



INSTALLATION, OPERATION & APPLICATION GUIDE
for 8530-345*, 8530A345*, 8530-338*,
8530-346* and 8530-348*
1 STAGE HEAT PUMP

*Last digit represents
specific model number



Note: Thermostat markings
may vary with model.

Caution

This thermostat should be installed by trained technicians only. Adhere to all local and national codes. Disconnect all power to the system before installing, removing, or cleaning.

Operation

The display indicates room temperature and the word **ROOM** is shown on the LCD until the temperature selector is pressed; at which time the display temporarily indicates the setpoint temperature and the word **SET** is shown on the LCD. Each time the **UP** arrow is pressed, the setpoint will increase. Each time the **DOWN** arrow is pressed, the setpoint will decrease. Once the temperature selector button is no longer pressed for a few seconds, the room temperature will again be displayed, and the word **ROOM** will be displayed on the LCD.

In electric heat mode, if the heat pump is unable to satisfy the thermostat, the heat pump goes into lockout. See heat pump and backup heat example on Page 4 for conditions of heat pump lockout. **DIFF** will display on the thermostat LCD indicating backup heating is required to satisfy the thermostat.

In gas heat mode, the gas furnace will provide the only source of heat and the heat pump is locked out.

| Temperature | | |
|----------------|--------------|--------------|
| Mode | Range | |
| | °F | °C |
| Cooling (set) | 98°F to 33°F | 37°C to -1°C |
| Heating (set) | 98°F to 33°F | 37°C to -1°C |
| Display (room) | 99°F to 32°F | 38°C to 0°C |

Note: The temperature is displayed in degrees Fahrenheit as a factory set default. To display in degrees Celsius, move the jumper marked "F" and "C" to bridge between middle pin and position "C", then cycle 12 volt power off then back on again (see Figure 2).

Refer to operation chart for a more detailed listing of operation sequence.

Operation Chart

The chart below shows the system functions with the 8530-345*, 8530A345*, 8530-338*, 8530-346* and 8530-348* thermostats. After the entire air conditioning system (and furnace system) is installed, check each position function.

8530-345*, 8530A345*, 8530-338*, 8530-346* and 8530-348*
Heat Pump Thermostat Operation Table

| | Mode Switch | Fan Mode Switch | Fan Speed Switch | Calling | Operation of Unit |
|----|-------------|-----------------|------------------|--------------------------------|--|
| 1 | Cool | Auto | Lo | No | No functions occur in this mode |
| 2 | Cool | Auto | Lo | Yes | GL-FAN Lo (Gray), Y-Compressor (Yellow) energized |
| 3 | Cool | On | Lo | No | GL-FAN Lo (Gray), energized |
| 4 | Cool | On | Lo | Yes | GL-FAN Lo (Gray), Y-Compressor (Yellow) energized |
| 5 | Cool | Auto | Hi | No | No functions occur in this mode |
| 6 | Cool | Auto | Hi | Yes | GH-FAN Hi (Green), Y-Compressor (Yellow) energized |
| 7 | Cool | On | Hi | No | GH-FAN Hi (Green), energized |
| 8 | Cool | On | Hi | Yes | GH-FAN Hi (Green), Y-Compressor (Yellow) energized |
| 9 | Off | Auto | Lo or Hi | No | No functions occur in this mode |
| 10 | Off | On | Lo | No | GH-FAN Lo (Gray), energized |
| 11 | Off | On | Hi | No | GH-FAN Hi (Green), energized |
| 12 | Gas Heat | Auto or On | Lo or Hi | No | No functions occur in this mode |
| 13 | Gas Heat | Auto or On | Lo or Hi | Yes | WF-Furnace (White) energized to run the furnace |
| 14 | Elec Heat | Auto or On | Lo or Hi | No | No functions occur in this mode |
| 15 | Elec Heat | Auto or On | Lo or Hi | Yes | WHP-Heat Pump (White/black) will be energized to run the heat pump |
| 16 | Elec Heat | Auto or On | Lo or Hi | Back-up heat 5° below setpoint | WHP-Heat Pump (White/black) will be energized to run the heat pump and WF-Furnace (White) will be energized to run the furnace |

Note: There is a 3 minute anti-short cycle delay timer built into the thermostat.

NOTE 2

Heat Pump and Backup Heat Example To Call for Gas Furnace

| Sequence | Indoor Temp. | Description |
|----------|--------------|---|
| 70 | 70* | No functions occur |
| | 69 | Heat Pump turns on (primary heat source) |
| | 71 | Heat Pump turns off (thermostat satisfied) |
| | 68 | Heat Pump turns on |
| | 65 | Gas Furnace turns on (heat pump not able to satisfy thermostat) (First strike for backup heat counter) |
| | 71 | Gas Furnace turns off heat pump turns off (thermostat satisfied) |
| | 68 | Heat Pump turns on |
| | 65 | Gas Furnace turns on (heat pump not able to satisfy thermostat) (Second strike for backup heat counter) |
| | 71 | Gas Furnace turns off, heat pump turns off (thermostat satisfied) |
| | 68 | Heat Pump turns on |
| | 65 | Gas Furnace turns on (heat pump is again unable to satisfy thermostat). Backup heat counter reaches 3rd strike and heat pump is locked out for 1 hour and 45 minutes. Backup heat counter is reset if Heat Pump is running for more than 20 minutes and does not call for backup heat |
| | 71 | Gas Furnace turns off (thermostat satisfied) |
| | 65 | Gas Furnace turns on (becomes primary heat source) |
| | 71 | Gas Furnace turns off (thermostat satisfied) |
| | | After 1 hour and 45 minutes lockout. |
| | 68 | Heat Pump turns on (resumes as primary heat source) |
| | 65 | Gas Furnace turns on, heat pump turns off (becomes primary heat source) (heat pump is locked out for another 1 hour and 45 minutes) |
| | 71 | Gas Furnace turns off (thermostat satisfied) |
| | | After 1 hour and 45 minutes lockout. |
| | 68 | Heat Pump turns on (resumes as primary heat source) |
| | 71 | Heat Pump turns off (thermostat satisfied) |
| | | Backup heat counter is reset any time Heat Pump satisfies thermostat setpoint and does not need gas furnace |

Note: The word "OFF" will display on LCD when backup heat is operating.