The icomfort Touch™ Communicating Thermostat recognizes and connects to all icomfort™-enabled products to automatically configure and control the system (based on user-specified settings) for the highest level of comfort, performance and efficiency. Also recognizes model and serial number information for icomfort™-enabled products to simplify system setup.

Advanced icomfort™ controls in specific heating and cooling units communicate information about various operating parameters to the thermostat to constantly maintain the most efficient operating conditions possible. Additional conventional (not icomfort™-enabled) indoor air quality comfort controls (PureAir™ Air Purification System, Healthy Climate® Humidifiers, Humiditrol® Enhanced Dehumidification Accessory, Healthy Climate® Energy/Heat Recovery Ventilators) can be added to the system for a complete total-comfort system.

Conventional outdoor units (not icomfort™-enabled) can easily be added and controlled by the icomfort Touch™ Communicating Thermostat.

A simple easy-to-use menu-driven touchscreen allows complete system configuration. Scheduled maintenance alerts, system warnings and troubleshooting are also displayed in simple English on thermostat screen.

Easy to read 5.7 in. screen (measured diagonally).

A tabbed interface lists all programming options on the screen.

Installer setup screens allow quick and simple system configuration without a manual, Installer can also run tests on complete system or individual components for easy maintenance and troubleshooting.

Serial communications bus (RSBus), with less wiring than a conventional heating/cooling system, allows system communication. Uses 4-wire, 18-gauge standard thermostat wiring.

Thermostat can be recess mounted on a wall (3-gang electrical box required). Subbase with terminal strip is furnished for easy installation.
SYSTEM COMPONENTS

icomfort™ Communicating Control System

**SYSTEM COMPONENTS**

- **icomfort™-enabled Air Conditioner**
  - XC21 (2-Stage) or XC17 (1-Stage)
- **Heat Pump**
  - XP21 (2-Stage) or XP17 (1-Stage)
- **icomfort™-enabled Furnace**
  - G71MPP (Variable Capacity, Variable Speed Blower)
- **Outdoor Sensor**
  - Furnished on all outdoor icomfort™-enabled products
- **Optional Outdoor Sensor**
  - Optional accessory
- **icomfort™-enabled Air Handler**
  - CBX40UHV or CBX32MV (Variable Speed Blower)

**CONTROL ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>icomfort™ Touch Communicating Thermostat</td>
<td>49W95</td>
</tr>
<tr>
<td>Dimensions (H x W x D) - 5 x 6-3/8 x 1-1/4 in.</td>
<td></td>
</tr>
<tr>
<td>1 Optional Outdoor Sensor</td>
<td>X2658</td>
</tr>
<tr>
<td>2 Discharge Temperature Sensor</td>
<td>88K38</td>
</tr>
</tbody>
</table>

1 The Optional Outdoor Sensor may be used with an icomfort equipped outdoor unit for a secondary (alternate) sensor reading. Optional Outdoor Sensor may be ordered for use with a conventional outdoor unit.
2 Required with Air Handler applications when using EVENHEATER® option. Optional on all other applications for service diagnostics.
SYSTEM COMPONENTS
The complete icomfort™ control system consists of an icomfort Touch™ Communication Thermostat paired with an icomfort™-enabled furnace and air conditioner or an icomfort™-enabled air handler and heat pump outdoor unit (or furnace for dual-fuel operation). Indoor units must contain the icomfort™ control. A non-communicating outdoor unit may be used (some system features will be reduced).

FEATURED SYSTEM PRODUCTS

icomfort Touch™ Communicating Thermostat
Large full color touchscreen - no hidden buttons or doors.
Temperature and humidity control (humidify/dehumidify).
Sophisticated control and scheduling.
Also controls conventional (not icomfort™-enabled) products (includes standard thermostat terminal designations).

Dave Lennox Signature™ Collection G71MPP Variable-Capacity, Variable-Speed Furnaces
Energy Star® qualified.
95% AFUE energy efficiency.
Variable-capacity operation.
Multi-position design.
icomfort™ control.
Precise Comfort™ technology.
AirFlex™ technology.
Fully insulated cabinet.
SureLight® Control delivers operation reliability.
Silicon nitride igniter.

Dave Lennox Signature™ Collection XC21 Two-Stage Air Conditioners
Energy Star® qualified.
Up to 20.5 SEER cooling efficiency.
icomfort™ control.
SilentComfort™ technology.
Quiet operation, as low as 69 dB.
R-410A refrigerant.
Dependable and efficient two-stage scroll compressor.
SmartHinge™ louvered coil protection.
Optimized for use with the Humiditrol® whole-home dehumidification system.
Also available - XC17 Single-Stage Air Conditioner.

Dave Lennox Signature™ Collection XP21 Two-Stage Heat Pumps
Energy Star® qualified.
Up to 18.6 SEER and 9.30 HSPF heating efficiency.
icomfort™ control.
SilentComfort™ technology.
Quiet operation, as low as 69 dB.
R-410A refrigerant.
Dependable and efficient two-stage scroll compressor.
SmartHinge™ louvered coil protection.
Optimized for use with the Humiditrol® whole-home dehumidification system.
Also available - XP17 Single-Stage Heat Pump.

Dave Lennox Signature™ Collection CBX40UHV Variable-Speed Air Handlers
4-way multi-position design.
icomfort™ control.
Variable-speed blower motor.
R-410A refrigerant compatible.
Automatic comfort control for lower, summertime humidity levels.
Anti-microbial drain pan resists the growth of mold and mildew.
Healthy Climate® MERV 16 high efficiency air filter.
Includes knock-out for easy installation of Healthy Climate® germicidal light.
Also available - CBX32MV Variable-Speed Air Handler.
Indoor Conditions
- Large display of current indoor temperature (°F or °C)
- Current heating setpoint temperature (heat to)
- Current cooling setpoint temperature (cool to)
- Raise / Lower temperature setting arrows (up / down arrows) to set heating or cooling setpoints indefinitely (program off).

If program is “on” screen displays adjustable set hold time (1, 2, 8, 24 hours, until next program or custom set time)

Both setpoint temperatures and adjustment arrows are displayed if System is set to Heat/Cool mode.

- Humidity settings (humidity is 45% OK)
- System Mode (system is heating / cooling)
- Program Mode (program is off, program is on)
- Service Alerts (triangle symbol). Touch for details.

Press for more displays Indoor Settings (and dashboard) screen.

Temperature Settings
- Large display of current indoor temperature (°F or °C)
- Current heating setpoint temperature (heat to)
- Current cooling setpoint temperature (cool to)
- Raise / Lower temperature setting arrows (up / down arrows) to set heating or cooling setpoints indefinitely

System Settings
- Heat & Cool
- Cool Only
- Heat Only
- Emergency Heat (if air handler or dual fuel system)
- Off

Selecting Heat Only or Cool Only only displays those setpoints.

Fan Settings
- Auto
- On
- Circulate

Selecting other tabs on screen displays different Dashboard Tab screens.
FEATURES

USER SETTINGS

USER DASHBOARD TABS
• Programs Tab
• Indoor Humidity
• Alerts
• HELP
• HOME
• Zones Tab (for future use)
• Weather Tab - Displays outdoor temperature if icomfort-enabled outdoor unit or optional outdoor temperature sensor is enabled (set in user setup)

PROGRAMS

Program (Program On, Program Off)
• Current Program (View or Edit)
• Restore ENERGY STAR® Program (Confirm or Cancel)?

View Program

• Displays current program

Edit Program

• Set schedule for a group of days (all 7 days, mon - fri, sat - sun) or set schedule for each individual day

Set time of day, heat temp., cool temp. and fan settings for days selected (four events per day)
• Skip an event if desired

Restore ENERGY STAR® Program
• Restores program to ENERGY STAR® default comfort settings:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake</td>
<td>6:00 am</td>
<td>&lt; 70°F</td>
<td>&gt; 78°F</td>
</tr>
<tr>
<td>*Day</td>
<td>8:00 am</td>
<td>Setback 8° F</td>
<td>Setup 7°F</td>
</tr>
<tr>
<td>Evening</td>
<td>6:00 pm</td>
<td>&lt; 70°F</td>
<td>&gt; 78°F</td>
</tr>
<tr>
<td>*Sleep</td>
<td>10:00 pm</td>
<td>Setback 8° F</td>
<td>Setup 4°F</td>
</tr>
</tbody>
</table>

*At least setback and setup temperatures.

HELP
• Left side of screen displays various help screens depending on which dashboard tab is selected first (Indoor Settings, Programs, Indoor Humidity, Alerts)
• Clean Screen (30 second timer for cleaning screen without affecting settings)
• Use Preferences (see User Preferences section for details)

HOME
• Returns to home screen
### USER SETTINGS

#### INDOOR HUMIDITY

- Set humidity or dehumidify levels (if equipped)
- Humidity adjustable from 15 to 45% relative humidity (RH)
- Dehumidify adjustable from 40 to 60% relative humidity (RH)

#### ALERTS

- Press the Alert Icon on Home Screen (if program is running) to display system or device active alerts

  - A red **Critical Alert** indicates that service is required for a major system component as soon as possible
  - A yellow **Service Alert** indicates required maintenance (filter replacement, humidifier pad replacement, UV light replacement, PureAir™ Air Purification System servicing and Maintenance)

### USER PREFERENCES

<table>
<thead>
<tr>
<th>User Setting</th>
<th>Default Setting</th>
<th>Variable Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time and Date</td>
<td>Time/date elements screen</td>
<td></td>
</tr>
<tr>
<td>Daylight Saving Time</td>
<td>Enabled</td>
<td>Enabled, Disabled</td>
</tr>
<tr>
<td>Circulate Fan ON Time</td>
<td>35%</td>
<td>15 to 45% (in 1% increments)</td>
</tr>
<tr>
<td>Dealer Name</td>
<td>These may show installer input data but owner can change</td>
<td>Keyboard input screen</td>
</tr>
<tr>
<td>Dealer Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealer Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dealer Email</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Displayed</td>
<td>English</td>
<td>English</td>
</tr>
<tr>
<td>Temperature Display Scale</td>
<td>°F</td>
<td>Fahrenheit (°F) or Celsius (°C)</td>
</tr>
<tr>
<td>Clock Format</td>
<td>12 Hour</td>
<td>12 Hour, 24 Hour</td>
</tr>
<tr>
<td>Screen Lock-out</td>
<td>Unlocked</td>
<td>Unlocked, Partially Locked, Fully Locked</td>
</tr>
<tr>
<td>Backlight Setting</td>
<td>Always On</td>
<td>Power Save, Always On</td>
</tr>
<tr>
<td>Backlight Intensity</td>
<td>100%</td>
<td>20 to 100% (in 20% increments)</td>
</tr>
<tr>
<td>Outdoor Temp Display</td>
<td>Disabled</td>
<td>Disabled, Enabled</td>
</tr>
<tr>
<td>Indoor Humidity Display</td>
<td>Enabled</td>
<td>Disabled, Enabled</td>
</tr>
<tr>
<td>Filter 1 Timer</td>
<td>Disabled</td>
<td>Disabled, 3, 6, 12, 24 Months or Custom Time</td>
</tr>
<tr>
<td>Filter 2 Timer</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>Humidifier Pad Timer</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>UV Bulb Timer</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>Maintenance Timer</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>PureAir Timer</td>
<td>Disabled</td>
<td></td>
</tr>
</tbody>
</table>
After power is applied to the thermostat for the first time, it checks the system for installed communicating devices, the “System Discovery” progress screen is displayed on the thermostat; followed by the “Use this thermostat?” screen.

During the setup process, alerts may be displayed to inform the installer of any information that affects the setup process.
FEATURES

INSTALLER SETTINGS

Add / Remove / Modify Non-Communicating Devices

Press “yes” to access non-communicating device list screen.

Use up/down arrow buttons to highlight and modify non-communicating device:

- Outdoor Unit Type (*Not Installed, 1 Stage AC, 2 Stage AC*)
- Humidifier (*Not Installed, Bypass (24 VAC), Power (120 VAC), Bypass and Power*)
- Dehumidifier (*Not Installed, Humiditrol, Auxiliary Dehumidifier*)
- UV Light (*Not Installed, UV Light*)

NOTE - If outdoor unit is non-communicating type, screen will display parameters to set (*Outdoor Unit Capacity, 18 to 60 kBtu in 1 kBtu increments, default is 60 kBtu*)

System Devices

Use up / down arrow buttons to select device. Press edit button to modify device settings.

Pressing “about” displays equipment information depending on type (*name, model, serial number, number of stages, cooling btuh, indoor blower cfm range, software version, outdoor air temp sensor installed, etc.*)

NOTE - “Reset ALL” resets all devices back to original factory default settings. Each individual device can be also reset to factory settings on the selected equipment screen.

Equipment Name - Press “edit” button to change equipment name, use keyboard tool to change

- Air Conditioner
  - Equipment Name
  - Compressor Short Cycle Delay (60 to 300 sec. in 60 sec. increments, default is 300 sec.)

- Heat Pump
  - Equipment Name
  - Compressor Short Cycle Delay (60 to 300 sec. in 60 sec. increments, default is 300 sec.)
  - Defrost Termination Temp (50 to 100°F in 10°F increments, default is 50°F)
  - Compressor Shift Delay (On/Off)
FEATURES

INSTALLER SETUP
System Devices (Continued)

• Furnace:
  • Equipment Name
  • Heating Airflow Control Type - Selections available if Discharge Air Temperature Sensor is installed (Fixed cfm, fixed Discharge Air Temperature)
    With Discharge Air Temperature:
    • Low Heating Discharge Air Temperature - Available if Discharge Air Temperature Sensor is installed (110 to 140°F in 5°F increments, default is 120°F)
    • High Heating Discharge Air Temperature - Available if Discharge Air Temperature Sensor is installed (120 to 150°F in 5°F increments, default is 135°F)
    With Fixed cfm:
    • Low Heating Airflow (325 to 1280 in 25 cfm increments)
    • High Heating Airflow (300 to 1805 in 25 cfm increments)

• Low Cooling Airflow (300 to 1390 in 25 cfm increments)
• High Cooling Airflow (300 to 2190 in 25 cfm increments)

• Airflow Profile Cooling:
  A. On (50% for 30 sec., 82% for 7.5 min.); Off (50% for 30 sec.)
  B. On (82% for 7.5 min.); Off (No delays)
  C. No delays; Off (45 sec. delay)
  D. No delays

• Low HP Airflow (300 to 1400 cfm in 5 cfm increments)
• High HP Airflow (300 to 1400 cfm in 5 cfm increments)
• Continuous Indoor Blower Airflow (300 to 1400 in 25 cfm increments)
• Humidification Airflow (300 to 1400 cfm in 25 cfm increments, default is 500 cfm)
• Dehumidification Airflow (60 to 80% RH in 1% increments)

• Heating Indoor Blower Off Delay (60 to 80 sec. in 10 sec. increments default is 90 sec.)
• Heating Indoor Blower On Delay (15 to 45 sec. in 5 sec. increments, default is 45 sec.)
• Cooling Indoor Blower Off Delay (0 to 30 sec. in 2 sec. increments, default is 0 sec.)
• Cooling Indoor Blower On Delay (0 to 10 sec. in 5 sec. increments, default is 2 sec.)
• HP Indoor Blower Off Delay (0 to 60 sec. in 5 sec. increments, default is 45 sec.)

• HP Indoor Blower On Delay (0 to 30 sec. in 5 sec. increments, default is 0 sec.)

All furnace default airflow settings are dependent on furnace capacity.

NOTE - Humidification and Dehumidification Airflow settings are only viewable if those non-communicating products are added during setup.

Air Handler

• Equipment Name
• Electric Heating Airflow (1560 to 2150 cfm in 5 cfm increments)
• Low Cooling Airflow (450 to 2150 cfm in 5 cfm increments)
• High Cooling Airflow (450 to 2150 cfm in 5 cfm increments)

• Airflow Profile Cooling:
  1. No Delays
  2. On (No delays); Off (45 sec. delay)
  3. On (82% for 7.5 min.); Off (No delays)
  4. On (50% for 30 sec., 82% for 7.5 min.); Off (50% for 30 sec.)

• Low HP Airflow (450 to 2150 cfm in 5 cfm increments)
• High HP Airflow (450 to 2150 cfm in 5 cfm increments)
• Continuous Indoor Blower Airflow (450 to 2150 in 10 cfm increments)
• Humidification Airflow (450 to 2150 cfm in 5 cfm increments)
• Dehumidification Airflow % (60 to 80% RH in 1% increments)
• Heating Indoor Blower OFF Delay (0 to 10 sec. in 1 sec. increments, default is 10 sec.)
• Heating Indoor Blower ON Delay (0 to 5 sec. in 1 sec. increments, default is 0 sec.)
• Cooling Indoor Blower OFF Delay (0 to 30 sec. in 2 sec. increments, default is 0 sec.)
• Cooling Indoor Blower ON Delay (0 to 10 sec. in 2 sec. increments, default is 2 sec.)
• HP Indoor Blower OFF Delay (0 to 60 sec. in 5 sec. increments, default is 45 sec.)
• HP Indoor Blower ON Delay (0 to 30 sec. in 5 sec. increments, default is 0 sec.)

All air handler default airflow settings are dependent on furnace capacity.
FEATURES

INSTALLER SETTINGS

• Thermostat
  • Temp. Reading Calibration (-5 to 5°F, default is 0°F)
  • Humidity Reading Calibration (-10 to 10°F, default is 0°F)

• System
  • Equipment Name
  • Filter 1 Timer Selection (Calendar or Run Time)
  • Filter 2 Timer Selection (Calendar or Run Time)
  • UV Bulb Timer Selection (Calendar or Run Time)
  • Humidifier Pad Timer Selection (Calendar or Run Time)
  • PureAir Timer Selection (Calendar or Run Time)
  • Smooth Setback Recovery (Enabled/Disabled)
  • Electric Heat Control Mode (Standard/EvenHeat)
  • Gas Heat Control Mode (Staged/Modulating)
  • Auto-Changeover Temp. Deadband (3 to 9°F, default is 5°F)
  • Max. Heat Setpoint (40 to 90°F, default is 90°F)
  • Min. Cool Setpoint (60 to 99°F, default is 60°F)
  • Heat Cool Stages Locked In (Enabled/Disabled)
  • 1st Stage Differential (0.5 to 3°F, default is 0.5°F)
  • 2nd Stage Differential (0.5 to 8°F, default is 1.5°F)
  • 3rd Stage Differential (0.5 to 8°F, default is 2.0°F)
  • 4th Stage Differential (0.5 to 8°F, default is 2.5°F)
  • 5th Stage Differential (0.5 to 8°F, default is 3.0°F)
  • 6th Stage Differential (0.5 to 8°F, default is 3.5°F)
  • Staged Delay Timers (Enabled/Disabled)
  • 2nd through 6th Stage Delays (5 to 120 min. in 5 min. increments, default is 20 min.)
  • Locked in 2nd Stage HP by Outdoor Temp (off, 40°F, 45°F, 50°F, 55°F)
  • Balance Point Control (enabled/disabled)
  • Defrost Target Discharge Temp (50 to 60°F in 1°F increments, default is 55°F)
  • EvenHeater® Discharge Temp (80 to 130°F in 1°F increments, default is 85°F)
  • Dehumidification Control Mode (Display Only, Basic, Precision)
  • Humidification Control Mode (Display Only, Dewpoint Control)
  • OK/Humid Boundary (45 to 60°F in 1°F increments, default is 50°F)

NOTE - Depending on type of system (conventional heating/cooling or heat pump system) not all system settings will be displayed.

TESTS

A variety of system tests can be performed by the installer. Press the tests tab, then press start to begin system testing.

TEST ALL is the default.

You can also test equipment individually. Use up / down arrow buttons to select device.

Then press select, then start on the next screen to test all or individual equipment.

The remove button allows you to remove individual equipment from the TEST ALL list if you only want to test certain equipment. Press the start button to begin testing.

When a test is running, a status screen will show which test is being run. A Testing Process is Finished confirmation screen will appear when testing is complete.

NOTE - The tests feature is not available until after setup has been completed at least once.
FEATURES

INSTALLER SETTINGS

DIAGNOSTICS

Allows installer to run diagnostic tests on any icomfort enabled product.

Select device to run diagnostics on

Run diagnostics on:

HP XP19−060−230−06 5809K00015
AIR HANDLER CBX32MV−60 5809K00020

Select type of device to run diagnostics on

Run diagnostics on:

HP

Line Voltage 220 volts
24VAC Voltage 24 volts
Y1 − Output On
PSC Fan Relay Closed
ECM Fan 1 On
ECM Fan 2 On
Y2 Solenoid On

EQUIPMENT

The equipment tab allows the same equipment setting adjustments as in the setup tab, see System Devices, page 4.