DESIGNATED BY IEC, FREIGHT PREPAID IF IEC DETERMINES THE PART TO BE DEFECTIVE AND WITHIN IEC'S WARRANTY. IEC SHALL, WHEN SUCH PART HAS BEEN EITHER REPLACED OR REPAIRED, RETURN TO PURCHASER, F.O.B. IEC'S FACTORY IN OKLAHOMA CITY, OK.

   (e.) THIS WARRANTY SHALL BE VOID FOR ANY GOODS WHICH (1) HAVE BEEN REPAIRED OR ALTERED OUTSIDE IEC'S FACTORY IN ANY MANNER WITHOUT IEC'S WRITTEN AUTHORIZATION; OR (2) HAVE BEEN SUBJECT TO MISUSE, NEGLIGENCE OR ACCIDENTS; OR (3) HAVE BEEN OPERATED IN A MANNER CONTRARY TO IEC'S PRINTED INSTRUCTIONS: OR (4) HAVE NOT BEEN PAID FOR WITHIN PAYMENT TERMS GRANTED BY IEC.

8. IEC SHALL HAVE NO SYSTEM DESIGN, APPLICATION OR MAINTENANCE RESPONSIBILITY OR RESPONSIBILITY FOR MOLD, FUNGUS OR BACTERIA TO PURCHASER OR ANY OTHER THIRD PARTY.

Warranty

9. ALL SALES, USE, EXCISE, TRANSPORTATION, PRIVILEGE, OCCUPATIONAL CONSUMPTION, STORAGE, OR OTHER TAXES WHICH MAY BE LEVIED BY ANY TAXING AUTHORITY AS A RESULT OF THIS TRANSACTION SHALL BE PAID BY THE PURCHASER.
10. UNLESS OTHERWISE AGREED TO IN WRITING BY IEC, ANY TECHNICAL DATA, FURNISHED IN CONJUNCTION WITH THIS ORDER AND NOT OBTAINABLE FROM ANOTHER SOURCE SHALL NOT BE DUPLICATED, USED, OR DISCLOSED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN TO EVALUATE THIS ORDER.
11. IEC SHALL HAVE NO LIABILITY OR OTHER OBLIGATION HEREUNDER, IF ITS PERFORMANCE IS DELAYED OR PREVENTED TO ANY EXTENT BY ANY EVENT SUCH AS, BUT NOT LIMITED TO, ANY ACT OF GOD, STRIKE OR WORK STOPPAGE, FIRE, FLOOD, ACCIDENT, ALLOCATION, OR OTHER CONTROLS OF GOVERNMENT AUTHORITIES, SHORTAGE OF TRANSPORTATION, FUEL, MATERIAL AND LABOR, OR ANY OTHER CAUSE BEYOND IEC'S REASONABLE CONTROL. ANY SHIPPING DATE STATED BY IEC IS IEC'S BEST ESTIMATE, BUT IEC MAKES NO GUARANTEE OF SHIPMENT BY ANY SUCH DATE AND SHALL HAVE NO LIABILITY OR OTHER OBLIGATION FOR FAILURE TO SHIP ON SUCH DATE, REGARDLESS OF CAUSE.
12. PAYMENT TERMS ARE NET THIRTY (30) DAYS FROM DATE OF INVOICE ON APPROVED CREDIT. ONE AND ONE-HALF PERCENT (1 1/2%) PER MONTH (18% ANNUAL RATE) MAY BE CHARGED ON PAST DUE ACCOUNTS WHERE PERMITTED BY APPLICABLE LAW. IN THE EVENT ACCOUNT MUST BE PLACED FOR COLLECTION, PURCHASER SHALL BE RESPONSIBLE FOR ALL REASONABLE ATTORNEYS FEES AND COSTS INCURRED BY IEC IN SECURING PAYMENT.
13. PURCHASER SHALL NOT CANCEL THE CONTRACT WITHOUT PRIOR WRITTEN CONSENT OF IEC. IN THE EVENT PURCHASER CANCELS THE CONTRACT WITH THE PRIOR WRITTEN CONSENT OF IEC AFTER THE PURCHASER'S OFFER TO PURCHASE IS RECEIVED AND ACKNOWLEDGED IN WRITING, IEC SHALL BE ENTITLED TO RECEIVE FROM PURCHASER, IEC'S COST PLUS A REASONABLE ALLOWANCE FOR OVERHEAD AND PROFIT.
14. PURCHASER SHALL NOT ASSIGN ANY OF ITS INTEREST RIGHTS UNDER THIS AGREEMENT WITHOUT WRITTEN CONSENT OF IEC.
15. IEC WILL NOT FURNISH LIEN WAIVERS OR RELEASES UNTIL IEC RECEIVES PAYMENT, IN FULL, AT ITS OFFICE IN OKLAHOMA CITY, OKLAHOMA, FROM PURCHASER FOR THE GOODS COVERED BY THIS ORDER. PARTIAL LIEN RELEASES WILL BE PROVIDED IF REQUESTED.

Warranty

16. ALL ORDERS ARE EXPRESSLY LIMITED AND MADE CONDITIONAL UPON ACCEPTANCE BY PURCHASER OF THE TERMS AND CONDITIONS LISTED ABOVE WITHOUT CHANGE. THERE SHALL BE NO UNDERSTANDINGS, AGREEMENTS, OR OBLIGATIONS (OUTSIDE THESE TERMS AND CONDITIONS) UNLESS SPECIFICALLY SET FORTH IN WRITING, AND ACCEPTED BY SIGNATURE OF AN AUTHORIZED REPRESENTATIVE OF IEC IN OKLAHOMA CITY, OKLAHOMA.

It is the responsibility of the end user to properly characterize and dispose of all waste materials according to applicable regulatory and legal entities. Where reasonable, safe, and compliant with local regulatory and legal requirements, IEC encourages recycling materials when disposing of its products.

5000 W I-40 Service Rd.• Oklahoma City, OK 73128 • 405.605.5000 [phone] • 405.605.5001 [fax] • www.iec-okc.com