IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

ROSEN TECHNOLOGIES LLC, *Plaintiff*, **v.** **LENNOX INDUSTRIES, INC.,** *Defendant*.	**Case No. 3:22-cv-00732-K** **JURY TRIAL DEMANDED**

PLAINTIFF'S AMENDED DISCLOSURE OF ASSERTED CLAIMS AND PRELIMINARY INFRINGEMENT CONTENTIONS

Pursuant to the Scheduling Order (Dkt. No. 29) and N.D. Tex. Misc. Order No. 62, Plaintiff Rosen Technologies LLC ("Rosen" or "Plaintiff") serves its Amended Disclosure of Asserted Claims and Preliminary Infringement Contentions with Accompanying Document Production on Defendant Lennox Industries, Inc. ("Lennox" or "Defendant").

I. THE ASSERTED CLAIMS

The table below discloses each claim of each asserted patent that is allegedly infringed by Lennox:

THE ASSERTED PATENTS	THE ASSERTED CLAIMS
U.S. Patent No. 6,619,555	18 and 20
U.S. Patent No. 6,789,739	1, 3, 7, 8, and 9
U.S. Patent No. 7,156,318	1, 3, 4, 5, 7, 9, and 11
U.S. Patent No. 7,185,825	1 and 4
U.S. Patent No. 7,232,075	1, 2, 3, and 4

II. THE ACCUSED INSTRUMENTALITIES

The table below discloses separately for each asserted patent, each accused instrumentality of Lennox by name of which Rosen is aware:

THE ASSERTED PATENTS	THE ACCUSED INSTRUMENTALITIES
U.S. Patent No. 6,619,555	Lennox iComfort Series Thermostats including the S30 Ultra Smart, E30 Smart, M30 Smart, and Wi-Fi Touchscreen models
U.S. Patent No. 6,789,739	Lennox iComfort Series Thermostats including the S30 Ultra Smart, E30 Smart, M30 Smart, and Wi-Fi Touchscreen models
U.S. Patent No. 7,156,318	Lennox iComfort Series Thermostats including the S30 Ultra Smart, E30 Smart, M30 Smart, and Wi-Fi Touchscreen models
U.S. Patent No. 7,185,825	Lennox iComfort Series Thermostats including the S30 Ultra Smart, E30 Smart, M30 Smart, and Wi-Fi Touchscreen models
U.S. Patent No. 7,232,075	Lennox iComfort Series Thermostats including the S30 Ultra Smart, E30 Smart, M30 Smart, and Wi-Fi Touchscreen models

III. THE CLAIM CHARTS

Rosen directs Lennox to the claim charts attached as Exhibits A-E which identify specifically and in detail where each elements of each asserted claim is found within each accused

instrumentality. These charts are based on a preliminary understanding of information currently available to Rosen, and Rosen reserves the right to supplement these charts as discovery proceeds.

IV. LITERAL INFRINGEMENT OR DOCTRINE OF EQUIVALENTS

Rosen claims that each element of each asserted claim is literally present in the accused instrumentalities.

V. EARLIEST EFFECTIVE PRIORITY DATES

The table below discloses the earliest effective priority dates for the asserted patents:

THE ASSERTED PATENTS	EARLIEST EFFECTIVE PRIORITY DATES
U.S. Patent No. 6,619,555	Feb. 13, 2002
U.S. Patent No. 6,789,739	Feb. 13, 2002
U.S. Patent No. 7,156,318	Sept. 3, 2003
U.S. Patent No. 7,185,825	June 24, 2004
U.S. Patent No. 7,232,075	May 15, 2003

IV. DOCUMENT PRODUCTION

Rosen produces the following document production accompanying this disclosure:

DOCUMENT DESCRIPTION	BATES RANGE
File History of U.S. Patent No. 6,619,555	ROSEN 000001-000084
File History of U.S. Patent No. 6,789,739	ROSEN 000085-000177
File History of U.S. Patent No. 7,156,318	ROSEN 000178-000343
File History of U.S. Patent No. 7,185,825	ROSEN 000344-000517
File History of U.S. Patent No. 7,232,075	ROSEN 000518-000613

Documents evidencing conception and reduction to practice of each of claimed invention.	At this time, Rosen does not believe it is in possession of any documents relating to the conception and reduction to practice of each claimed invention. Rosen will perform a reasonable search and produce non-privileged, relevant documents relating to the conception and reduction to practice of each of the claimed inventions.
Documents sufficient to evidence any public use, offer for sale, sale, or other availability to the public of the claimed invention prior to the date of application for the asserted patent.	At this time, Rosen does not believe it is in possession of any documents evidencing any public disclosure of the claimed invention prior to the date of application for the asserted patents. Rosen will perform a reasonable search and produce non-privileged, relevant documents relating to the conception and reduction to practice of each of the claimed inventions.

DATED: November 21, 2022

Respectfully submitted,

By: */s/ Stevenson Moore*

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CERTIFICATE OF SERVICE

I hereby certify that on the 21st day of November, 2022, I served copies of the foregoing on all counsel of record for Defendant via electronic mail.

/s/ Stevenson Moore
Stevenson Moore

EXHIBIT A

Claim 18	
18. A thermostat system for controlling space conditioning equipment comprising:	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats including the S30 Ultra Smart, E30 Smart, M30 Smart, and Wi-Fi Touchscreen models) all operate in the same maner. For the purpose of these charts, the iComfort S30 is used as an exemplary product, but all of the Accused Instrumentalities operate identically in terms of infringement. To the extent the preamble is limiting, the Accused Instrumentalities are thermostat systems for controlling space conditioning equipment, such as heating or cooling equipment. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 1

⚠WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier

Shipping and Packing List

1 - iComfort® S30 includes a Smart Hub, HD Display, Mag-Mount and optional use wall plate.
4 - Mounting screws
4 - Wall anchors
1 - Installation and setup guide
1 - User guide
1 - Warranty certificate

General

This iComfort® S30 is an electronic communicating, color display touchscreen and 7-day programmable interface which communicates directly with a Smart Hub. The Smart Hub stores system parameters and settings in non-volatile memory (i.e., retains data when electrical power fails or is turned off). After online registration is completed, the system may then be accessed by the homeowner from anywhere using a remote Internet connection via computer or personal communicating device. The iComfort® S30 supports the following equipment and features:

- Wireless bands 802.11b, 802.11g and 802.11n,
- Three languages are supported (English, Français and Español),
- Air conditioning or heat pump units with up to four stages of heat / two stages of compressor operation (two stages of heat pump heating, auxiliary back-up heating and emergency heating),
- Variable - capacity / multiple - stage heating and colling, universal compatibility (gas/electric/heat pump/air conditioner)
- Dual-fuel capable (iComfort® heat pump only) with high and low balance points.
- iComfort Mobile Setup application are available for IOS 6.0 and higher (App Store) and Android 4.1 and higher (Google Play)
- iHarmony® zoning system (2 - 4 zones),
- Lennox iComfort® Equipment Interface Module (catalog number 10T50) (connects the iComfort® S30 to non-communicating indoor and outdoor units.
- Smart Away™ - Uses the iComfort® Thermostat application to control the home temperature while unoccupied (geo-fencing).
- Feels Like™ - Control the system using outdoor / indoor temperatures and indoor humidity to create the optimal comfortable conditions in the home.
- Climate IQ™ - Monitors current climate conditions and automatically removes excess humidity when necessary (requires iComfort® outdoor unit),
- Perfect Temperature (Single Set Point) - In non-zoning applications this allows a single temperature setting to be used to cool or heat the home.
- Humiditrol® Enhanced Dehumidification Accessory (EDA),
- Enhance defrost control options for Lennox communicating heat pumps using Intellifrost™ Adaptive Defrost Control, part number 103369-04 or later.

https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 3

A) a temperature sensor for providing an electrical signal indicative of the temperature of a conditioned space in which the temperature sensor is situated;

The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a temperature sensor for providing an electrical signal indicative of the temperature of a conditioned space in which the temperature sensor is situated. For example, the thermostats comprise a temperature sensor for detecting temperature in the conditioned space.

700	Moderate	Thermostat	The temperature sensor in the thermostat is not working properly.	The temperature sensor in the thermostat is not working properly. √ Recalibrate thermostat to clear. √ Replace thermostat if needed.	Automatically clears when the system detects that the issue no longer exists.

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B) a liquid crystal display for selectively displaying an alphanumeric message;	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a LCD display for selectively displaying alpanumeric messages. For example, the thermostats comprise a LCD touchscreen display that shows the current and set temperature, time, humidty, etc.

⚠WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier

⚠ WARNING

This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

Shipping and Packing List

1 - iComfort® S30 Smart Thermostat includes a Smart Hub, HD Display, Mag-Mount and optional use wall plate.
4 - Mounting screws (#6 X 1.25" pan head)
4 - Wall anchors (alligator flanged solid wall anchors)
1 - Installation and setup guide
1 - User guide
1 - Warranty certificate

General

This iComfort® S30 Smart Thermostat is an electronic communicating, color display touchscreen and 7-day programmable interface which communicates directly with a Smart Hub. The Smart Hub stores system parameters and settings in non-volatile memory (i.e., retains data when electrical power fails or is turned off). After online registration is completed, the system may then be accessed by the homeowner from anywhere using a remote Internet connection via computer or personal communicating device. The iComfort® S30 Smart Thermostat supports the following equipment and features:

- Wireless bands 802.11b, 802.11g and 802.11n,
- Three languages are supported (English, Français and Español),
- Air conditioning or heat pump units with up to four stages of heat / two stages of compressor operation (two stages of heat pump heating, auxiliary back-up heating and emergency heating),
- Variable - capacity / multiple - stage heating and cooling, universal compatibility (gas/electric/heat pump/air conditioner)
- Dual-fuel capable (iComfort® heat pump only) with high and low balance points.
- iComfort Mobile Setup applications are available for IOS 6.0 and higher (App Store) and Android 4.1 and higher (Google Play)
- iHarmony® zoning system (2 - 4 zones),
- Lennox iComfort® Equipment Interface Module (catalog number 10T50) (connects the iComfort® S30 Smart Thermostat to non-communicating indoor and outdoor units.
- Smart Away™ - Uses the iComfort® Thermostat and user mobile device to control the home temperature while unoccupied (geo-fencing).
- Feels Like™ - Control the system using outdoor / indoor temperatures and indoor humidity to create the optimal comfortable conditions in the home.
- Climate IQ™ - Monitors current climate conditions and automatically removes excess humidity when necessary (requires iComfort® outdoor unit),
- Max Dehumidification - More efficient dehumidification feature for systems with modulating outdoor units (XC/XP20 and XC/XP25), a discharge air temperature (88K38) sensor is used for advance dehumidification control.
- Perfect Temperature (Single Set Point) - In non-zoning applications this allows a single temperature setting to be used to cool or heat the home.
- Smart Alert Enable - Monitors systems operations such as thermostat set point, temperature reading, climatological design temperatures, system run-times and whether the temperature is going away from set point or towards the set point (system unable to meet demand).
- Humiditrol® Enhanced Dehumidification Accessory (EDA),
- Enhanced defrost control options for Lennox communicating heat pumps using Intellifrost™ Adaptive Defrost Control, part number 103369-04 or later.
- Performance reports are available through both the dealer and homeowner web portals.
- Installation reports are viewable on the iComfort® S30 Smart Thermostat and dealer web portal. Reports can also be printed or PDF created from the dealer web portal.

***NOTE** - Due to Lennox' ongoing commitment to quality, features and options, are subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.*

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C) a processor, said processor including:	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor.

Mag-Mount Installation

1. Unpacked the HD Display and Mag-Mount (wall base).
2. Install Mag-Mount in desired location away from direct sunlight or any discharge vents. Use the procedures provided in figure 2, steps **A** through **J**.

NOTE *- Make sure that Mag-Mount is mounted to a flat surface; if not connection pins to HD Display may not make contact.*

Mag-Mount LED

LED: A blue LED is visible on the front of the Mag-Mount when it is connected, powered up, and the HD Display has not been installed (see figure 2, step F) or through the top vent of the mag-mount near the top-left corner. (see figure 2, step J) when the HD Display is installed. The LED has three conditions, steady, flashing and off. Those conditions are:

- **Steady** - Mag-Mount is receiving power from the Smart Hub.
- **Flashing** - Mag-Mount is receiving power from the Smart Hub but could be experiencing one of the following conditions:
  - The COMM BUS wires are disconnected or are shorted together,
  - There has been a software error in the Mag-Mount processor,
  - There has been an internal hardware error in the Mag-Mount.
- **Off** - Mag-Mount is not receiving power from the Smart Hub or there has been a serious Mag-Mount internal hardware/software failure or the blue LED is also off when a HD Display has been installed.

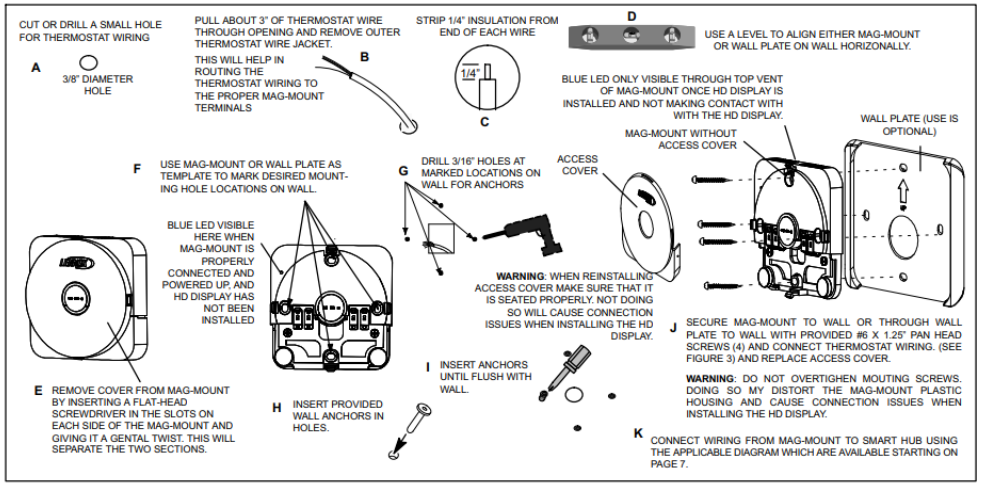

Figure 2. Mag-Mount Installation

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	About This screen provides information concerning language supported, equipment type name, control software revision, model, control mode number, control serial number, control hardware revision, protocol revision number, device product level, 24VAC average power consumption, 24VAC peak power consumption, compatible devices list, application code memory size and micro-controller part number. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 19
1) a central processing unit;	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor inclduing a CPU. **Mag-Mount LEDs** **LED:** A blue LED, mounted on the internal circuit board and is visible from outside the Mag-Mount enclosure near the top-left corner when the HD Display is off the Mag-Mount. The LEDs indicate the following status: • **Steady** - Mag-Mount is receiving power from the Smart Hub. • **Flashing** - Mag-Mount is receiving power from the Smart Hub but could be experiencing one of the following conditions: ✓ It is not communicating with the Smart Hub, ✓ There has been a software error in the Mag-Mount processor, ✓ There has been an internal hardware error in the Mag-Mount. • **Off** - Mag-Mount is not receiving power from the Smart Hub or there has been a serious Mag-Mount internal hardware or software failure.

	https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 5 **About** This screen provides information concerning language supported, equipment type name, control software revision, model, control mode number, control serial number, control hardware revision, protocol revision number, device product level, 24VAC average power consumption, 24VAC peak power consumption, compatible devices list, application code memory size and micro-controller part number. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 19

2) a real time clock;	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor including a real time clock. **Mag-Mount LEDs** **LED:** A blue LED, mounted on the internal circuit board and is visible from outside the Mag-Mount enclosure near the top-left corner when the HD Display is off the Mag-Mount. The LEDs indicate the following status: • **Steady** - Mag-Mount is receiving power from the Smart Hub. • **Flashing** - Mag-Mount is receiving power from the Smart Hub but could be experiencing one of the following conditions: ✓ It is not communicating with the Smart Hub, ✓ There has been a software error in the Mag-Mount processor, ✓ There has been an internal hardware error in the Mag-Mount. • **Off** - Mag-Mount is not receiving power from the Smart Hub or there has been a serious Mag-Mount internal hardware or software failure. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 5 Information required: 1. Select desired language (ENGLISH, FRANÇAIS, ESPAÑOL). 2. Select country / region. 3. Select time and date which includes time, date, time zone and daylight savings time (ON/OFF). 4. Temperature unit (Fahrenheit or Celsius). Once completed touch **continue**. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 17

3) a memory coupled to said central processing unit for storing program and data information; and	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor including a memory coupled to the CPU for storing programs and data. For example, the user settings, programs, and data are stored in the memory of the thermostats. **General** This iComfort® S30 Smart Thermostat is an electronic communicating, color display touchscreen and 7-day programmable interface which communicates directly with a Smart Hub. The Smart Hub stores system parameters and settings in non-volatile memory (i.e., retains data when electrical power fails or is turned off). After online registration is completed, the system may then be accessed by the homeowner from anywhere using a remote Internet connection via computer or personal communicating device. The iComfort® S30 Smart Thermostat supports the following equipment and features: https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 3 **About** This screen provides information concerning language supported, equipment type name, control software revision, model, control mode number, control serial number, control hardware revision, protocol revision number, device product level, 24VAC average power consumption, 24VAC peak power consumption, compatible devices list, application code memory size and micro-controller part number. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 19

4) an input/output unit including:	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor including an input/output unit. **Mag-Mount LEDs** **LED:** A blue LED, mounted on the internal circuit board and is visible from outside the Mag-Mount enclosure near the top-left corner when the HD Display is off the Mag-Mount. The LEDs indicate the following status: • **Steady** - Mag-Mount is receiving power from the Smart Hub. • **Flashing** - Mag-Mount is receiving power from the Smart Hub but could be experiencing one of the following conditions: ✓ It is not communicating with the Smart Hub, ✓ There has been a software error in the Mag-Mount processor, ✓ There has been an internal hardware error in the Mag-Mount. • **Off** - Mag-Mount is not receiving power from the Smart Hub or there has been a serious Mag-Mount internal hardware or software failure. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 5 **General** This iComfort® S30 Smart Thermostat is an electronic communicating, color display touchscreen and 7-day programmable interface which communicates directly with a Smart Hub. The Smart Hub stores system parameters and settings in non-volatile memory (i.e., retains data when electrical power fails or is turned off). After online registration is completed, the system may then be accessed by the homeowner from anywhere using a remote Internet connection via computer or personal communicating device. The iComfort® S30 Smart Thermostat supports the following equipment and features: https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 3

344	Critical	Furnace	Relay Y1 Stuck	Link Relay Problem. Relay **Y1** Failure √ Possible **Y1** relay failure. √ All system operations will stop.	Automatically clears 300 seconds after **Y1** input sensed OFF.

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418	Moderate	Equipment interface module and outdoor unit	W Output Hardware Fault	There is a faulty **W** output circuit. √ W terminal is energized while in cooling mode. √ Possible cause may be a stuck closed relay on the control, or something external to the control that is energizing **W** terminal when it should not be energized. √ Disconnect any wiring from the **W** terminal. √ If 24VAC is still present on the terminal, then it is a stuck relay. √ If 24VAC disappears, then there is a need to check any of the wires hooked up to the **W** terminal.	Automatically clears after fault signal is removed.

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About

This screen provides information concerning language supported, equipment type name, control software revision, model, control mode number, control serial number, control hardware revision, protocol revision number, device product level, 24VAC average power consumption, 24VAC peak power consumption, compatible devices list, application code memory size and micro-controller part number.

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a) a sensor input coupled to said temperature sensor for receiving said electrical signal therefrom;	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor including an input/ouput unit including a sensor input coupled to the temperature sensor. For example, the thermostats comprise a temperature sensor with an input sensor for receiving electrial signals indicative of temperature. **Zoning Control** **About** This provides information on unit code, language supported, equipment type name, control software revision, control model number, control serial number, control hardware revision, protocol revision number, device product level, 24VAC average power consumption, 24VAC peak power consumption, compatible devices list, application code memory size, micro-controller part number, max number of zones, supported damper types, number of damper positions, zone temp sensor 1, zone temp sensor 2, zone temp sensor 3 and zone temp sensor 4. **Equipment Name** A unique name can be assigned to this component. Name can be up to 29 characters. Name can consist of letters, numbers, special characters and spaces. **Zones 1 through 4 Temp Reading Calibration** Allows adjustment to temperature reading displayed on zone thermostat. **Reset Zoning Control** Any installer modifications under the zoning control tab will be reset back to the factory defaults if the reset zoning control option is used. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 32

29	Critical	Thermostat	Over Temperature Protection	The thermostat is reading an indoor temperature that is higher than 99°F. The thermostat will not allow any heating operation to begin until it senses an indoor temperature lower than 99°F. Indoor temperature rose above 99°F during a heating or cooling demand. √ Heating operation is not allowed. √ Check to ensure that heating equipment is not stuck ON (reversing valve, etc.) √ Check the accuracy of the thermostat temperature sensor. √ Select cooling system mode to cool the indoor space.

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<table>
<tr>
<td>b) a control output coupled to the space conditioning equipment for issuing control signals thereto; and</td>
<td>
The Accused Instrumentalities (i.e. Lennox iComfort Series Thermostats) comprise a processor including an input/ouput unit including a control output coupled to the space conditioning equipment. For example, the thermostats control the heating or cooling systems based on heating or cooling calls (i.e. signals) generating from the output present in the thermostat.

<table>
<tr><td>350</td><td>Critical</td><td>Air handler</td><td>Electric Heat Not Configured</td><td>The air handler's electric heat is not configured or incorrectly configured.
√ Heat call with no configured or incorrectly configured electric heat.
√ Check for proper configuring under Configuring Electric Heat Stages in the air handler installation instructions. Smart Hub MUST be removed from the system before configuring electric heat.</td><td>Automatically clears after electrical heat detection is successful.</td></tr>
</table>

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<table>
<tr><td>429</td><td>Moderate / Critical</td><td>Inverter Controlled Outdoor unit</td><td>OD Inverter DC Link Low Voltage</td><td>The inverter has detected a DC link low voltage condition.
√ On a call for compressor operation, if DC link power in inverter does not rise above 180 VDC for 2- and 3 -ton models, 250 VDC for 4- and 5-ton models within 30 seconds, the control will display a moderate code.
√ If condition is detected, outdoor unit will stop (compressor and fan) – moderate condition.
√ An anti-short cycle timer is initiated. If condition occurs 10 times within a 60 minute rolling time period, system will lock out and display alert code 429 – critical condition.
√ The outdoor control anti-short cycle timer will time out and the unit will recycle the demand.
√ Replace outdoor inverter.
√ Inverter LEDs will blink code 23.
√ Refer to the unit service documentation for detailed troubleshooting procedures.</td></tr>
</table>

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</td>
</tr>
</table>

c) a communications interface adapted to establish bi-directional communications between said processor and a first remote correspondent which is a source of current information; and	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a processor including an input/ouput unit including a communications interface adapted to establish bi-directional communications between the processor and a first remote correspondent. For example, the thermostats comprise a processor that connects to the internet using Wi-Fi for receiving weather information. **Temperature Control Mode** Options are Normal and Comfort. Default is Normal. The Feels-Like feature factors in the outdoor temperature and indoor humidity for a more accurate control of the temperature in the home. Either an outdoor temperature sensor is used or Internet Weather is enabled for this feature to operate. Modifying this setting here will also change the feature status on the user settings screen. • **Normal** - This setting cools or heats the home to the desired temperature setting (feels-like) is OFF. • **Comfort** - This setting cools or heats the home to the desired temperature setting (Feels Like™) is ON. When set to ON, other parameters are modified to optimal settings for this feature. Those setting changes will be listed on-screen when Comfort is enabled. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 22

D) means coupling said communications interface and said first remote correspondent; and	The Accused Instrumentalities (*i.e.* Lennox iComfort Series Thermostats) comprise a means coupling the communications interface and the first remote correspondent. For example, the thermostats comprise a Smart Hub with Wi-Fi antennas for connecting to the internet. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 1

SMART HUB OPERATIONS

Lennox-Managed Local Network (Smart Hub Wi-Fi)

A Lennox-managed local network provides a means for a mobile device using the iComfort Mobile Setup application to communicate directly to a Smart Hub. The iComfort Mobile Setup application running on a mobile device cannot reach a Smart Hub through the Internet or through the home Wi-Fi network. The mobile device must be:

- Wi-Fi-capable,
- Located in the home,
- Use the Smart Hub Wi-Fi to connect to a Smart Hub.

***NOTE** - A router with Bonjour capabilities is required for this function. Check the router functions if the Smart Hubs does not connect. **Apple Bonjour®** is an implementation of Zero-configuration networking (Zeroconf), a group of technologies that includes service discovery, address assignment, and host name resolution.*

Local Home Wi-Fi Network)

Up to **five (5)** Smart Hubs, each controlling a separate HVAC system in a home, can be connected together over a local home Wi-Fi network.

Lennox Center Push Button Switch

The Smart Hub center push button switch:

- Resets the Smart Hub
- Starts the process of creating a special Lennox-managed local network between the Smart Hub and mobile device running the iComfort Mobile Setup application.

***NOTE**: The only way to add another Smart Hub to the Lennox Manage Network is via the Group ID assignment.*

The identity of devices requesting connection to a Smart Hub is rigorously authenticated before connection is allowed to ensure that only iComfort® S30 Smart Thermostat devices connect to a Smart Hub.

Smart Hub Indicators and Connectors

SMART HUB INDICATOR DISPLAY LOCATION

Five indicators are located on the front of the Smart Hub enclosure (near the top edge). One indicator location is reserved for future expansion and has no icon and no current function. The other four locations have icons depicting Smart Hub functions and are back-lit by LEDs. From left to right:

The Smart Hub using spring loaded push connectors for wiring connections.

WI-FI – INDICATES THE STATUS OF THE INTERNAL WI-FI MODULE AND WHETHER OR NOT IT IS CONNECTED TO THE HOME WI-FI NETWORK.

THERMOSTAT – INDICATES THE STATUS OF THE THERMOSTAT MAG-MOUNT AND HD DISPLAY AND WHETHER OR NOT THE SMART HUB CAN COMMUNICATE WITH THE HD DISPLAY.

HVAC – SHOWS THE STATUS OF THE HVAC EQUIPMENT IN THE HOME CONTROLLED BY THIS SMART HUB, AND WHETHER OR NOT THE SMART HUB CAN COMMUNICATE WITH THEM.

ALERT – SHOWS IF THERE IS A CRITICAL ALERT CONDITION.

Figure 12. Smart Hub Indicators and Connectors

These LEDs have a red LED chip and a green LED chip in the package and can show red, green, or amber colors, steady or flashing.

As a general rule:

- Unlit indicators show there is no power to the Smart Hub or its software has suffered a critical initialization error.
- Steady amber indicators show Smart Hub boot up and self-check processes are in progress or have completed. Boot up and self checks normally complete rapidly, so amber indicators may appear only briefly (except for the Wi-Fi indicator).

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a program stored in said memory for displaying messages received from said first remote correspondent, which received messages do not pertain to the operation of said thermostat system, on said liquid crystal display.	The Accused Instrumentalities (i.e. Lennox iComfort Series Thermostats) comprise a stored program. The thermostats have a humidification window protection program that uses the weather information received from the internet (*i.e.* the first remote correspondent). The thermostats also display weather data on the LCD touchscreen.

⚠WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier

Shipping and Packing List

1 - iComfort® S30 includes a Smart Hub, HD Display, Mag-Mount and optional use wall plate.
4 - Mounting screws
4 - Wall anchors
1 - Installation and setup guide
1 - User guide
1 - Warranty certificate

General

This iComfort® S30 is an electronic communicating, color display touchscreen and 7-day programmable interface which communicates directly with a Smart Hub. The Smart Hub stores system parameters and settings in non-volatile memory (i.e., retains data when electrical power fails or is turned off). After online registration is completed, the system may then be accessed by the homeowner from anywhere using a remote Internet connection via computer or personal communicating device. The iComfort® S30 supports the following equipment and features:

- Wireless bands 802.11b, 802.11g and 802.11n,
- Three languages are supported (English, Français and Español),
- Air conditioning or heat pump units with up to four stages of heat / two stages of compressor operation (two stages of heat pump heating, auxiliary back-up heating and emergency heating),
- Variable - capacity / multiple - stage heating and colling, universal compatibility (gas/electric/heat pump/air conditioner)
- Dual-fuel capable (iComfort® heat pump only) with high and low balance points.
- iComfort Mobile Setup application are available for IOS 6.0 and higher (App Store) and Android 4.1 and higher (Google Play)
- iHarmony® zoning system (2 - 4 zones),
- Lennox iComfort® Equipment Interface Module (catalog number 10T50) (connects the iComfort® S30 to non-communicating indoor and outdoor units.
- Smart Away™ - Uses the iComfort® Thermostat application to control the home temperature while unoccupied (geo-fencing).
- Feels Like™ - Control the system using outdoor / indoor temperatures and indoor humidity to create the optimal comfortable conditions in the home.
- Climate IQ™ - Monitors current climate conditions and automatically removes excess humidity when necessary (requires iComfort® outdoor unit),
- Perfect Temperature (Single Set Point) - In non-zoning applications this allows a single temperature setting to be used to cool or heat the home.
- Humiditrol® Enhanced Dehumidification Accessory (EDA),
- Enhance defrost control options for Lennox communicating heat pumps using Intellifrost™ Adaptive Defrost Control, part number 103369-04 or later.

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	Temperature Control Mode Options are Normal and Comfort. Default is Normal. The Feels-Like feature factors in the outdoor temperature and indoor humidity for a more accurate control of the temperature in the home. Either an outdoor temperature sensor is used or Internet Weather is enabled for this feature to operate. Modifying this setting here will also change the feature status on the user settings screen. • **Normal** - This setting cools or heats the home to the desired temperature setting (feels-like) is OFF. • **Comfort** - This setting cools or heats the home to the desired temperature setting (Feels Like™) is ON. When set to ON, other parameters are modified to optimal settings for this feature. Those setting changes will be listed on-screen when Comfort is enabled. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 22

Claim 20	
20. The thermostat system of claim 18 in which communications between said first remote correspondent and said communications interface is carried out via the Internet.	The Accused Instrumentality (*i.e.* Lennox iComfort Wi-Fi Thermostat) includes an environmental controller (*i.e.* a Thermostat) connected to the internet (*i.e.* the first remote correspondent) via Wi-Fi for communications. **Temperature Control Mode** Options are Normal and Comfort. Default is Normal. The Feels-Like feature factors in the outdoor temperature and indoor humidity for a more accurate control of the temperature in the home. Either an outdoor temperature sensor is used or Internet Weather is enabled for this feature to operate. Modifying this setting here will also change the feature status on the user settings screen. • **Normal** - This setting cools or heats the home to the desired temperature setting (feels-like) is OFF. • **Comfort** - This setting cools or heats the home to the desired temperature setting (Feels Like™) is ON. When set to ON, other parameters are modified to optimal settings for this feature. Those setting changes will be listed on-screen when Comfort is enabled. https://resources.lennox.com/fileuploads/b9863d33-f22e-4fc2-ae10-0a143901528bLennox_iComfortS30_Installation_Manual_Setup_Guide.pdf - at 22