



LENNOX RESIDENTIAL COMMUNICATING SYSTEMS ALERT CODE GUIDE (V2)

Alert Codes-Troubleshooting for Communicating Thermostats, Indoor and Outdoor Units, Lennox Smart Zoning, Equipment Interface Module and PureAir S

100017
3/2023



LENNOX SMART THERMOSTAT BASIC COMMUNICATION SYSTEM WIRING AND ALERT CODES

1. Communication System Wirings

1.1. Communication Wiring Options

Lennox S40 Smart Thermostat

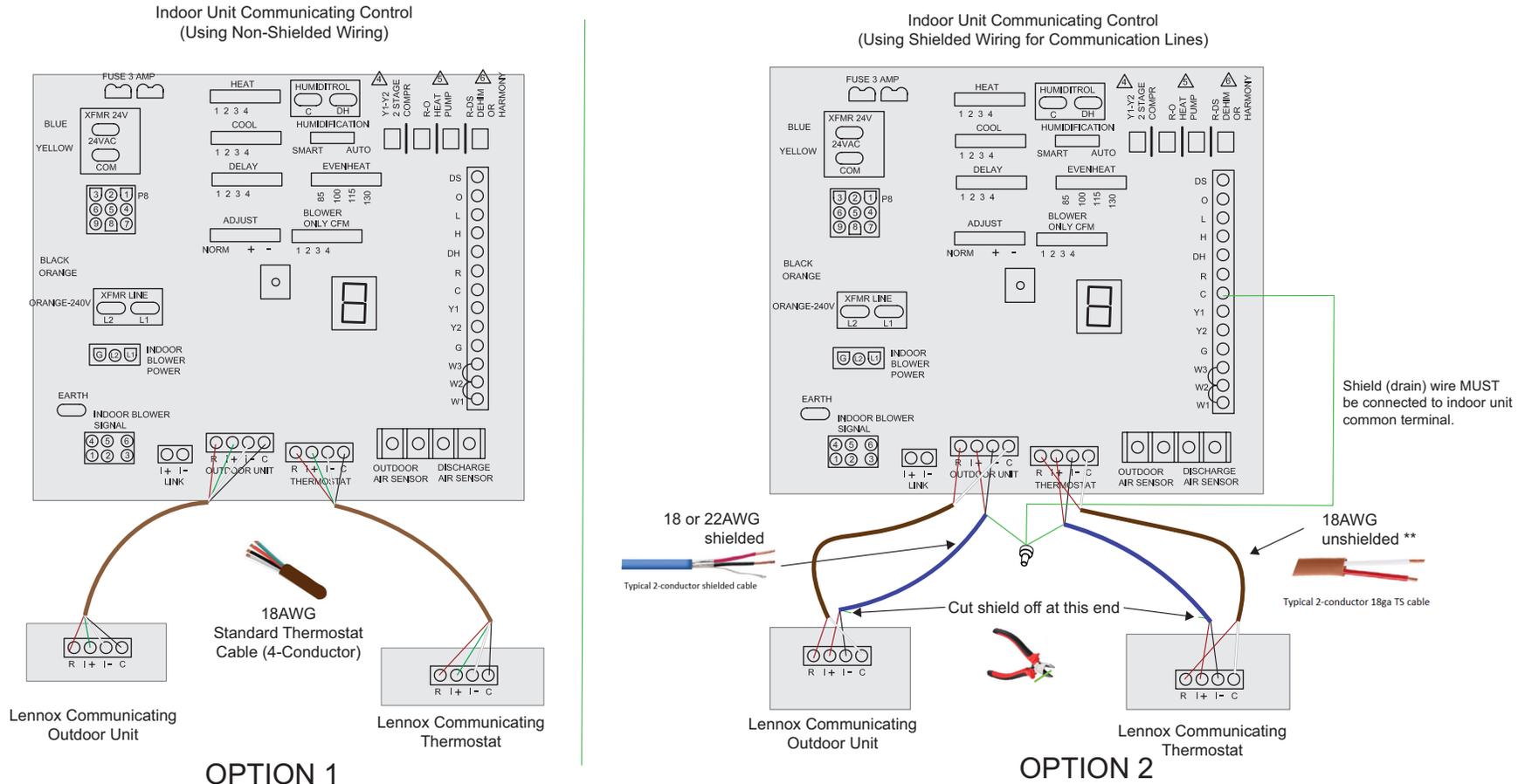


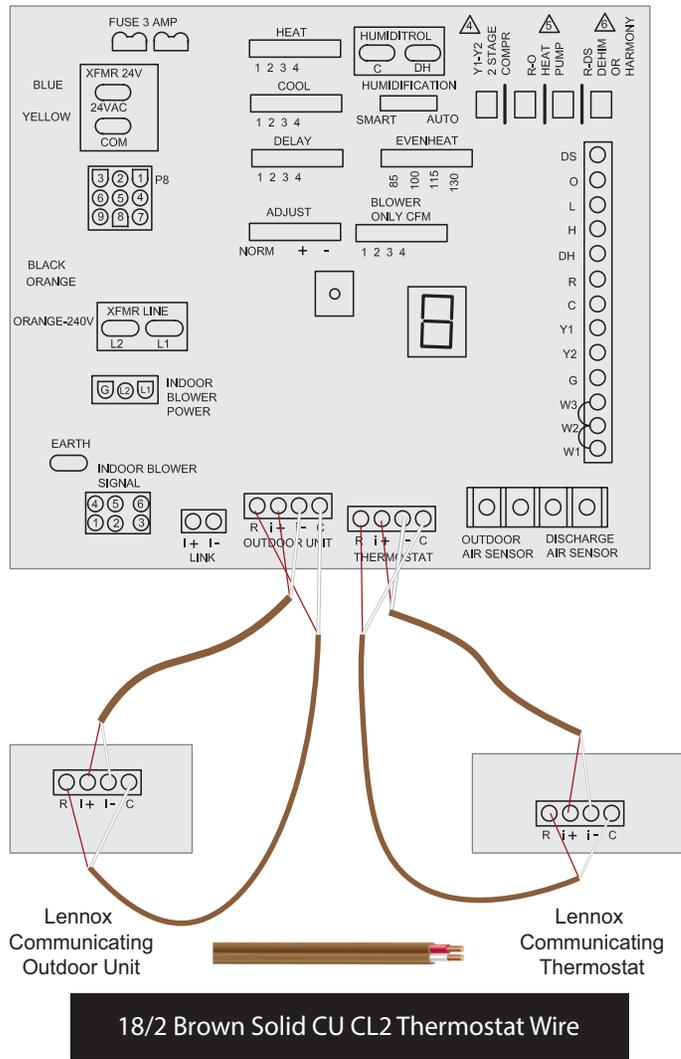
Figure 1. Lennox Communicating System Wiring Connections using Unshielded (Option 1) or Shielded Wiring (Option 2) Cabling

There may be situations where alternate wiring methods need to be employed. Two options are available to address an inductive voltage issue. If Alert Code 105 (see "Table 2. Alert Codes and Troubleshooting" on page 8) is still present after following troubleshooting Steps 1 and 2 then proceed to Step 3 wiring options 2 or 3.

- **Option 2** - Using shielded 2-conductor cable between the indoor, outdoor and thermostat -i and +i terminals may be required.
- **Option 3** - Using unshielded 2-conductor cable between the indoor, outdoor and thermostat -i and +i terminals may be required.

NOTE: When using multi-conductor unshielded thermostat cable, refer to "Figure 5. Minimizing Electrical Noise (S40)" on page 5.

Indoor Unit Communicating Control
 (Using 2-conductor Unshielded Cable for Communication Lines and
 Separate 2-conductor Unshielded Cable for R and C)



OPTION 3

Figure 2. Lennox Communicating System Wiring Connections using Separate Unshielded Cable (Option 3)

Lennox S30 Smart Thermostat

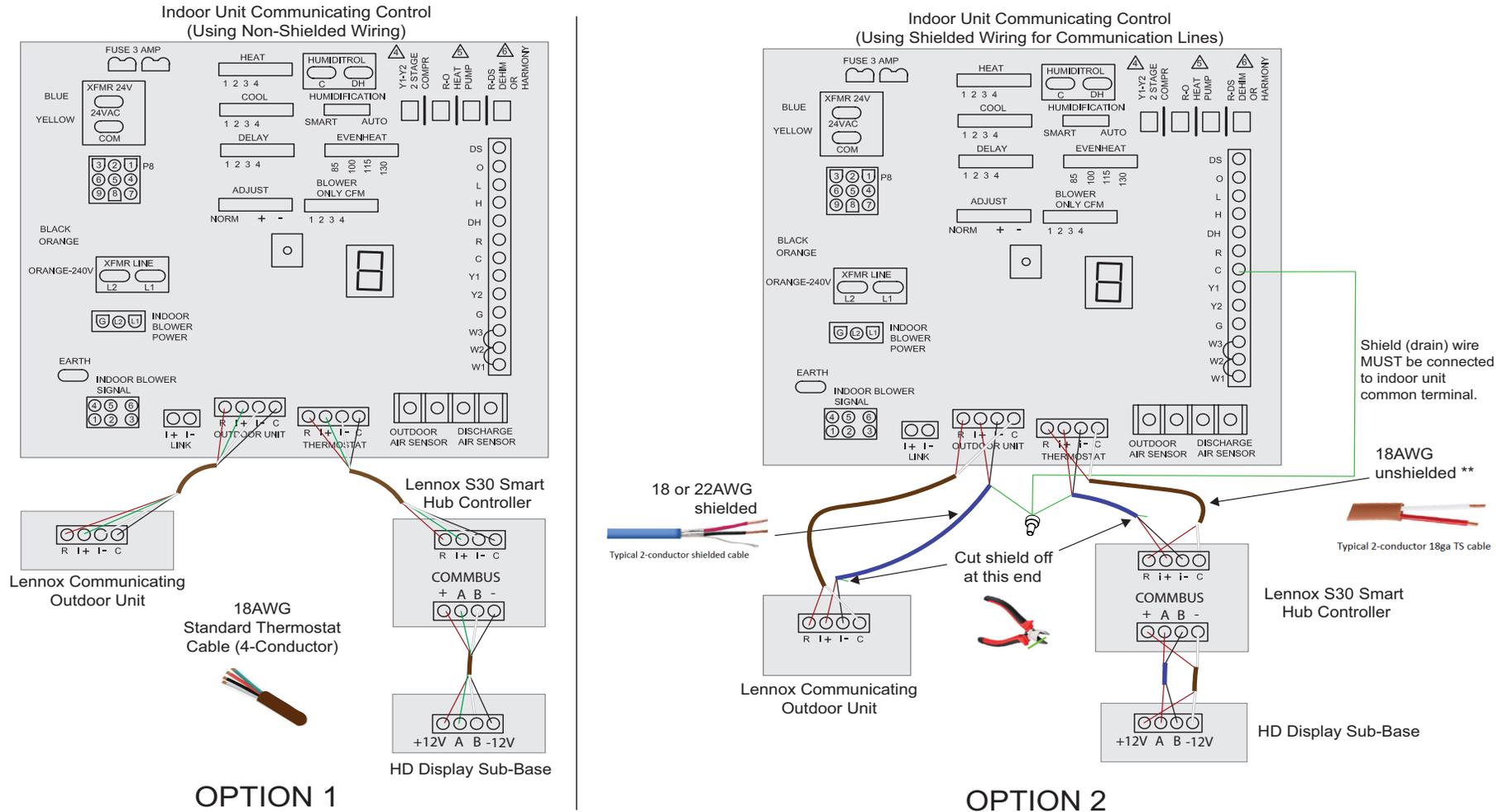


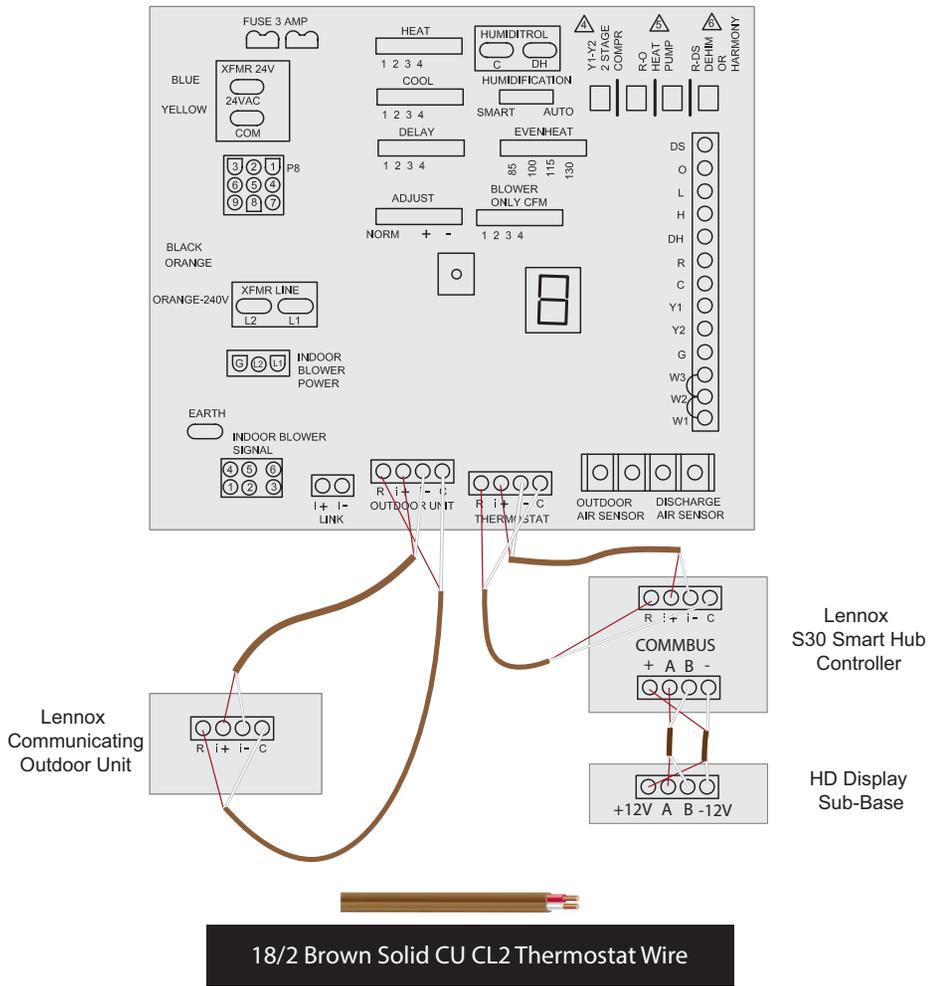
Figure 3. Lennox Communicating System Wiring Connections using Unshielded (Option 1) or Shielded Wiring (Option 2) Cabling

There may be situations where alternate wirings methods may need to be employed. Two options are available to address an inductive voltage issue. If Alert Code 105 is still present after following troubleshooting Steps 1 and 2 then proceed to Step 3 wiring options 2 or 3. See “Table 24. Alert Codes and Troubleshooting” on page 29.

- **Option 2** - Using shielded 2-conductor cable between the indoor, outdoor and thermostat -i and +i terminals may be required.
Using a shielded 2-conductor cable between the Smart Hub and HD Display Sub-Base A and B terminals may be required.
- **Option 3** - Using unshielded 2-conductor cable between the indoor, outdoor and thermostat -i and +i terminals may be required.
Using unshielded 2-conductor cable between the Smart Hub and HD Display Sub-Base A and B terminals may be required.

NOTE: When using multi-conductor unshielded thermostat cable, refer to “Figure 6. Minimizing Electrical Noise (S30)” on page 6.

Indoor Unit Communicating Control
(Using 2-conductor Unshielded Cable for Communication Lines and
Separate 2-conductor Unshielded Cable for R and C)



OPTION 3

Figure 4. Lennox Communicating System Wiring Connections using Separate Unshielded Cable

2. Minimizing Electrical Noise

S40

When using multi-conductor unshielded thermostat cable, to minimize electrical noise, cap unused wires as illustrated below and run to indoor unit C terminal.

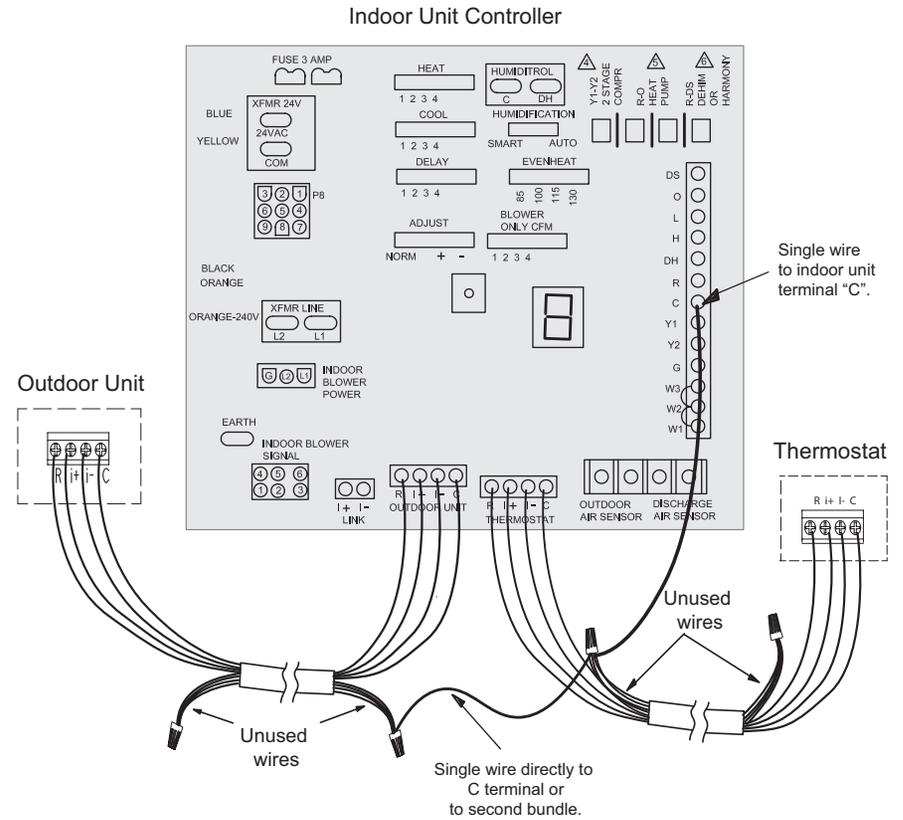


Figure 5. Minimizing Electrical Noise (S40)

S30

Communicating systems requires four thermostat wires between the HD Display and smart hub. Four wires are also used between the smart hub and indoor/outdoor units as well. When a thermostat cable with more than four wires is used, the extra wires must be properly connected to avoid electrical noise. The wires must not be left disconnected.

- Use wire nuts to bundle the unused wires at each end of the cable. A single wire should then be connected to the indoor unit end of the wire bundle and attached to the “C” terminals.
- Keep all communication wiring as far away from the house electrical wiring and large electrical appliances as possible. Recommended minimal distance is 15 feet (4.6 meters).

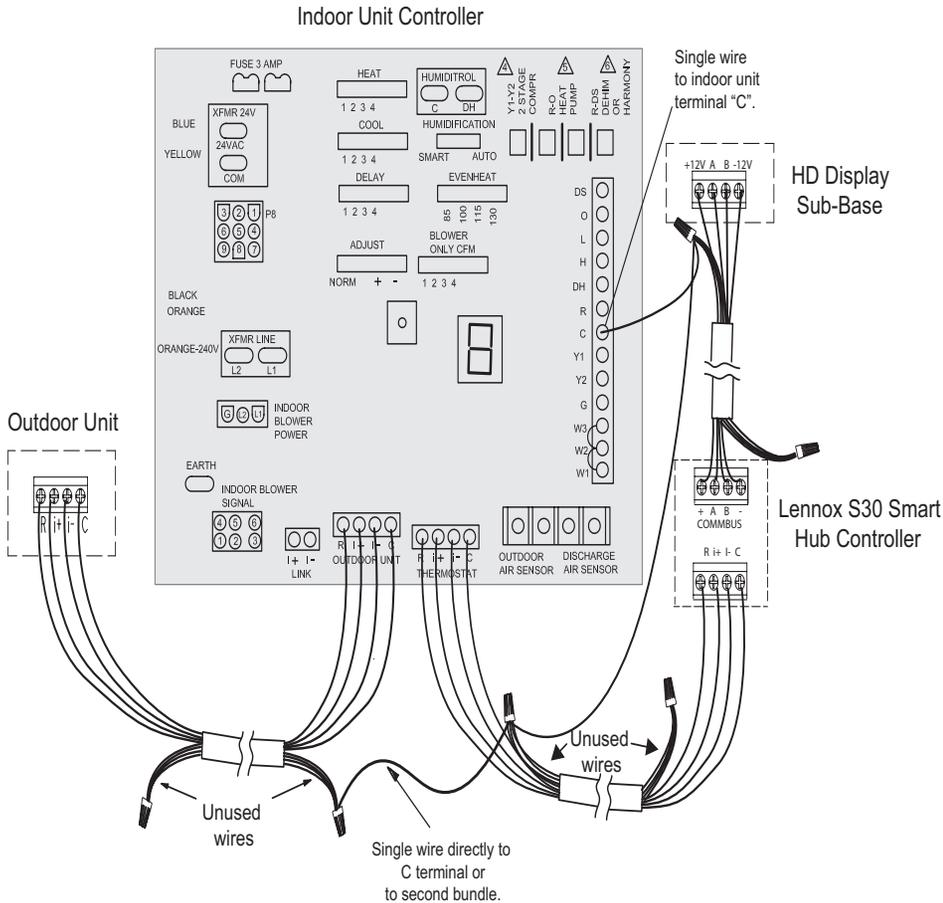


Figure 6. Minimizing Electrical Noise (S30)

3. Soft Disable

Soft disabling is when the Lennox communicating thermostat finds an unknown control on the S30/S40 system communication bus. The thermostat sends the unknown control a message to go into soft disable mode until the component is properly configured or removed.

Sometimes soft disable will occur when a control is being replaced. Reconfiguring the system should resolve this issue.

Lennox communicating thermostats will not show an alert code for a soft disabled control. When soft disabling occurs only the control that has been disabled will display the blinking LED status or seven-segment display indicator. Refer to the device's installation and setup guide for further guidance.

The Lennox communicating control with the soft disable state will indicate so as follows:

- On air handler, integrated furnace and outdoor controls, the soft disable state is displayed by double horizontal lines on the seven-segment display.
- On Lennox Smart Zoning damper control module and EIM, the green LED will blink 3 seconds on and 1 second off.

Possible Cause

- Soft disable may occur when a control has been replaced. Reconfiguring the system should resolve this issue.
- Sometimes Lennox communicating thermostat detects a device on the system that is not communicating with the thermostat. If this occurs, an alert code 10 is activated and the thermostat sends a soft disable command to the offending device on the communications bus (outdoor control, IFC, AHC, EIM, or damper control module).

4. Notifications (Service and Alert Codes)

These screens provide information on active notifications and previously cleared notifications. When selecting either a cleared or active notification a brief description and alert code will be displayed. Notifications are categorized by system, indoor unit (air handler or furnace), outdoor unit (air conditioner or heat pump), zoning control (if installed) and thermostat.

4.1. Alert Code Priority Types and Notification Options

To expand a specification notification to access a more detail description of the alert code, press the down arrow to expand the description.

Table 1. Alert Code Priority Condition Visibility

Alert Priority	Alert Priority Description n	Notifications Displayed or Email Notifications Sent						
		Displayed for Homeowner on Thermostat	Displayed for Dealer on Thermostat	Lennox® Smart Thermostat Application	Lennox® Smart Technician Application**	LennoxPros Service Dashboard**	Homeowner Emailed*	Dealer Emailed
Service Urgent	Your system is in a No Heat/ No Cool or not operating. Dealer service call is needed to get the system running.	√	√	√	√	√	√	√
Service Soon / Service Urgent	This alert priority indicates that the system will likely recover on its own and no interaction is necessary. Typically, either after a specific timer period or a specific number of instances will cause some Service Soon alerts to escalate to Service Urgent.	X	√	X	√	√	X	X
Service Soon	System is not reaching set point or is partially operating. A Dealer will need to service it with 24-48 hours.	X	√	X	√	√	X	X
Maintenance	Maintenance alerts are those intervals set as reminders to change filters, replace UV lamps, tune up systems.	√	X	√	X	√	X	X
Information Only-Dealer	This alert priority is for information and is directed to the dealer.	X	√	X	√	X	X	X

* For homeowner to receive email notifications, email updates has to be enabled. From the home screen, go to **menu > user account > Email updates** and set to **ON**.

** For dealers to receive service alerts and service alert email the feature needs to be enabled by the homeowner. From the S30 home screen, go to **menu > user account > Dealer Email updates** and set to **ON**. From the S40 home screen go to **Menu > User Account > Lennox Dealer Support Access > Dealer Support Access**.

5. ALERT CODES

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
10		Service Urgent	Unknown Device Detected	<p>The thermostat when NOT in commissioning mode has detected an unknown device. Typically the thermostat will send a command to the unknown device and place the device into a soft disable state. The soft disable control will indicate so as follows:</p> <ul style="list-style-type: none"> • On air handler, furnace and outdoor controls, the soft-disabled state is displayed by double horizontal lines on seven-segment display. • On the damper control module, the green LED will flash 3 seconds on and 1 second off. • On the equipment interface module, the green LED will flash 3 seconds on and 1 second off. • A new communicating device has been added to the system since the original configuration setup was completed. • S30: Go to menu > settings > advanced settings > view dealer control center > equipment and press reset all equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Setting > Reset and select Reset Hvac Equipment. This will allow the system to auto-detect any Lennox communicating devices attached. 	Clear alert code by reconfiguring the system.
11		Service Urgent	Missing Device	<p>The thermostat cannot find a previously installed system component.</p> <ul style="list-style-type: none"> • Check all system components (devices) connections to make sure they are Lennox communicating compatible. • Cycle system power. • If problem persists, then check all system components (devices) connections to make sure they are Lennox communicating compatible. • S30: Go to menu > settings > advanced settings > view dealer control center > equipment and press reset all equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Setting > Reset and select Reset Hvac Equipment. This will allow the system to auto-detect any Lennox communicating devices attached. 	Cycle system power, and If problem persists then clear by reconfiguring the system.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
12		Service Urgent	Indoor Unit Not Detected	<p>Thermostat did not find an indoor unit. Make sure there is an Lennox communicating indoor unit on the system.</p> <ul style="list-style-type: none"> • Check for voltage and missing component. • Check R, i+, i- and C connections at mag-mount or subbase, smart hub and all attached communicating components. • Ohm wires for electrical continuity. • Cycle power to both indoor unit first and then thermostat. • Verify that equipment interface module (if applicable) is configured as either an air handler or furnace when used with a non-communicating indoor unit. • S30: Go to menu > settings > advanced settings > view dealer control center > equipment and press reset all equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Setting > Reset and select Reset Hvac Equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • Replace indoor unit control if there is no response. 	Automatically clears when the system detects that the issue no longer exists.
13		Service Urgent	Duplicate Comfort Sensor ID	<p>Thermostat found more than one outdoor unit, or more than one indoor unit, or more than one thermostat connected to the system. Thermostat will display the message "Too Many Devices of the Same Type".</p> <ul style="list-style-type: none"> • Check wiring and remove duplicate equipment. • S30: Go to menu > settings > advanced settings > view dealer control center > equipment and press reset all equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Setting > Reset and select Reset Hvac Equipment. This will allow the system to auto-detect any Lennox communicating devices attached. 	Automatically clears when the system detects that the issue no longer exists.
14		Service Urgent	Too Many Devices of the Same Type	<p>The thermostat found more than one thermostat, indoor or outdoor unit on the system.</p> <ul style="list-style-type: none"> • Check wiring and remove duplicate equipment. • S30: Go to menu > settings > advanced settings > view dealer control center > equipment and press reset all equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Setting > Reset and select Reset Hvac Equipment. This will allow the system to auto-detect any Lennox communicating devices attached. 	Automatically clears when the system detects that the issue no longer exists.
15		Information Dealer Only	Parameter Mismatch Detected	Incorrect parameter settings detected. Dealer would need to re-set the system and start configuration again.	Automatically clears once proper system configuration is completed.
20		Service Urgent	Protocol Upgrade Required	The thermostat cannot work with one of the system devices because the thermostat firmware needs to be updated first.	Update thermostat firmware.
21		Service Urgent	Incompatible Equipment Detected	Equipment is trying to be utilized that is not compatible with other system components, such as a single-stage non-variable speed motor furnace with a modulating outdoor unit.	Use compatible equipment.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
29		Service Urgent	Over Temperature Protection	<p>The thermostat is reading an indoor temperature that is higher than 90°F (factory default). The thermostat will not allow any heating operation to begin until it senses an indoor temperature lower than 90°F. Indoor temperature rose above 90°F during a heating or cooling demand.</p> <ul style="list-style-type: none"> • 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 below 90°F. 	Automatically clears when the system detects that the issue no longer exists.
30		Service Soon / Service Urgent	Low Temperature Protection	<p>The thermostat will not allow any cooling operation to begin until it senses a temperature higher than 40°F.</p> <ul style="list-style-type: none"> • Cooling operation is not allowed. • Check to ensure that cooling equipment is not stuck ON. • Check accuracy of the thermostat temperature sensor. • Select heating system mode to heat the indoor space to above 40°F. 	Automatically clears when the system detects that the issue no longer exists.
31		Service Urgent	Lost communication with Device	<p>The applicable system component (indoor, equipment interface, damper control module or outdoor unit) has not communicated with thermostat for more than three minutes.</p> <ul style="list-style-type: none"> • Check connections and voltages. • Ohm wires for electrical continuity. • If float switch is installed on air handler drain pan, check condensate line to ensure it is not clogged and tripping the float switch connected in series with R terminal. • Check to see if freezestat is installed. 	<p>If fault persists, then cycle power.</p> <p>Fault clears after communication is restored.</p>
32		Information Only-Dealer	Device Resetting	<p>The applicable system component (device) is resetting itself. This issue may occur during a power outage or power fluctuation in the system. If persistent or if it coincides with the system operations then proceed with the following troubleshooting steps.</p> <ul style="list-style-type: none"> • Check the power connections. • Check the amperage draw at the transformer (possible overloaded). • Check 24VAC voltage at the system component (device). • If the fault persists after checking the connections, replace the applicable control. 	To clear the alert code, go to menu > settings > advanced settings > view dealer control center > notifications and select the alert code and press the clear button.
34		Service Urgent	Must Program Unit Capacity For Device	<p>The thermostat does not know the capacity (tonnage) of the indoor or outdoor unit. The applicable system component is missing the programmed unit capacity.</p> <ul style="list-style-type: none"> • Remove power to thermostat before programming the unit control. • Go to applicable unit control and program the unit capacity manually (see the unit installation instruction for configuration instructions). • Once configuration is complete then reconnect thermostat wires. • S30: Go to menu > settings > advanced settings > view dealer control center > equipment and press reset all equipment. This will allow the system to auto-detect any Lennox communicating devices attached. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Setting > Reset and select Reset Hvac Equipment. This will allow the system to auto-detect any Lennox communicating devices attached. 	Automatically clears when the system detects that the issue no longer exists.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
35		Service Urgent	Incorrect Operation Of Device	<ul style="list-style-type: none"> • Message sent by thermostat to unit after more than 15 minutes asking for initiating heating or cooling with no response from unit. • Message sent by thermostat to unit after more than 15 minutes asking for termination of heating or cooling with no response from unit. <p>Result</p> <p>A communicating device in the system has been disabled due to a fault/lockout code in the unit's control.</p> <p>Another possible cause is electrical noise interference affecting the communicating system when the compressor contactor coil is energized.</p> <p>Corrective Action:</p> <ul style="list-style-type: none"> • Communicating system: Wire a transient voltage suppressor in parallel with the compressor contactor coil terminals on the outdoor unit. • Non-communicating outdoor unit: Wire transient voltage suppressor (89W72) in parallel with compressor contactor coil or across the Y1 and C terminals on the indoor unit control. <p>NOTE: See service and application note IAQ-10-01 for further details.</p> <p>Transient Voltage Suppressor Part information: Made by Little Fuse, part number 5KP43CA bidirectional Transorb aka TVS Diode. Please contact your FTC or inside technical support for help in acquiring the transient voltage suppressor if not available in your local electronics store.</p>	
36		Service Urgent	Heating when Not Requested	<p>The system has been heating for at least 15 minutes without a demand for heating.</p> <ul style="list-style-type: none"> • Run the system in diagnostic mode and verify that it matches actual equipment operation. • S30: Go to menu > settings > advanced settings > dealer control center > diagnostics and press the start diagnostics button. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Diagnostics and select Select All and the secure Start button. • Check for other alert codes that may be preventing the system from operating as expected. • Check all heating equipment to determine cause of heating demand. • Recycle power. 	Automatically clears when the system detects that the issue no longer exists.
37		Service Urgent	Cooling when not Requested	<p>The system has been cooling for at least 15 minutes, without a demand for cooling.</p> <ul style="list-style-type: none"> • Run the system in diagnostic mode and verify that it matches actual equipment operation. • S30: Go to menu > settings > advanced settings > dealer control center > diagnostics and press the start diagnostics button. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Diagnostics and select Select All and the secure Start button. • Check for other alert codes that may be preventing the system from operating as expected. • Check all cooling equipment to determine cause of cooling demand. • Recycle power. 	Automatically clears when the system detects that the issue no longer exists.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
38		Service Urgent	Not Heating when Requested	<p>The system has not been able to turn on the heating for more than 45 minutes.</p> <ul style="list-style-type: none"> • The system will go off-line for 60 minutes and will attempt to restart itself. • Run the system in diagnostic mode and verify that it matches actual equipment operation. • S30: Go to menu > settings > advanced settings > dealer control center > diagnostics and press the start diagnostics button. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Diagnostics and select Select All and the secure Start button. • Check for other alert codes that may be preventing the system from operating as expected. • Check all heating equipment to determine cause. • Recycle power. 	Automatically clears when the system detects that the issue no longer exists.
39		Service Urgent	No Cooling when Requested	<p>The system has not been able to turn on the cooling for more than 45 minutes.</p> <ul style="list-style-type: none"> • The system will go off-line for 60 minutes and will attempt to restart itself. • Run the system in diagnostic mode and verify that it matches actual equipment operation. • S30: Go to menu > settings > advanced settings > dealer control center > diagnostics and press the start diagnostics button. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Diagnostics and select Select All and the secure Start button. • Check for other alert codes that may be preventing the system from operating as expected. • Check all cooling equipment to determine cause. • Recycle power. 	This alert code will automatically clear when the system detects the issue no longer exists.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat

Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
40		Information Only-Dealer	HP Heating Lockout.	<p>The heat pump could not increase the room temperature 0.5°F towards the set point in 30 minutes.</p> <p>Gas Furnace Heating</p> <p>In order to use the gas furnace as a primary heating source (not defrost tempering) when the outdoor temperature is between the high and low balance points, the heat pump:</p> <ul style="list-style-type: none"> • Must be used for a minimum of 30 minutes and the temperature in the zone not increase by more than 0.5°F • Has not gone into defrost in the 30 minute period. <p>The default for HP Heating Lockout Time default is 120 minutes and will lock the heat pump off when the outdoor temperature is above the high balance point. Selectable range is 60 to 240 minutes.</p> <ul style="list-style-type: none"> • S30: Go to menu > settings > advanced settings > dealer control center > equipment > smart hub and located HP Heating Lockout Time to verify the lockout time setting. • S40: Go to Menu > Settings > Advanced Settings > View Service Support Center > Equipment Settings > Thermostat and located HP Heating Lockout Time to verify the lockout time setting. • Check air flow to the zones or zones. • Check discharge air temperatures. • Check calibration of room thermostat. <p>Outdoor Unit and Zoning</p> <p>When the heat pump could not get a zone thermostat to progress 0.5°F towards the set point in 30 minutes the system will lock out the heat pump and switch to the secondary heat source. Electric heat or if in dual-fuel applications the furnace will be used and the system put in heat pump heating lockout timer) default is 120 minutes. It will lock the heat pump off and the gas furnace will finish the heating cycle</p> <p>Set the low balance point and high balance point as close together as possible. (This is a 3°F difference – Example: set high balance point at 25°F and low balance point would set at 22°F). Below the low balance point, the furnace will heat the home / between the low and high balance point, the heat pump and furnace will heat the home. When the outdoor temperature is above the high balance point, the gas furnace is locked out and all the heat is provided by the heat pump.</p>	
41		Information Only-Dealer	Device Control Board Replaced	This alert code will appear anytime a communicating control [<i>Furnace, air handler, PureAir S, damper control module, air conditioner or heat pump</i>] is replaced in the system.	Must be cleared manually.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
105		Service Soon / Service Urgent	Wiring Issue / Communication Problem	<p>Low voltage wiring between one of the systems components has been compromised. The System component (device) is unable to communicate.</p> <ul style="list-style-type: none"> S30 - Access Dealer Control Center - Select notification icon, review alert code details to determine which device or unit's low voltage wiring is experiencing a communication issue. Review both active and cleared alerts. Wi-Fi - Press and hold the Lennox logo on bottom right of stat for 5 seconds to access the dealer control center. Follow prompts to access the "Alerts" tab. Review alert code details to determine which device or unit's low voltage wiring is experiencing a communication issue, Review both active and cleared alerts. <p>Troubleshooting: Step 1</p> <p>In most cases, issues can be resolved by taking the following actions:</p> <ul style="list-style-type: none"> Confirm all unused wires are tied together and taken back to the "C" terminal on the indoor board as shown in the installation and setup guide. See "Figure 5. Minimizing Electrical Noise (S40)" on page 5 for illustration on bundling unused wires to common. Check for loose terminal connections on components (devices). Lennox recommends using a slotted screwdriver with a 3/32" (2.4 mm) tip. Check for incorrectly wired or poorly spliced connections between components. Verify that low voltage going to system components has been separated from high voltage wiring in wall, ceiling, & floor cavities. Check for proper grounding on the line voltage and low voltage wiring, transformer, and equipment. <p>If 105 Alert Code is still present after performing the actions listed above proceed to Troubleshooting: Step 2.</p> <p>Troubleshooting: Step 2</p> <ul style="list-style-type: none"> Disconnect all wiring to other components (except S30 thermostat to Smart Hub, Smart Hub to indoor unit) and reconnect one device at a time. Recommission system each time a device is added until wiring issue has been located. Zoning: If a zoning system has been installed and is wired directly from the thermostat to the zoning control then disconnect wiring and run control wiring from the zoning control directly to the indoor unit control. Wiring diagrams are provided in the LZSV Zoning System installation and Setup guide. Float Switch: When using a float switch, use an isolation relay between the dedicated float switch terminals. For testing purposes, remove float switch from circuit. 	Automatically clears when the system detects the issue no longer exists.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
				<ul style="list-style-type: none"> • Check for Inductive voltage from surrounding sources. Check each wire in AC mode to “C” on circuit board. <ul style="list-style-type: none"> > An inductive voltage of 0.3 - 0.3 VAC in not an issue. > An inductive voltage of up to 0.7 VACs can provide a moderate success rate. > An inductive voltage up to 1.2 VACs can provide an occasional success rate. > Any inductive voltage over 1.2 VAC needs to be addressed. <p>If 105 Alert Code is still present after performing the actions listed above proceed to troubleshooting Step 3.</p> <p>Troubleshooting: Step 3</p> <p>New low voltage wiring will need to be ran to the system components. There are two options for replacing low voltage wiring:</p> <ol style="list-style-type: none"> 1. Utilizing 18/2 AWG for wires going to 24VAC (R & C) terminals and 18-22/2 AWG shielded wires going communicating terminals (i+ & i-); Utilizing 18/2 AWG for wires going to 12V (+12V & -12V) terminals and 18-22/2 AWG shielded wires going communicating terminals (A & B). Wiring diagrams are provided in the installation manual. 2. Utilizing 2 separate 18/2 AWG unshielded wires. One set wire to 24VAC terminals (R & C) and one set to communicating terminals (i+ & i-); Utilizing 2 separate 18/2 AWG unshielded wires. One set wire to 12V terminals (+12V & -12V) and one set to communicating terminals (A & B). Wiring diagrams provided in the installation manual. <p>See “1.1. Communication Wiring Options” on page 2 for wiring diagrams.</p>	
110		Service Soon / Service Urgent	GF Low AC Line Voltage	<p>The component AC line voltage is too low. This alert code may appear during a brownout.</p> <ul style="list-style-type: none"> • It may also occur when line voltage is below its designed operating value. • Check and correct the power line voltage. 	Automatically clears when the system detects the issue no longer exists.
111		Service Soon / Service Urgent	GF Line Polarity Reversed	<p>The unit is reporting that its power and neutral lines are reversed.</p> <ul style="list-style-type: none"> • Turn off the power to the system and correct the line power voltage wiring. • System resumes normal operation five seconds after service urgent condition is recovered. 	Automatically clears when the system detects the issue no longer exists.
112		Service Soon / Service Urgent	GF No Ground Connection	<p>The reporting component cannot find earth ground. The thermostat will shut down the system.</p> <ul style="list-style-type: none"> • Provide proper earth ground to the equipment. • System resumes normal operation five seconds after service urgent condition is recovered. 	Automatically clears when the system detects the issue no longer exists.
113		Service Soon / Service Urgent	GF High AC Line Voltage	<p>Line voltage high (voltage higher than nameplate rating).</p> <ul style="list-style-type: none"> • Provide power voltage within proper range. • System resumes normal operation five seconds after service urgent condition is recovered. 	Automatically clears when the system detects the issue no longer exists.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat

Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
114		Service Soon / Service Urgent	AC Line Frequency / Distortion Prob	<p>In most cases the errors will have something to do with the transformer(s) phasing, input power or output loading (amperage load).</p> <p>For the air handler control only, alert code 114 is generated only if the measured line frequency is below 57Hz or above 63Hz and remains out of range for 10 consecutive seconds. We count power line cycles and determine line frequency every one second of time based on the processor's quartz crystal oscillator. We have a fair amount of filtering on when we consider a power line cycle to have occurred, so there would have to be really bad distortion for it to count an extra cycle or miss a real cycle.</p> <p>Voltage low enough to miss a cycle would generate an alert code 115. There are lots of events, such as power utility substation switching, that could occasionally make our power line frequency off by one count. These are rare one-time events and I don't know anything other than a generator with bad frequency that could cause problems long enough to cause this alert code.</p> <p>There is a frequency / distortion problem with the power to a specific system component. This alert code may indicate transformer overloading.</p> <ul style="list-style-type: none"> • Check the voltage and line power frequency. • Check the generator operating frequency, if the system is running on back-up power. • Correct voltage and frequency problems. • System will resume normal operation five seconds after fault recovered. • All applicable system component outputs are disabled – service soon condition. • After 10 minutes, the priority condition is escalated – service critical condition. • Damper control module will operate in central mode only until the proper voltage is restored or frequency distortion is resolved. • If connected to Lennox Smart Zoning, set damper control module transformer jumper to system transformer. Check for proper wiring. Replace 40VAC furnace transformer with 70VAC transformer. Re-commission system. <p>NOTE: The unitary control (outdoor unit control board) whether it is a single, two-stage or multi-stage control is not displaying alert code 114.</p>	
115		Service Soon / Service Urgent	Low Secondary (24VAC) Voltage	<p>24VAC power to a system component control is lower than the required range of 18 to 30VAC.</p> <ul style="list-style-type: none"> • Check and correct voltage. • Check for additional power-robbing system components (devices) connected to system. • This alert code may require the installation of an additional or larger VA transformer. • Damper control module will operate in non-zone mode until proper voltage is restored. 	Automatically clears when the system detects the issue no longer exists.
116		Service Soon	ID High Secondary (24VAC) Voltage	<ul style="list-style-type: none"> • Thermostat will display this code when 24VAC power is high (18 to 30VAC). • Will display Furnace or Air Handler High Secondary (24VAC) voltage. 	Check and correct voltage. Check for proper line voltage (120VAC, 240VAC, etc.) to equipment. Clears when control senses proper voltage.
117		Service Soon	ID Poor Ground	<p>The reporting unit has poor earth grounding.</p> <ul style="list-style-type: none"> • Provide proper grounding for the system component (device). • Check for proper earth ground to the system. • Reference Corp0123L10 for additional information 	Automatically clears 30 seconds after the issue is corrected.

Table 2. Alert Codes and Troubleshooting

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120		Service Soon	Unresponsive Device	<p>There is a delay in the system component responding to the system. Typically this alert code does not cause any operational issues and will clear on its own.</p> <ul style="list-style-type: none"> • This alert code is usually caused by a delay in the outdoor unit responding to the thermostat. • Leaking voltage from strands within the bundle. <ul style="list-style-type: none"> > Land only the R wire on the R terminal to load the bundle with 24VAC. <ul style="list-style-type: none"> ▶ Typically only the R wire needs to be landed to identify if voltage is leaking. ▶ If voltage is present checking the other wires is informational only but not needed. ▶ If voltage is not present checking the other wires one at a time would be needed. > Check each loose wire in AC mode to C on circuit board. <ul style="list-style-type: none"> ▶ Good voltage is .03 -.3VAC leaking voltage is not the issue. ▶ Acceptable can be up to .7VAC with moderate success. ▶ Some units have worked with up to 1.2VAC with occasional success. ▶ Voltage over 1.2VAC needs to be addressed. 	Automatically clears after an unresponsive system component (device) responds to any inquiry.
124		Service Urgent	Tstat Lost Communication To Smarthub	<p>The thermostat has lost communication with a system component for more than three minutes.</p> <ul style="list-style-type: none"> • Check the wiring connections between components. • Ohm wires. • Cycle power. • Any component that is miss-wired may cause a false component code to be shown on system component. • Disconnect all wiring to other system components and check communication one at a time. <p>NOTE: When using a float switch, use isolation relay to break common wire to outdoor unit. For testing purposes, remove float switch from the circuit</p> <p>This alert code stops all associated system operations and waits for a heartbeat message from the system component that is not communicating.</p>	Automatically clears after communication is re-established with applicable system component (device).
125		Service Soon / Service Urgent	Control Hardware Problem	<p>There is a hardware problem on a system component control.</p> <ul style="list-style-type: none"> • In system using Lennox Smart Zoning zoning, the system will remain in non-zone mode (all dampers open) for five minutes after priority condition no longer exist. • In systems using a Equipment Interface Module, remove jumper if present on indoor unit between R and W2. • In systems using a PureAir S, the pure air control board jumper selector is missing. <p>If none of the above tips are applicable, then replace the control if the problem prevents operation and is persistent.</p>	Automatically clears five minutes after the issue no longer exists.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
126		Service Soon / Service Urgent	Control Internal Communication Prob	<p>There is an internal hardware problem on the system component control. In addition, if you have zoning the alert code is triggered when your zone temperature is deviating away from set point persistently.</p> <ul style="list-style-type: none"> Typically the system component control will reset itself. Replace the system component (device) control if the problem prevents operation and is persistent. 	Automatically clears 300 seconds after the issue no longer exists.
130		Service Soon / Service Urgent	Configuration Jumper Missing	<ul style="list-style-type: none"> Configuration jumper missing on equipment interface module (EIM). Configuration jumper missing on air handler communicating control board 1 Install the missing jumper. Set as heat pump, furnace control or air handler control for EIM. <p>NOTE: This is applicable in non-communicating applications only.</p>	Automatically clears after the missing or incorrectly installed jumper is installed or corrected.
132		Service Urgent	Device Control Software Fault	<p>System component control software is corrupted.</p> <ul style="list-style-type: none"> Recycle power. If failure re-occurs, replace the system component control. 	Manual system power reset is required to recover from this alert code.
180		Service Soon	Outdoor Temperature Sensor Problem	<p>The thermostat has found a problem with the outdoor sensor in the outdoor unit or the optional outdoor sensor connected to the indoor unit. In normal operation after system component control recognizes sensors, the alert code will be sent if valid temperature reading is lost.</p> <ul style="list-style-type: none"> Compare outdoor sensor resistance to temperature / resistance charts in unit installation instructions. Replace sensor pack or stand alone outdoor sensor. At the beginning of (any) configuration, furnace, air-handler control or equipment interface module will detect the presence of the sensor(s). If detected (reading in range), appropriate feature will be set as 'installed' and shown in the 'About' screen. 	Automatically clears upon configuration, or sensing normal values.
181		Service Soon	OD Suction Pressure Transducer Fault	<ul style="list-style-type: none"> Suction Pressure Transducer reading above 4.75V or below 0.25V for 24hrs +/- 3hrs. Run on staged operation. 	Resets after 3 consecutive readings that are in range
182		Service Soon	OD Suction Temperature Sensor Fault	<ul style="list-style-type: none"> Reading below 0.25V or above 4.75V for 24hrs +/- 3hrs. System will continue to operate normally. 	Resets after 3 consecutive readings that are in range
183		Service Soon	OD Liquid Pressure Sensor Fault	<ul style="list-style-type: none"> Under 0.25V and above 4.75V readings for 24 hours +/-3hrs or more on the sensor will cause this error. Continue normal operation, see sections related to low pressure switch emulation for specific details related to low pressure switch faults. 	Resets after 3 consecutive readings that are in range
184		Service Soon	OD Liquid Temperature Sensor Fault	<ul style="list-style-type: none"> Sensor shorted or open for 24 hours +/-3hrs or more. Continue normal operation. 	Resets after 3 consecutive readings that are in range

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
200		Service Urgent	GF Rollout Limit Switch Open	<p>The furnace roll out limit switch is open. Correct the cause of roll out trip.</p> <ul style="list-style-type: none"> • Reset roll out switch. • Test the furnace operation. • Check for blocked or obstructed vent pipe (Intake and/or Exhaust). • Check for flame stability, if flame is unstable, look for cause. 	Automatically clears after the furnace roll out switch is closed.
201		Service Soon / Service Urgent	ID Blower Motor Fault	<p>Lost communication with indoor blower motor.</p> <ul style="list-style-type: none"> • Possible causes include power outage, brown-out, motor not powered, loose wiring, condensation on system component control without cover on breaker. • Problem may be on system component control or motor side. 	Automatically clears after communication is restored.
202		Service Urgent	ID Blower Motor & Unit Size Mismatch	<p>The unit size code for the indoor unit and the size of blower motor do not match. Incorrect appliance unit size code selected.</p> <ul style="list-style-type: none"> • Remove the thermostat from the system while applying power and reprogramming. • Check for proper configuring under unit size codes for furnace/air handler in configuration guide or in installation instructions. 	Automatically clears after the correct match is detected following a reset.
203		Service Urgent	ID Invalid Size Unit Code	<p>The unit size code for the indoor unit has not been selected or set incorrectly.</p> <ul style="list-style-type: none"> • Verify that the correct unit size code is configured. Unit size codes for furnace and air handler are listed in the system component configuration guide or installation instruction. • Remove the thermostat from the system while applying power and set the unit size code per instructions provided in the indoor unit installation instruction. 	Automatically clears after the correct match is detected following a reset.
204		Service Urgent	GF Check Gas Valve	<p>There is an issue with the furnace gas valve.</p> <ul style="list-style-type: none"> • Check gas valve operation and wiring. • Check for voltage to the gas valve. 	Automatically clears after the issue is corrected.
205		Service Urgent	GF Gas Valve Relay Contact Closed	<p>The furnace gas valve relay contact is closed.</p> <ul style="list-style-type: none"> • Check wiring on control and gas valve. The relay is located on the furnace control . • If issue continues replace furnace control. 	Automatically clears after the issue is corrected.
206		Service Soon	GF Gas Valve 2nd Stage Relay Fault	<p>The furnace gas valve second-stage relay is faulty.</p> <ul style="list-style-type: none"> • Furnace will operate on first-stage for the remainder of the heating demand. • If unable to operate second-stage, replace furnace control. 	Automatically clears after the issue is corrected.
207		Service Urgent	GF HSI Sensed Open	<p>The furnace hot surface igniter is open.</p> <ul style="list-style-type: none"> • Measure the resistance of hot surface igniter. • Replace the igniter if it is not within the specified range found in furnace installation instruction. 	Automatically clears after the issue is corrected.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
223		Service Soon	GF Low Pressure Switch Open	<p>The furnace low pressure switch is open.</p> <ul style="list-style-type: none"> • Check pressure (inches w.c.) of the low pressure switch closing during a heat call. • Measure operating pressure (inches w.c.). • Inspect vent for blockages and combustion air inducer for correct operation and restriction. • Check for blocked cold end heater box or condensate drain or drain strainers at outlet of cold end heater box. • Check for cracked hoses. • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears after the issue is corrected.
224		Service Urgent	GF Low Pressure Switch Stuck Closed	<p>The furnace low pressure switch is stuck closed.</p> <ul style="list-style-type: none"> • Check operation of low pressure switch to see if it is stuck closed for longer than 150 seconds during a heat call. • Measure operating pressure (inches w.c.). • Inspect vent for blockage and combustion air inducer for correct operation and restriction. • Check for moisture in pressure switch. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p> <p>Other possible issues that are specific to the older Lennox communicating thermostats are as follows:</p> <ul style="list-style-type: none"> • Alert code is generated when a subsequent heating call occurs within 30 seconds of a prior call for heat ending. • If a call for heat occurs during this time period, the inducer post-purge from the previous call may still be in process. If that condition exists, the IFC will sense the pressure switch circuit is closed therefore activating the alert code 224 and generate an email notification. • Once the fault is cleared, typically seconds after being generated, the subsequent call for heat will be initiated and the furnace will return to normal operation. • Lennox has not received any complaints of no heat situations associated with this operating condition. It has been determined that occasionally the fault clears itself and the alert code is not stored in the IFC or Lennox communicating thermostat. 	Automatically clears after the issue is corrected.
225		Service Soon	GF High Pressure Switch Failed to Close	<p>The furnace high pressure switch will not close.</p> <ul style="list-style-type: none"> • Check pressure (inches w.c.) of high pressure switch closing during a heat call. • Measure operating pressure (inches w.c.). • Inspect vent for blockage and combustion air inducer for correct operation and restriction. • Check for blocked cold end heater box or condensate drain or drain strainers at outlet of the cold end heater box. • Check cracked hoses • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
226		Service Urgent	GF High Pressure Switch Stuck Closed	<p>The furnace high pressure switch will not open.</p> <ul style="list-style-type: none"> • Check operation of high pressure switch closing during a heat call. • Measure operating pressure (inches w.c.). • Inspect vent for blockage and combustion air inducer for correct operation and restriction. • Check for moisture in pressure switch. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears after the issue is corrected.
227		Service Soon	GF Low Pressure Switch Open in Run Mode	<p>The furnace low pressure switch is open while in run mode.</p> <ul style="list-style-type: none"> • Check pressure (inches w.c.) of low pressure switch closing during a heat call. • Measure operating pressure (inches w.c.). • Inspect vent for blockage and combustion air inducer for correct operation and restriction. • Check for blocked cold end heater box or condensate drain or drain strainers at outlet of cold end heater box. • Check for cracked hoses. • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears after the issue is corrected.
228		Service Soon	GF Inducer Calibration Issue	<p>The furnace control is not able to calibrate the pressure switch. Unable to perform pressure switch calibration.</p> <ul style="list-style-type: none"> • Inspect vent for blockage and combustion air inducer for correct operation and restriction. • Check for blocked cold end heater box or condensate drain or drain strainers at outlet of cold end heater box (CEHB). • Check for cracked hoses. • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears after a successful calibration.
229		Information Only-Dealer	Ignition on High Fire	<ul style="list-style-type: none"> • Furnace control switched to high fire ignition because low fire pressure switch did not close in allowed time. • Early models only - If fan is on when call for W1 is initiated; unit will fire on high fire for 60 seconds before dropping down to low fire. 	No action is required.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
240		Service Soon	GF Low Flame Current - Run Mode	<p>This could be either low flame current or a loss of flame while in run mode.</p> <ul style="list-style-type: none"> • Check micro-amperes of the flame sensor using thermostat or control board. • Clean or replace the flame sensor. • Measure voltage of neutral to ground to ensure good unit ground. • Clean face of burner assembly. • Confirm that the vent termination is properly installed and not re-circulating. • Check for loose a wiring connection at gas valve. <p>NOTE: Refer to Service and Application Note H-14-06“ Flame Rectification In All Gas Furnaces” for additional information.</p>	Automatically clears after a proper micro-amp reading has been sensed.
241		Service Urgent	GF Flame Out of Sequence-Still Present	<p>Flame sensed without call for gas heating. Perform the following:</p> <ul style="list-style-type: none"> • Shut off gas. • Check for a gas valve leak. • Check for voltage to gas valve. <p>Replace the gas valve if needed.</p>	Automatically clears when a heat call ends successfully.
250		Service Soon	GF Primary Limit Switch Open	<p>The furnace primary limit switch is open. If limit switch is not closed within three minutes, the unit will go into a 60 minute soft lockout (Watchguard mode). Perform the following:</p> <ul style="list-style-type: none"> • Check for high gas pressure. • Check for low supply air. Low supply air due to being plugged or restriction in system (example: dirty air filter or blockage in duct work). • Check for proper firing rate on furnace. • Check for non-functioning zone dampers. <p>NOTE: Limit trips will place the Lennox Smart Zoning zoning system into non-zone mode.</p> <p>NOTE: See ACC-14-01 for further details.</p>	<p>Automatically clears when a heat call ends successfully.</p> <p>NOTE: If this issue occurred on an Lennox Smart Zoning zoning system, the field will need to manually activate the zoning.</p>
252		Service Soon	ID Discharge Air Temperature High	<p>A discharge air-temperature is high. Perform the following:</p> <ul style="list-style-type: none"> • Check temperature rise, air flow and input rate. • Check for dirty air filter(s). <p>NOTE: See Service and Application Note ACC-14-01 for further details.</p>	Automatically clears when a heat call ends successfully.
270		Service Urgent	GF Flame Failed To Ignite	<p>The furnace is in Watchguard mode. The furnace igniter cannot turn on the flame. This is a five strike condition during a single demand.</p> <ul style="list-style-type: none"> • Check for proper gas flow. • Ensure that igniter is lighting burner. • Check flame sensor current. • Check for dirty filters. • Check for blocked cold end heater box or condensate drain and cracked hoses. 	Automatically clears on successful ignition.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
271		Service Urgent	GF Low Press Switch Open	<p>The furnace is in Watchguard mode. The furnace low pressure switch is open. This is a five strike condition during a single demand.</p> <ul style="list-style-type: none"> • Check pressure (inches w.c.) of low pressure switch closing during a heat call. • Measure operating pressure (inches w.c.). • Check for blocked cold end heater box (CEHB), or condensate drain or drain strainers at outlet of CEHB and cracked hoses. • Check for cracked hoses. • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears on successful ignition.
272		Service Urgent	GF Low Press Switch Open Run Mode	<p>The furnace low pressure switch is open during run mode. The system will go into Watchguard mode.</p> <ul style="list-style-type: none"> • Check operation of low pressure switch to see if it is stuck open during a heat call. • Measure operating pressure (inches w.c.). • Inspect vent for blockages, and combustion air inducer for correct operation and restriction. • Check for blocked cold end heater box (CEHB), or condensate drain or drain strainers at outlet of CEHB and cracked hoses. • Check for cracked hoses. • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears when a heat call ends successfully.
273		Service Urgent	GF Flame Fail In Run Mode	<p>The furnace flame is going off during a heating cycle. The system will go into Watchguard mode.</p> <ul style="list-style-type: none"> • Check micro-amperes of flame sensor using thermostat or control diagnostics. • Clean or replace sensor. • Measure voltage of neutral to ground to ensure good unit ground. • Clean face of burner assembly. 	Automatically clears when a heat call ends successfully.
274		Service Urgent	GF Primary Limit Switch Open	<p>The furnace limit switch has been open for more than three minutes. The system will go into Watchguard mode. In Lennox Smart Zoning zoning systems, the limit trips will place the system into central mode.</p> <ul style="list-style-type: none"> • Check for high gas pressure. • Low supply air due to being plugged or restriction in system (example: dirty air filter or blockage in duct work). • Check for proper firing rate on furnace. • Check for non-functioning zone dampers. <p>NOTE: Refer to Service and Application Note ACC-14-01 - Lennox Smart Zoning® and SLP98 - Insufficient Zone Heating and Alert Code 250 Issues for corrective actions.</p>	Automatically clears when a heat call ends successfully.

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275		Service Urgent	GF Flame Out Of Seq. No Flame	The furnace flame is out of sequence. The system will go into Watchguard mode. <ul style="list-style-type: none"> • Shut off gas. • Check for gas valve leak. 	Automatically clears on successful ignition.
276		Service Urgent	GF Calibration Failure	The furnace is not able to calibrate or the high pressure switch opened or failed to close in run mode. The system will go into Watchguard mode. <ul style="list-style-type: none"> • Measure operating pressure (inches w.c.). • Inspect vent for blockages, and combustion air inducer for correct operation and restriction. • Check for blocked cold end heater box (CEHB), or condensate drain or drain strainers at outlet of CEHB and cracked hoses. • Check for cracked hoses. • Check levelness of unit. <p>NOTE: Check Service Manual and Service and Application Note H-13-07 "Condensing Furnace Pressure Switch Troubleshooting" for additional information.</p>	Automatically clears when the furnace calibrates itself successfully.
290		Service Urgent	GF Ignition Circuit Fault	There is a problem with the furnace ignition circuit. The system will go into Watchguard mode. Measure resistance of hot surface igniter. Replace the hot surface igniter if it is not within specifications.	Automatically clears on successful ignition
291		Service Urgent	GF Heat Airflow Below Min	The heating airflow is below the minimum required level. The system will go into Watchguard mode. <ul style="list-style-type: none"> • Check for dirty air filter(s) and other air flow restrictions. • Check blower performance. 	Automatically clears when a heat call ends successfully.
292		Service Urgent	ID Blower Motor Start Fault	The indoor unit blower motor will not start. The system will go into Watchguard mode. <ul style="list-style-type: none"> • Indoor blower motor unable to start. • This could be due to seized bearing, stuck wheel, and obstructions. • Replace motor, motor module or wheel if assembly does not operate or meet performance standards. <p>NOTE: Refer to Service and Application Note H-17-02 "All Communicating Variable Speed Motors".</p>	Automatically clears after the indoor blower motor starts successfully.
294		Service Urgent	GF Inducer Motor Overcurrent	There is over current in the furnace inducer motor. The system will go into Watchguard mode. <ul style="list-style-type: none"> • Check combustion blower bearings, wiring and amps. • Replace furnace inducer motor if it does not operate or does not meet performance standards. 	Automatically clears after inducer motor current is sensed to be in-range after the ignition following either Watchguard mode or unit reset.

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295		Service Soon	ID Blower Over Temperature	<p>The indoor blower motor is overheating. Indoor blower motor over temperature (motor tripped on internal protector).</p> <ul style="list-style-type: none"> • Check motor bearings and amps. • Replace indoor blower motor if necessary. • Check for high duct static. 	Automatically clears after blower demand is satisfied.
310		Service Soon	Discharge Air Temp Sensor Problem	<p>There is a discharge air temperature sensor issue.</p> <ul style="list-style-type: none"> • Confirm there is no short or open circuits in the Lennox communicating thermostat connections to any of the other components in the communication system. • Compare discharge air temperature sensor (DATS) resistance to temperature / resistance charts in system component installation instruction. • Replace discharge air sensor if necessary. <p>NOTE: Issues with a discharge air temperature sensor connected to a damper control or equipment interface modules will not generate an alert code.</p>	Automatically clears 30 seconds after condition is detected as recovered or after system restart.
311		Information Only-Dealer	GF Heat Rate Reduced To Match Airflow	<p>The heat firing rate has been reduced to match available airflow (cutback mode). This is a alert code. Furnace blower in cutback mode due to restricted airflow.</p> <ul style="list-style-type: none"> • Reduce firing rate every 60 seconds to match available CFM. • Check air filter and duct system. • To clear, replace air filter if needed or repair or add additional duck work. <p>Two-stage controls will reduce firing rate to first stage.</p>	Automatically clears when a heating call finishes successfully.
312		Information Only-Dealer	Reduced/ Airflow-Indoor Blower Cutback	<p>The indoor blower cannot provide the requested CFM due to excessive static pressure. This is a minor alert code.</p> <ul style="list-style-type: none"> • Static pressure has exceeded the capability of the blower motor. • Possible restricted airflow - Indoor blower is running at a reduced CFM (cutback mode). • The variable speed motor has pre-set speed and torque limiters to protect the motor from damage caused by operating outside of design parameters (0 to 0.8" e.g. total external static pressure). • Check air filter and duct system. • To clear alert code, replace air filter, repair or add additional duck work. <p>NOTE: Blower motor cutbacks will not show alarm code. Duct static pressure reading must be taken.</p>	Automatically clears when a heating call finishes successfully.
344		Service Urgent	GF IFC Relay Y1 Stuck	<p>Link Relay Problem. Issue could be with possible Y1 relay failure.</p> <p>NOTE: Relay is located on the IFC (Integrated Furnace Control). If issue continues replace IFC.</p>	Automatically clears five minutes after Y1 input sensed OFF.
345		Service Urgent	Relay O Failure	<p>The O relay on the system component has failed. Either the pilot relay contacts did not close or the relay coil did not energize.</p> <ul style="list-style-type: none"> • Possible O relay / stage 1 failure. • Pilot relay contacts did not close or the relay coil did not energize. • Replace system component (device) control. <p>If error is applicable to Lennox variable capacity outdoor units, the outdoor control will need to be replaced.</p>	Automatically clears after the fault recovered following reset.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
346		Service Urgent	AH HP Jumper Not Removed	<p>The heat pump configuration link is not cut on the air handler control.</p> <ul style="list-style-type: none"> • Configuration link not cut on air handler control. • Cut O to R. <p>NOTE: This is only applicable when matching non-communicating heat pump with Lennox communicating indoor unit.</p>	Automatically clears when the system detects that the issue no longer exists.
347		Service Urgent	ID or EIM Relay Y1 Fault	<ul style="list-style-type: none"> • Lennox communicating thermostat sends a Y1 compressor demand to the indoor control requesting it to relay the demand to the outdoor unit. • The indoor unit communicating control will verify the presences of 24VAC between the Y1 and C on its terminals. If it does not detects the presences 24VAC, it will trigger alert code 347. <p>Possible cause for alert code 347 is Y1 relay on the applicable system component has failed. Either the furnace pilot relay contacts did not close or the relay coil did not energize.</p> <ul style="list-style-type: none"> • System operation will stop. • Possible Y1 relay / stage 1 failure. • Furnace pilot relay contacts did not close or the relay coil did not energize. <p>NOTE: There is no input back to the applicable system component control.</p>	Automatically clears after reset and Y1 input sensed.
348		Service Soon	ID Relay Y2 Fault	<p>Possible cause for alert code 348 is Y2 relay on the applicable system component may have failed. Lennox communicating thermostat sends a Y2 compressor demand to the indoor control requesting it to relay the demand to the outdoor unit. The indoor unit communicating control will verify the presences of 24VAC between the Y1 and C on its terminals. If it does not detects the presences 24VAC, it will trigger alert code 348. Either the furnace pilot relay contacts did not close or the relay coil did not energize.</p> <ul style="list-style-type: none"> • Possible Y2 relay / stage 2 failure. • Furnace pilot relay contacts did not close or the relay coil did not energize. • No input back to furnace or air handler control. 	Automatically clears when the system detects that the issue no longer exists.
349		Service Urgent	GF IFC Error Check Jumper O To R	<ul style="list-style-type: none"> • Only applicable in non-communicating mode. • The O to R link on the furnace has been cut and could possibly cause a brown out. • Might also result in low voltage to which would generate alert code as well. • Configuration link R to O needs to be restored. Will need to restore link by hard-wiring the R to O terminals on the terminal strip. 	Automatically clears when the system detects that the issue no longer exists.
350		Service Urgent	AH Electric Heat Not Configured	<p>The air handler's electric heat is not configured or incorrectly configured.</p> <ul style="list-style-type: none"> • 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. <p>NOTE: Smart hub or thermostat MUST be removed from the system before configuring electric heat.</p>	Automatically clears after electrical heat detection is successful.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
351		Service Urgent	AH Electric Heat Stage 1 Fault	<p>There is an issue with the air handler's first stage electric heat. Either the pilot relay contacts did not close or the relay coil in the electric heat section did not energize.</p> <p>Possible heat section / stage 1 failure.</p> <p>NOTE: Air handler will operate on heat pump first stage for the remainder of the heat call.</p>	Automatically clears after fault recovered.
352		Service Soon	AH Electric Heat Stage 2 Fault	<p>There is a issue with the air handler's second stage electric heat. Either the pilot relay contacts did not close or the relay coil in the electric heat section did not energize.</p> <p>NOTE: The air-handler will operate on first stage electric heat until the issue is resolved.</p>	Automatically clears after fault recovered.
353		Service Soon	AH Electric Heat Stage 3 Fault	<p>There is a issue with the air handler's third stage electric heat. Either the pilot relay contacts did not close or the relay coil in the electric heat section did not energize.</p> <p>NOTE: The air-handler will operate on first stage electric heat until the issue is resolved.</p>	Automatically clears after fault recovered.
354		Service Soon	Electric Heat AH Electric Heat Stage 4 Fault	<p>There is a issue with the air handler's fourth stage electric heat. Either the pilot relay contacts did not close or the relay coil in the electric heat section did not energize.</p> <p>NOTE: The air-handler will operate on first stage electric heat until the issue is resolved.</p>	Automatically clears after fault recovered.
355		Service Soon	AH Electric Heat Stage 5 Fault	<p>There is an issue with the air handler's fifth stage electric heat. Either the pilot relay contacts did not close or the relay coil in the electric heat section did not energize.</p> <p>NOTE: The air-handler will operate on first stage electric heat until the issue is resolved.</p>	Automatically clears after fault recovered.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
370		Service Urgent	GF Interlock Switch Open	<p>Communicating Mode:</p> <p><i>NOTE: The on-board jumper DS-R (W914) will be cut.</i></p> <p>In communicating mode, the DS-R terminal is used with the EL296 and SL280 furnaces and will be used to monitor a field-installed interlock switch such as for example a float switch.</p> <p>When operating in this capacity, the DS jumper will be monitored as follows:</p> <ul style="list-style-type: none"> • When no alert codes are present there will be 24VAC present at this terminal. • When control see the loss of 24VAC for two minutes it will send an alert code 370 and disable heating function. • If currently running a demand it will de-energize all outputs (including the blower). • In case of an existing interlock switch alert code, upon power reset, an alert code message will be sent if voltage is not sensed on the DS terminal. • An alert code clearing message will be sent if 24VAC is sensed on DS terminal for the minimum of 10 seconds. • The monitoring of DS terminal will apply to both variable speed and constant torque controls. <p>Non-Communicating Mode:</p> <p><i>NOTE: The on-board jumper DS-R (W914) will NOT be cut.</i></p> <p>The furnace control has not received 24VAC power for two minutes or more on the DS terminal</p> <ul style="list-style-type: none"> • The system will not operate. • Dealer has cut the W914 jumper (Dehum, Harmony III) on the Lennox furnace control. • The thermostat monitors the DS terminal in the furnace for power and if the link has been cut then power will be lost to DS. • If DS to R terminal is accidentally cut you must reconnect a jumper from the DS to R on the terminals strip. 	This alert code will clear when 24VAC is continuously sensed on DS terminal for a minimum of 10 seconds or on a power reset.
371		Service Soon / Service Urgent	AH Float Switch Sensed Open	After being active for 10 minutes (600 seconds) the service soon condition will change to Service Urgent.	Automatically clears after fault recovered.
380		Service Soon / Service Urgent	EIM Interlock Relay Fault	<p>Interlock relay failure (furnace or air handler modes only).</p> <ul style="list-style-type: none"> • Interlock relay is energized, but input is not sensed after three seconds. • There will be no heating or cooling due to this alert code – service soon condition. • De-energize interlock relay and energize after five minutes if demand is still present – service urgent. 	Automatically clears after fault recovered.
381		Service Soon / Service Urgent	EIM Interlock Relay Stuck	<p>Interlock relay stuck (furnace or air handler modes only).</p> <ul style="list-style-type: none"> • Interlock relay continuously sensed (with relay off). • There is no heating and cooling operation – moderation condition. • After 10 minutes if event still exist it will be escalated to priority condition service urgent. 	Automatically clears 30 seconds after fault clears.
382		Service Urgent	EIM Relay W1 Fault	Relay W1 failure (furnace or air handler modes only). W1 relay is energized but input is not sensed after three seconds.	Automatically clears when W1 relay input is sensed.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
400		Service Soon	OD LSOM Comp. Internal Overload Tripped	The compressor internal overload has tripped. <ul style="list-style-type: none"> Thermostat demand Y1 is present; however compressor is not running. Check power to unit. 	This alert code is automatically cleared after current is sensed in both RUN and START sensors for at least two seconds or after service is removed, or after power reset.
401		Information Only-Dealer	OD Compressor Long Run Cycle	Either the compressor ran for more than 18 hours continuously while attempting to cool the home during a single demand or the system refrigerant pressure is low. <ul style="list-style-type: none"> Alert code will not lockout system. If the two-stage outdoor unit has an outdoor control with flashing LED lights then the unit will run in low speed; An outdoor control with a seven-segment display, the outdoor control will display alert code 401, but continue to run in high speed. If the outdoor unit is a heat pump, and the outdoor temperature is less than 65°F, alert code 401 is ignored. Also monitors low pressure switch trips. 	Automatically clears after 30 consecutive normal run cycles or power reset.
402		Service Soon	OD System Pressure Trip	<ul style="list-style-type: none"> Either the discharge or suction pressure level is out-of-limits, or the compressor has overloaded. Check discharge or suction pressure. 	Automatically clears after four consecutive normal compressor run cycles.
403		Service Soon	OD Compressor Short-Cycling	The compressor ran for less than three minutes to satisfy a thermostat demand.	Automatically clears after four consecutive normal compressor run cycles.
404		Service Urgent	OD Compressor Rotor Locked	The compressor rotor is locked up due to either: <ul style="list-style-type: none"> Run capacitor short. Bearings are seized. Excessive liquid refrigerant. <p>NOTE: May need to install hard start kit.</p>	Automatically clears after four consecutive normal run cycles or after power reset.
405		Service Urgent	OD Compressor Open Circuit	The compressor circuit is open due to: <ul style="list-style-type: none"> Power disconnection - Open fuse 	Automatically clears after one normal compressor run cycle.
406		Service Urgent	OD Compressor Open Start Circuit	The required amount of current is not passing through the START current transformer.	Automatically clears after current is sensed in START sensor, or after power reset.
407		Service Urgent	OD Compressor Open Run Circuit	The required amount of current is not passing through RUN current transformer.	Automatically clears after current is sensed in RUN sensor, one normal compressor run cycle, or after power reset
408		Service Urgent	OD Compressor Contactor Welded	The compressor is running continuously.	Automatically clears one normal compressor run cycle or after power reset.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
409		Service Soon	OD Control Board Low 24VAC	The secondary voltage for the applicable system component has fallen below 18VAC. This may be due to: <ul style="list-style-type: none"> • Secondary voltage is below 18VAC. • If this continues for 10 minutes, the thermostat will turn off the applicable system component. 	Automatically clears after voltage is detected as higher than 20VAC for two seconds or after power reset.
410		Information Only-Dealer	OD Open Low Pressure Switch	Unit low pressure is below the required limit. <ul style="list-style-type: none"> • Check operating pressures. • Low pressure switch opens at a specific pressure (system shuts down) and closes at a specific pressure (system restarts). 	Automatically clears when the system detects that the issue no longer exists.
411		Service Urgent	OD Low Pressure Switch Strikes Lockout	The low pressure switch has opened five times during one cooling or heating demand. <ul style="list-style-type: none"> • Thermostat will shut down the outdoor unit. • Open low pressure switch error count reached five strikes. • Check system charge using both approach and sub-cooling methods. • Reset by putting outdoor unit control in test mode or resetting low voltage power. 	Automatically clears when the system detects that the issue no longer exists.
412		Information Only-Dealer	OD Open High Pressure Switch	The unit high pressure is above the upper limit. <ul style="list-style-type: none"> • System will shut down. • Confirm that the system is properly charged with refrigerant. • Check condenser fan motor, expansion valve (if installed), indoor unit blower motor, stuck reversing valve or clogged refrigerant filter. • Confirm that the outdoor unit is clean. 	Automatically clears after the high pressure switch closes or a power reset
413		Service Urgent	OD High Pressure Switch Strikes Lockout	The high pressure switch has opened five times during one cooling demand. <ul style="list-style-type: none"> • Thermostat will shut down the outdoor unit. • Open high pressure switch error count reached five strikes. • Check system charge using superheat and sub-cooling temperatures. • Check outdoor fan operation. • Check for dirt or debris blocking air flow to outdoor unit. • Reset by putting outdoor unit control in test mode or resetting low voltage power. 	Automatically clears when the system detects that the issue no longer exists.
414		Service Soon	OD High Discharge Line Temperature	The discharge line temperature is higher than the recommended upper limit of 279°F. <ul style="list-style-type: none"> • Discharge line temperature is greater than 279°F. • Make sure coil is clean and airflow unobstructed in and out of condenser. • Check system operating pressures and compare to unit charging charts in installation manual. 	Automatically clears after discharge temperature is less than 225°F.
415		Service Urgent	OD High Discharge Line Temp Strikes Lockout	The discharge line temperature has been consistently higher than the recommended upper limit of 279°F. <ul style="list-style-type: none"> • Discharge line high temperature error count reached five strikes during a single demand. • Make sure coil is clean and airflow unobstructed in and out of condenser. • Check system charge using superheat and sub cooling temperatures. • Reset by putting outdoor control in test mode or resetting low voltage power. 	Correct issue and cycle power to the system.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
416		Service Soon	OD Coil Sensor Faulty	<p>The outdoor coil sensor is either open, short-circuited or the temperature is out of sensor range.</p> <ul style="list-style-type: none"> Outdoor unit control will not perform demand or time / temperature defrost operation. (System will still heat or cool.) This fault is detected by allowing the unit to run for 90 seconds before checking sensor resistance. If the sensor resistance is not within range after 90 seconds, the control will display a moderate code. Advances from moderate to critical after ten (10) minutes. Plug-in sensor harness correctly. Check resistance of sensor to determine if it is open, shorted, out of temperature calibration or out of ambient temperature range. Replace if out-of-specifications. 	<p>Automatically clears when outdoor unit control detects proper sensor readings.</p> <p>If sensor is faulty and the system is reporting the condition as critical, replaced sensor. Reset power to clear alert code.</p>
417		Service Soon	OD Discharge Sensor Faulty	<p>System Detection and Operation:</p> <p>The outdoor unit discharge line temperature sensor is either open, short-circuited or the temperature is out of sensor range.</p> <ul style="list-style-type: none"> This fault is detected by allowing the unit to run for 90 seconds before checking discharge line sensor resistance. If the discharge sensor resistance is not within range after 90 second period, the control will display the priority condition as service soon. If the moderate condition continues for 10 minutes, the system changes the priority condition to service urgent. <p>Possible Causes:</p> <ul style="list-style-type: none"> The applicable system component detects either an open, shorted or temperature out of range condition. Discharge sensor leads located in wrong pin positions in harness plug-in connector. Refer to the applicable unit installation and service procedure and locate the terminal descriptions table to verify cable harness assembly wiring pin positions are correct. <p>Possible Solutions:</p> <ul style="list-style-type: none"> Check the resistance of the discharge sensor and compare to temperature resistance chart located in the applicable unit installation and service procedure. If sensor resistance is out of range then replace the discharge line temperature sensor. If discharge sensor wiring leads are located in the wrong connector pin-out then order a replacement cable assembly. 	<p>Moderate - Automatically clears after fault signal condition is no longer present.</p> <p>Critical - Power down the system component and either replace faulty sensor or cable assembly (whichever is applicable). Power up system component after replacing the applicable part which will clear the alert code / priority condition.</p>
418		Service Soon	OD EIM W Output Hardware Fault	<p>There is a faulty W output circuit.</p> <ul style="list-style-type: none"> 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. 	<p>Automatically clears after fault signal is removed.</p>

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
419		Service Urgent	OD EIM W Output Hardware Fault Lockout	The W output has reported more than five errors. <ul style="list-style-type: none"> The system will shut down the outdoor unit. The W output (alert code 418) on the outdoor unit has reported more than five strikes. Disconnect thermostat wire from W and verify there is no 24VAC on the W. If 24VAC is present, replace the outdoor control. 	Automatically clears after power recycled.
420		Service Soon	AH EIM Defrost Out Of Cycle	The heat pump defrost cycle has taken more than 20 minutes to complete. <ul style="list-style-type: none"> Defrost cycle lasts longer than 20 minutes. Check heat pump operation. This is applicable only in communicating indoor unit with non-communicating heat pump. 	Automatically clears when W1 signal is removed.
421		Service Urgent	OD EIM W External Miswire Fault	The W output terminal on the outdoor unit is not wired correctly. Voltage sensed on W output terminal when Y1 out is deactivated.	Automatically clears once voltage is not sensed on output or power is cycled.
422		Service Soon	OD Compressor Top Cap Switch Open	Compressor top cap switch exceeding thermal limit. <ul style="list-style-type: none"> Check condenser fan motor, TXV and indoor unit blower motor. Check for stuck reversing valve or clogged refrigerant filter. XC/XP25: Check to ensure that one of the wires from the top cap switch has not been disconnected from one of the TP terminals on the outdoor control. Reconnect wire if disconnected. Check superheat and sub-cooling. 	Automatically clears when error is corrected.
423	40	Service Soon / Service Urgent	OD Inverter CT Circuit Fault	The inverter has detected a circuit issue. <ul style="list-style-type: none"> When this condition is detected the outdoor control will stop outdoor unit operations and start the anti-short cycle timer – service soon condition. Outdoor control will lockout unit after 10 strikes within an hour – service urgent condition. Inverter LEDs will flash code 40 Refer to the unit service documentation for troubleshooting procedures. <p>Inverter flash code 40:</p> <p>The sequence is:</p> <p>Red LED: Four Flashes</p> <p>Green LED: Off</p> <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	A service soon alert code will clear automatically when the inverter detects the condition no longer exist and will send a clear alert code message.
					To clear service urgent alert code disconnect power to outdoor unit and restart.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
424		Service Soon	OD Liquid Line Sensor Faulty	<p>The liquid line temperature sensor has malfunctioned.</p> <ul style="list-style-type: none"> In normal operation after outdoor control recognizes sensors, the alert code will be sent if a valid temperature reading is lost. Compare liquid line sensor resistance to temperature / resistance charts in unit installation instructions. Replace sensor pack if necessary. At the beginning of (any) configuration, furnace or air handler control will detect the presence of the sensor(s). If detected (reading in range), appropriate feature will be set as 'installed' and shown in the thermostat 'About' screen. 	Automatically clears upon configuration, or sensing normal values.
426		Service Urgent	OD Excessive Inverter Alarms	<p>After 10 faults within 60 consecutive minutes, the control will lockout. Inverter will flash codes 12 to 14 and 53.</p> <p>NOTE: <i>These inverter codes do not count towards this lockout condition.</i></p>	To clear disconnect power to outdoor control and restart
427	21	Service Soon / Service Urgent	OD Inverter DC Peak Fault	<p>The inverter has detected a DC peak fault condition.</p> <ul style="list-style-type: none"> If condition (55A or higher) is detected, outdoor unit will stop (compressor and fan) – service soon condition. Anti-short cycle is initiated. If peak current (55A or higher) occurs 10 times within an hour, system will lockout – service urgent condition. Inverter LEDs will flash code 21. If the unit is a XP20 or XP25 variable capacity heat pump, this error may occur entering or exiting a defrost cycle as the compressor restarts after the 30 second compressor shift delay. If the unit was manufactured prior to serial number 5817F and has frequent alert code 427, then compare the inverter part number to the latest part number listed in the unit repair parts. Units produced after serial number 5817F which is listed on the unit name plate have an inverter with updated software that includes compressor current slope logic to reduce the potential of alert code 427 instances from occurring during defrost. Replace the inverter with the latest inverter if necessary. Refer to the unit service documentation for detailed troubleshooting procedures. <p>NOTE: <i>Serial number format on unit name plate is PPYYMNNNNN (PP = Manufacturing Plant, YY and M represents the year and month made.</i></p> <p>Inverter flash code 21.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Two Flashes Green LED: One Flash <p>NOTE: <i>Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</i></p>	To clear, disconnect and reconnect power to outdoor control.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
428	22	Service Soon / Service Urgent	OD Inverter High Main Input Current	<p>The inverter has detected a high main input current condition.</p> <ul style="list-style-type: none"> • If condition is detected, outdoor unit will stop (compressor and fan) – service soon condition. • Anti-short cycle is initiated. • If condition occurs 10 times within an hour, system will lockout – service urgent condition. • Inverter LEDs will flash code 22. • Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 22.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> • Red LED: Two Flashes • Green LED: Two Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	To clear, disconnect power to outdoor unit and restart.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
429	23	Service Soon / Service Urgent	OD Inverter DC Link Low Voltage	<p>The inverter has detected a DC link low voltage condition.</p> <ul style="list-style-type: none"> 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) – service soon condition. An anti-short cycle timer is initiated. If condition occurs 10 times within a 60 consecutive minutes, system will lock out and display alert code 429 – service urgent condition. The outdoor control anti-short cycle timer will time out and the unit will recycle the demand. Inverter LEDs will flash code 23. Refer to the unit service documentation for detailed troubleshooting procedures. Perform test function and verify inverter DC link and line input voltage and current. Also check input to filter board and reactor before replacing inverter board. To perform this test, go to menu > settings > advanced settings > view dealer control center > tests. <p>Inverter flash code 23.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Two Flashes Green LED: Three Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p> <p>Troubleshooting Suggestions:</p> <ul style="list-style-type: none"> Check wire connections (U, V and W) at inverter plug in harness and compressor. Check the resistance of compressor windings. If not in range, replace compressor. Check compressor to ground. If ground issue, replace compressor. Check input power (Single Phase - 208/230VAC ± 10%. If out of range, correct main power issue. Check DC Link voltage and MICOM Sensing voltage. If out of range, replace inverter. if okay, possible mechanical issue with compressor. <p>Go to outdoor unit service manual for detail troubleshooting procedures and require values for testing DC link voltages and various insulation resistance characteristics.</p>	Automatically clears when the system detects that the issue no longer exists.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
430	26	Service Soon / Service Urgent	OD Inverter Compressor Startup Fail	<p>Compressor start-up failure.</p> <ul style="list-style-type: none"> • If condition is detected, outdoor unit will stop (compressor and fan) – service soon condition. • Anti-short cycle is initiated. • If condition occurs 10 times within 60 consecutive minutes, the system will lockout – service urgent condition. • Inverter LEDs will flash code 26. • Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 26.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> • Red LED: Two Flashes • Green LED: Six Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p> <ul style="list-style-type: none"> • Check refrigerant • Replace outdoor control board • Replace inverter. 	To clear, disconnect power to outdoor unit and restart.
431	27	Service Soon / Service Urgent	OD Inverter PFC Fault	<p>The inverter has detected a PFC circuit over-current condition.</p> <ul style="list-style-type: none"> • Error occurs when PFC detects an over current condition of 100A peak. • If condition is detected, outdoor unit will stop (compressor and fan) – service soon condition. • Anti-short cycle timer is initiated. • If condition occurs 10 times within 60 consecutive minutes, the system will lockout – service urgent condition. • Inverter LEDs will flash code 27. • Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 27.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> • Red LED: Two Flashes • Green LED: Seven Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	To clear, disconnect power to outdoor unit and restart.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
432	28	Service Soon / Service Urgent	OD Inverter DC Link High Voltage	<p>The inverter has detected a DC link high voltage condition.</p> <ul style="list-style-type: none"> • Error occurs when the DC link capacitor voltage is greater than 480VDC. • If condition is detected, outdoor unit will stop (compressor and fan) – service soon condition. • Anti-short cycle timer is initiated. • If condition occurs 10 times within 60 consecutive minutes, the system will lockout – service urgent condition. • Inverter LEDs will flash code 28. • Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 28.,</p> <p>The sequence is:</p> <ul style="list-style-type: none"> • Red LED: Two Flashes • Green LED: Eight Flashes <p>NOTE: <i>Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</i></p> <p>Troubleshooting Suggestions:</p> <ul style="list-style-type: none"> • Check wire connections (U, V and W) at inverter plug in harness and compressor. • Check the resistance of compressor windings. If not in range, replace compressor. • Check compressor to ground. If ground issue, replace compressor. • Check input power (Single Phase - 208/230VAC ± 10%. If out of range, correct main power issue. • Check DC Link voltage and MICOM Sensing voltage. If out of range, replace inverter. if okay, possible mechanical issue with compressor. <p>Go to outdoor unit service manual for detail troubleshooting procedures and require values for testing DC link voltages and various insulation resistance characteristics.</p>	To clear, disconnect power to outdoor unit and restart.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
433	29	Service Soon / Service Urgent	OD Inverter Compressor Over-current	<p>Compressor phase current is too high.</p> <ul style="list-style-type: none"> • During initial startup, a six minute time delay is implement to prevent the alarm from occurring. • Error occurs when compressor peak phase current is greater than 28 amps. • Inverter will issue inverter code 14 first and slow down to try to reduce the current. • If the current remains high, outdoor unit will stop (compressor and fan) – service soon condition. • Cycle timer is initiated. • If condition occurs five times within 60 consecutive minutes, the system will lockout – service urgent condition. • This alert code may be triggered by the inverter or the Lennox variable capacity outdoor (inverter controlled) unit. • Lennox outdoor control may trigger an this alert code if the inverter reduces the compressor speed which is identified as a alert code 441 and the compressor speed (in hz) is below the minimum speed. This will typically occur at start-up. The inverter automatically increases the compressor minimum speed below 45°F in the heating mode and above 115°F ensure the compressor capacity is sufficient for oil return. If alert code 433 occurs and inverter does not indicate an inverter code 29, the Lennox communicating Lennox outdoor control triggered the alert code 433. <p>> Check the Lennox outdoor control software version by accessing the outdoor unit diagnostics section of the Lennox communicating thermostat. The Lennox outdoor control with software versions 1.27 and later have updated software that includes a six minute time delay during the cooling mode and a 11 minute delay during the heating mode after receiving an alert code 433, which typically occurs during start-up.</p> <p>> If the system is connected to the Internet, the Lennox outdoor control can be updated over the Internet. Make sure the software “auto update” is enabled. The software “auto update” can be toggled to prompt the Lennox server to update the thermostat which will update the Lennox outdoor control. If the system is not connected to the Internet, replace the Lennox outdoor control with catalog number 17D27 or newer version.</p> <ul style="list-style-type: none"> • Inverter LEDs will flash code 29. • Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 29.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> • Red LED: Two Flashes • Green LED: Nine Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	To clear alert code disconnect power to both the indoor and outdoor units and then reconnect power. Restart system.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat

Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
434	53	Service Soon / Service Urgent	OD Inverter Comm Error to Main Control	<ul style="list-style-type: none"> Outdoor control has lost communications with the inverter continuously during a single thermostat call and one hour period. Outdoor control will stop all compressor demands – service soon condition. Indoor blower will stop functioning. <p>NOTE: Indoor blower will not run in test mode either when alert code 434 is active. Only after system reset will it operate.</p> <ul style="list-style-type: none"> This alert code will occur if the outdoor unit power is turned off and the indoor unit power (24VAC to Lennox outdoor control) remains on, or if the indoor unit power is turned off (24VAC to Lennox outdoor control) and the outdoor unit power is on. This could occur while performing service or maintenance procedures on the indoor or outdoor unit. The Lennox outdoor control will attempt to re-establish communication to the inverter when the alert code 434 occurs by cycling the outdoor unit contactor off for two minutes. Upon energizing the contactor the Lennox outdoor control will attempt to communicate to the inverter for three minutes. This process will be repeated three times in attempt to establish communication before locking out. If the unit is locked out with a service soon alert code 434, reset the system by cycling the outdoor unit power off and back on. Then cycle the indoor power off (24VAC to the Lennox outdoor control) and then back on. If this condition continuously occurs during a one hour period and during a single thermostat call, the outdoor unit will lock out and display alert code 434 – service urgent condition. <p>Troubleshooting Options:</p> <ul style="list-style-type: none"> Check for loose or disconnected electrical connections. Interruption of main power to inverter. Inverter LEDs will flash code 53. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 53.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Five Flashes Green LED: Three Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF</p>	<p>Automatically clears when the system detects that the issue no longer exists.</p> <p>If the unit is locked out with a service urgent alert code 434, reset the system by first cycling the outdoor unit power off and back. Then cycle the indoor power off (24VAC to the Lennox outdoor control) and then back on.</p>

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
435	60	Service Soon / Service Urgent	OD Inverter EEPROM Checksum fault	<p>Inverter internal error.</p> <ul style="list-style-type: none"> When this error occurs, the outdoor control will cycle power to the inverter by opening the contactor for two minutes – service soon condition. Outdoor control will cycle power to the inverter three times and then outdoor unit is locked out – Service Urgent condition. Inverter LEDs will flash code 60. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 60.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Six Flashes Green LED: Off <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	To clear alert code disconnect power to outdoor unit and restart.
436	62	Service Soon / Service Urgent	OD Inverter High Heat-Sink Temperature	<p>Inverter heat sink temperature exceeded limit.</p> <ul style="list-style-type: none"> This occurs when the heat sink temperature exceeds the inverter limit. Inverter will issue inverter alert code 13 first and slow down to try to cool the heat sink. If temperature remains high, outdoor unit will stop both compressor and fan – service soon condition. Anti-short cycle is initiated. If condition occurs five times within an hour, system will lockout – service urgent condition. The screws that hold the inverter to the inverter board were loose causing poor contact between these two components. Tighten screws that hold the heat sink to the inverter control board. <p>NOTE: Wait five minutes for all capacitors to discharge before checking screws.</p> <ul style="list-style-type: none"> Inverter LEDs will flash code 62. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 62.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Six Flashes Green LED: Two Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	<p>Service soon condition will automatically clear when the inverter sends an alert code clear message.</p> <p>Service urgent condition is cleared by disconnecting power to the outdoor unit and restart.</p>

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
437	65	Service Soon / Service Urgent	OD Inverter Heat-Sink temp Sensor Fault	<p>Heat sink temperature sensor fault has occurred (temperature less than 4°F or greater than 264°F after 10 minutes of operation).</p> <ul style="list-style-type: none"> When the temperature sensor detects a temperature less than 4°F or greater than 264°F after 10 minutes of operation. Outdoor unit will stop both compressor and fan – service soon condition. Anti-short cycle is initiated. If condition occurs five times within an hour, system will lockout – service urgent condition. Inverter LEDs will flash code 65. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 65.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Six Flashes Green LED: Five Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	<p>Service soon priority condition will automatically clear when the inverter sends an alert code clear message.</p> <p>Service urgent priority condition can be cleared by disconnecting and reconnecting power to outdoor unit to restart.</p>
438	73	Service Soon / Service Urgent	OD Inverter PFC Input Over-current	<p>The inverter has detected a power factor correction (PFC) circuit over-current condition.</p> <ul style="list-style-type: none"> The inverter has detected an PFC over current condition. This may be caused by a high load condition, high pressure, or outdoor fan failure. Outdoor control will display the code when the inverter has detected the error – service soon condition. After three minutes, the inverter will reset and the compressor will resume operation. If the error condition occurs 10 times within a 60 minute rolling time period, the outdoor unit control will lock out operation of the outdoor unit – service urgent condition. Possible issue is system running at high pressures. Check for high pressure trips or other alert codes in thermostat and outdoor control. Inverter LEDs will flash code 73. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 73.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: Seven Flashes Green LED: Three Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and Green LED is OFF.</p>	<p>Service soon priority condition is automatically cleared when the inverter sends a clear message.</p> <p>Service urgent priority condition will automatically clear when inverter is power cycled.</p>

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat

Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
440	13	Information Only-Dealer	OD Inverter Compressor Slowdown - High Heat-Sink temperature	<p>Compressor slowdown due to high heat sink temperature.</p> <ul style="list-style-type: none"> Heat sink temperature is approaching limit. The compressor speed automatically slows to reduce heat sink temperature. The control sets indoor CFM and outdoor RPM to values according to demand percentage rather than the actual Hz. The screws that hold the inverter to the inverter board may be loose causing poor contact between these two components. Tighten screws that hold the heat sink to the inverter control board. <p>NOTE: Wait five minutes for all capacitors to discharge before checking screws.</p> <ul style="list-style-type: none"> This error code is primarily for informational purposes as the inverter controls the compressor speed to operate within design parameters. Typically the inverter will make a minor speed reduction of 4 Hz (approximately a 5-6% speed reduction) for a brief period of time and to reduce the heat sink temperature and will then resume normal operation. This may occur at high outdoor temperatures (above 110°F) for brief periods of time (3 – 4 minutes) and is normal and expected operation of the inverter controlling the compressor safely within design parameters. The inverter finned aluminium heat sink is located on the back side of the inverter in the condenser air stream. If the alert code 440 occur frequently, especially at lower outdoor temperatures, check the heat sink for debris that may reduce heat transfer or possible obstructions that may impact air flow across the heat sink. The inverter will begin to briefly reduce the compressor speed when the heat sink temperature rises above 185°F and will allow the inverter to resume the requested compressor demand speed once the inverter heat sink reaches 176°F. The heat sink temperature, compressor speed in Hertz & the Inverter Compressor Speed Reduction status (“On” or “Off”) notification can be viewed under the outdoor unit Diagnostics section of the thermostat dealer control center. Inverter LEDs will flash code 13. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 13.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: One Flash Green LED: Three Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and green LED is OFF.</p>	Automatically clears when the condition no longer exists.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat

Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
441	14	Information Only-Dealer	OD Inverter Compressor Slowdown - High Compressor Current	<p>This alert code is for more information than an issue with the system.</p> <ul style="list-style-type: none"> When the inverter gets close to the current or heat sink temperature limit, it will limit the ramp rate. Instead of changing compressor speed at 1 hz/second, it changes to 5 hz/20 seconds. Compressor slowdown due to high compressor current. Compressor current is approaching limit. The compressor speed automatically slows. This error code is primarily for informational purposes as the inverter controls the compressor to operate within design parameters. Alert code 441 typically occurs at startup as the compressor current increases rapidly during startup. The inverter will reduce the compressor speed by 4 Hz and slow the compressor ramp up speed to the requested compressor demand speed (capacity). This is normal and expected operation of the inverter to control the inverter within design parameters. In most cases the alert code 441 notification does not require any additional service or diagnostic procedures. The control sets indoor CFM and outdoor RPM to values according to demand percentage rather than the actual Hz. Possible issue is system running at high pressures. Check for high pressure trips or other alert codes in thermostat and outdoor control. Inverter LEDs will flash code 14. Refer to the unit service documentation for detailed troubleshooting procedures. <p>Inverter flash code 14.</p> <p>The sequence is:</p> <ul style="list-style-type: none"> Red LED: One Flash Green LED: Four Flashes <p>NOTE: Inverter normal operations with no error code present is as follows. Red LED is ON and green LED is OFF.</p>	Automatically clears when the condition no longer exists.
442		Service Urgent	OD Compressor Top Cap Switch Strikes Lockout	<p>The top cap switch has opened five times within one hour. As a result, the outdoor unit is locked out.</p> <ul style="list-style-type: none"> This condition occurs when compressor thermal protection sensor opens five times within one hour. Outdoor unit will stop. 	To clear, disconnect power to outdoor unit and restart.
443		Service Urgent	OD MUC Unit Code To Inverter Model Mismatch	<p>The Lennox variable capacity unitary control (outdoor control) has incorrect appliance unit size code selected.</p> <ul style="list-style-type: none"> Check for proper configuring under unit size code used for outdoor unit (see unit configuration guide or in installation instructions). If replacing inverter, verify inverter model matches unit size. Remove the thermostat from the system while applying power and reprogramming. 	Automatically clears after the correct match is detected following a power reset.
444		Service Urgent	HP Reversing Valve Relay Or Solenoid Fault	Relay failure. Verify by call for heat pump heating. Check for 24VAC out from O.	Replace Outdoor Unit Control Board

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
446		Service Soon / Service Urgent	OD Low Suction Pressure Fault	Suction pressure < 40 psig in operation. Error code initially will be a service soon and will escalate to service urgent and stop system operation after five-strikes during a single thermostat demand. Recommend replacement of low pressure switch.	Recommend replacement of low pressure switch.
500		Service Soon	PA Differential Pressure Sensor Fault	<ul style="list-style-type: none"> Pressure sensor reports a fault for more than 5 minutes, or does not respond for more than 5 minutes. Device will not perform any pressure reading calculations until fault is recovered. Remaining filter life display will indicate "-" while fault exists. 	Automatically clears 30 seconds after fault is recovered.
501		Service Soon	PA UV Sensor Fault	<ul style="list-style-type: none"> Ultra-violet (UV) sensor reports a fault for more than five minutes or UV sensor does not respond for more than 5 minutes. Device will not perform any UV lamp life remaining calculations until fault has recovered. Life remaining display shall indicate "-" while fault exists. 	Automatically clears 30 seconds after fault is recovered.
502		Service Soon	PA UV Lamp Off	The light is determined to be off when the last three last light intensities measurements are below the set threshold.	Light is determined on after 1 set of five samples are above the set threshold.
503		Service Soon	PA Filter Life At 10%	Filter life remaining determined to be <=10%, but greater than 0%.	None. Replace and reset filter.
504		Service Soon	PA Filter Life At 0%	Filter life remaining determined to be 0%.	None. Replace and reset filter.
505		Service Soon	PA Model Selection Changed	Model Selection jumper has changed positions.	Jumper repositioned back to original jumper position or system rebooted.
506		Service Soon	PA Lamp At 0% life	Ultra violet lamp life is at 0%.	None. Replace and reset filter.
507		Service Soon	PA Filter Calibration Failure	<ul style="list-style-type: none"> Filter calibration determined failed due to all test cfm static pressures reading <= 7 Pa. Send alert code immediately. No filter tests or life calculation occur while this alert code is active. 	None. Replace and reset filter.
530		Service Soon	ZS Low Damper 24VAC Voltage	<ul style="list-style-type: none"> Check 24VAC voltage to all dampers. Check 24VAC damper transformer. Check connections. 	Replace transformer if applicable.
532		Information Only-Dealer	ZS Zoning Pressure Switch Opened (High Pressure)	<p>Zoning Pressure Switch Opened (high pressure).</p> <ul style="list-style-type: none"> Compressor pressure is above the specified limit. Compressor is turned off. Zoning will be restored once the high pressure switch closes. <p>Occasionally we get this with an AC system and the fix is to just jump out the pressure switch terminals on the damper control module board.</p>	Automatically clears after compressor pressure is within limits.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
542		Service Soon	ZS Zone 1 Temp Sensor Fault	<p>Possible Causes:</p> <ul style="list-style-type: none"> Zone temperature sensor reading out of range. Check for loose or incorrectly wired connections at the zone sensor or damper control module terminals. Open or short zone temperature sensor detected for more than five second. More than one zone sensor has the same assigned zone number. Check zone sensor(s) zone number assignment. <p>System Response:</p> <ul style="list-style-type: none"> Both types of zone sensors will display "--" as the indoor temperature on the main screen. Damper control module will operate in central mode (all dampers open) in both moderate and critical priority conditions. If after 10 minutes the condition does not change, the applicable alert code (542, 543, 544 or 545) is escalate by the Lennox communicating thermostat to service urgent. System will continue to operate in central mode. At the Lennox communicating thermostat, only zone 1 screen will be available. <p>NOTE: The Lennox communicating thermostat will display the alert code as "Problem (Zoning Control)". Email notifications will describe the issue as "Zone "X" Temp Sensor Problem.</p>	Automatically clears 30 seconds after condition no longer exist.
543		Service Soon	ZS Zone 2 Temp Sensor Fault		
544		Service Soon	ZS Zone 3 Temp Sensor Fault		
545		Service Soon	ZS Zone 4 Temp Sensor Fault		
546		Service Soon	ZS Parameters resetting from restored power		
547		Service Soon	ZS Parameters resetting from system interruption	<ul style="list-style-type: none"> An EEPROM is a memory device that stores and remembers the information even after power has been removed from the device. It saves settings that the user might have selected like to desired heating and cooling temperatures. When power is removed and then comes back on, the zone sensor remembers what the users setting were. Code 547 is given if the zone sensor notices that the EEPROM has an issue sometime later after the product has been on for a while. It will not raise the issue until it needs to again read from the EEPROM memory when it is first powering to retrieve the necessary information. System will operate in a normal mode operator until power off. 	Zone sensor will have to be replaced.
548		Service Soon	ZS Humidity Sensor Error	Without humidifiers or dehumidifiers, sensor reads out of range 0% to 100%. This message indicates humidity sensor has malfunctioned.	Zone sensor will have to be replaced or if sensor auto corrects itself the alert will be automatically cleared and system will return to normal operations.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
551		Service Soon	ZS Zone Sensor Lost Communication	<p>Any lost communication between any zone sensor and the damper control module will result in applicable alert code(s) being displayed (543, 544 or 545) at the thermostat.</p> <ul style="list-style-type: none"> A pop-up display on the thermostat will appear indicating a communication error. Indoor temperature for the specific zone in error will displayed as "--" on the home screen. When any zone sensor loses communication with the damper control module, the entire system will go into central mode (single temperature control). <p>Check for loose, damage or incorrect wiring between damper control module and the zone sensor reporting alert code 551.</p>	Once communication is reestablished the zone sensor will return to normal zone operations.
600		Information Only-Dealer	Load Shed Event	<p>Compressor has been cycled OFF on utility load shedding.</p> <ul style="list-style-type: none"> Load shedding function provides a method for a local utility company to limit the maximum power level usage of the outdoor unit. The feature is activated by applying 24VAC power across the L and C terminals on the outdoor control 	Automatically clears when L terminal is inactive.
601		Information Only-Dealer	OD Unit Low Ambient Operational Lockout	<ul style="list-style-type: none"> Outdoor unit has been cycled off on low temperature protection. Outdoor unit will not operate when the outdoor ambient is at or below 4°F (-15.6°C). If the unit is satisfying a demand (running) and the outdoor ambient drops below 4°F (-15.6°C), the unit will continue to operate until the demand has been satisfied or the outdoor ambient drops to 15°F (-9.4°C) which will result in the unit being locked out (shut down). 	Automatically clears when low temperature condition no longer exists.
610		Service Urgent	Low Room Temperature Detected	<p>This alert will automatically notified the user that a low room temperature condition exist. A notification is displayed on the HD display and email notification sent to homeowner and dealer.</p> <p>The freeze alert protection parameter range is 30°F to 50°F (-1.11 to 10.0°C). Default is 40°F (4.44°C).</p> <p>NOTE: Notification is dependent on the thermostat having a active Wi-Fi connection and the user account has been setup and includes a valid email address.</p>	Automatically clears when condition is resolved.
611		Service Urgent	High Room Temperature Detected	<p>This alert will automatically notified the user that a high room temperature condition exist. A notification is displayed on the HD display and email notification sent to homeowner and dealer.</p> <p>The heat alert protection parameter range is 80°F to 100°F (26.67 to 37.78°C). Default is 90°F (32.22°C).</p> <p>NOTE: Notification is dependent on the thermostat having a active Wi-Fi connection and the user account has been setup and includes a valid email address.</p>	Automatically clears when condition is resolved.
700		Service Urgent	Thermostat Temp Sensor Problem	<p>The HD display's internal temperature sensor is not operating correctly. To resolve this issue, try the following:</p> <ul style="list-style-type: none"> Remove HD display from mag-mount and reattaching. Seal hole in wall behind mag-mount to minimize exposure to unconditioned air from inside the wall. Run "reset all" under dealer control center. If issue persist, then replace the HD display. 	Automatically clears when the system detects that the issue no longer exists.

Table 2. Alert Codes and Troubleshooting

GF= Gas Furnace, AH=Air Handler, ID=Indoor unit (GF or AH), HP=Heat Pump, AC=Air Conditioner, OD=Outdoor Unit (AC or HP), PA=Pure Air S, ZA=Zone system and TS=Thermostat					
Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
701		Service Urgent	Thermostat Temp Above Limit	The thermostat is reading indoor temperatures above the pre-programmed limit. The thermostat has a built-in non-adjustable high limit of 99°F. <ul style="list-style-type: none"> • Cool thermostat. • Adjust set point. • Run reset all under dealer control center. • Replace HD display or mag-mount, if needed. 	Automatically clears when the system detects that the issue no longer exists.
703		Service Soon	Thermostat Humid Sensor Problem	Thermostat Humid Sensor Problem. Sensor is damaged or data is corrupted possibly.	First try a system reset, then if persists the thermostat would need replacement.
3000		Maintenance	Replace Filter 1	Not Applicable	Reset filter reminder for both
3001		Maintenance	Replace Filter 2	Not Applicable	
3002		Maintenance	Replace Humidifier Pad	Not Applicable	Reset Humidifier pad reminder
3003		Maintenance	Replace UV Bulb	Not Applicable	Reset UV Light reminder
3004		Maintenance	Maintenance Reminder	Not Applicable	Make service appointment with dealer and reset reminder
3005		Maintenance	Pure Air Maintenance	Not Applicable	Make service appointment for Pure Air maintenance with dealer and reset reminder
65537		Service Urgent	Missing Base	<ul style="list-style-type: none"> • Base not detected and alarm 65538 has been raised over 30 times. • Amber LED is displayed on smart hub. • Mount and wire mag-mount before powering up smart hub. 	Automatically clears once is detected for two seconds.
65538		Information Only-Dealer	Missing Base	<ul style="list-style-type: none"> • Base not detected for at least 30 seconds. • Amber LED is displayed on smart hub. • Mount and wire mag-mount before powering up smart hub. 	Automatically clears once is detected for two seconds.
65539		Service Urgent	Thermostat Lost Connection Or Internal Fault	HD wall display not detected for more than 30 seconds.	Automatically clears once is detected for two seconds.
65540		Information Only-Dealer	Missing HD wall display	HD wall display not detected for less than 30 seconds.	Automatically clears once is detected for two seconds.
65541		Information Only-Dealer	Download Failed	Download for firmware failed.	Not applicable.
65542		Information Only-Dealer	Update Failed	Has verification failed. Update failed.	Not applicable. Automatically clears once is detected for two seconds.

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65543		Information Only-Dealer	Firmware Updated	When new firmware has been successfully updated to the thermostat.	Clears automatically after successfully update.
65544		Information Only-Dealer	More Than 8 Tstats In A Group	The system is limited to no more than eight (8) smart hubs assigned to one group then alert code 65544 will be displayed. EXAMPLE: <i>If you had two groups with eight smart hubs assigned to each group, then you would get each minute 16 alert code 65544 notifications.</i>	Once the system detects that only five or less smart hubs are detected in one group will the alert code automatically clears.
65545		Service Soon	Cooling Capacity Alert	Cooling operation may not be sufficient for the hottest days. Based on local conditions and climatological data for zip code. EXAMPLE: <i>Dirty Filter, Low refrigerant charge, TXV, etc. Symptom during mild temperatures may include system running longer than normal but not showing any other symptoms.</i>	Auto cleared on next prediction
70001		Service Soon	IAQ: Internal Sensor Fault	This issue will occur when: <ul style="list-style-type: none"> Any of the CO₂, VOC and PM sensors output experiences an internal communication outage. Collected data values are out of range. Cycle device power may clear condition. To cycle power, press the device pairing button for one second. If cycling power does not resolve issue then: <ul style="list-style-type: none"> Remove device from the BLE network. Perform a factory reset of the device. Attempt to add device back to BLE network. 	<ul style="list-style-type: none"> If cycling power or factory reset does not resolve issue then replace the device. Automatically clears when the system detects that the issue no longer exists.
70002		Service Soon	IAQ: Internal Data Fault	Unable to access internal data. Cycle device power may clear condition. To cycle power, press the pairing button for one second. If cycling power does not resolve issue then: <ul style="list-style-type: none"> Remove device from the BLE network. Perform a factory reset of the device. Attempt to add device back to BLE network. 	<ul style="list-style-type: none"> If recycling power or factory reset does not resolve issue then replace device. Automatically clears when the system detects that the issue no longer exists.
70003		Service Urgent	IAQ Side Switch in OFF position	Slide the side switch to the ON position. ON is the up position.	<ul style="list-style-type: none"> Set side switch to ON position will clear this alert code. Automatically clears when the system detects that the issue no longer exists.
70004		Service Soon	IAQ: Replace Smart IAQ Monitor	<ul style="list-style-type: none"> The five year service life of the device is about to expire. Device will continue to function however sensor data collected may become unreliable thus affecting air quality in the home. 	<ul style="list-style-type: none"> Remove device from thermostat BLE network and replace device. Automatically clears when the system detects that the issue no longer exists.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
70501		Service Soon	Custom Sensor Name: Internal Data Fault	Not able to collect samples communication fault) or measured value is out of range from any of the sensor (TRH Sensor or Thermistor) or occupancy sensor voltage < 0.2V or > 2.5V, then condition is triggered. <ul style="list-style-type: none"> Power cycle Smart Room Sensor Wait for 10 minutes for self-clearing to take place, if condition is resolve for temperature and relative humidity. 	For occupancy sensor self-clearing will take 45 minutes (3 x 15 minute internal)
70502		Service Soon	Sensor: {Custom Sensor Name}: Internal Fault	Unable to access internal data. Cycle power. If cycling power does not resolve issue, replace Smart Room Sensor.	Automatically clears when the system detects that the issue no longer exists.
70503		Maintenance	Sensor: {Custom Sensor Name}: Low Battery - Change Batteries Soon	Battery life is less than 3%. Replace with two Lithium Ion AA batteries to resolve issue.	Automatically clears when the system detects that the issue no longer exists.
70504		Maintenance	Sensor: {Custom Sensor Name}: 1% Battery - Change Batteries	Battery percent is less than 1%. Replace with two Lithium Ion AA batteries to resolve issue.	Automatically clears when the system detects that the issue no longer exists.
71001		Service Soon	WE: Internal Data Fault	<ul style="list-style-type: none"> Unable to access internal data. Upon power cycle condition may clear itself. If recycling power does not resolve issue, replace Extender. 	Upon power cycle condition may clear itself.
71504		Information Only-Dealer	OU: Suction Temperature Sensor: incorrect reading	<ul style="list-style-type: none"> Measured suction temperature (ST) is not within the expected range. No major impact to the system Check and replace sensor if it is failed. 	Automatically clears when the system detects that the issue no longer exists.
71505		Information Only-Dealer	OU: Liquid Temperature Sensor: incorrect reading	<ul style="list-style-type: none"> Measured liquid temperature (LT) is not within the expected range. No major impact to the system Check and replace sensor if it is failed. 	Automatically clears when the system detects that the issue no longer exists.
71506		Information Only-Dealer	OU: Suction Pressure Sensor: Incorrect Reading	<ul style="list-style-type: none"> Measured suction pressure (SP) is not within the expected range. No major impact to the system Check and replace sensor if it is failed. 	Automatically clears when the system detects that the issue no longer exists.
71507		Information Only-Dealer	OU: Liquid Pressure Sensor: Incorrect Reading	<ul style="list-style-type: none"> Measured liquid pressure (LP) is not within the expected range. No major impact to the system Check and replace sensor if it is failed. 	Automatically clears when the system detects that the issue no longer exists.

Table 2. Alert Codes and Troubleshooting

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
71508		Information Only-Dealer	OU: Outdoor Temperature Sensor: Incorrect Reading	<ul style="list-style-type: none"> • If measured outdoor temperature (ODT) is not within the expected range. • No major impact to the system • Check and replace sensor if it is failed. 	Automatically clears when the system detects that the issue no longer exists.
71509		Information Only-Dealer	HP: Outdoor Coil Temperature Sensor: Incorrect Reading	<ul style="list-style-type: none"> • If measured outdoor coil temperature (ODTCoil T) is not within the expected range. • No major impact to the system • Check and replace sensor if it is failed. 	Automatically clears when the system detects that the issue no longer exists.
71510		Service Soon	OU: ID TXV Failure	<ul style="list-style-type: none"> • Super Heat average is not in expected range. (Too high or too low superheat) • Replace Expansion Valve. 	Automatically clears when the system detects that the issue no longer exists.
71511		Service Soon	IU: Duct or Filter Blockage	Clean ducts or replace filter.	Automatically clears when the system detects that the issue no longer exists.
71512		Service Urgent	OU: High-Pressure Switch Fault	<ul style="list-style-type: none"> • If switch tripped without meeting the liquid pressure condition. • If Liquid pressure > 500 psig then replace high-pressure switch. 	Automatically clears when the system detects that the issue no longer exists.
71513		Service Soon	OU: Low-Pressure Switch Fault	<ul style="list-style-type: none"> • If switch tripped without meeting the suction pressure condition. • Replace low-pressure switch. 	Automatically clears when the system detects that the issue no longer exists.
71514		Service Soon	OU: System Low on Refrigerant Charge	<ul style="list-style-type: none"> • If sub cooling average is not within expected range for given ODT and compressor Hz. • Add refrigerant 	Automatically clears when the system detects that the issue no longer exists.
71515		Service Urgent	HP: Reversing Valve Stuck	<ul style="list-style-type: none"> • If liquid and suction pressure average ratio does not fall within the expected range. • Service reversing valve message. 	Automatically clears when the system detects that the issue no longer exists.
71516		Service Urgent	OU: Outdoor Fan Motor Failure	<ul style="list-style-type: none"> • If superheat suction pressure values are not within expected range. • Service outdoor fan. 	Automatically clears when the system detects that the issue no longer exists.
71517		Service Urgent	IU: Indoor Fan Motor Failure	<ul style="list-style-type: none"> • If superheat suction pressure values are not within expected range. • Service indoor fan. 	Automatically clears when the system detects that the issue no longer exists.
71518		Service Urgent	OU: Compressor Failed to Start	<ul style="list-style-type: none"> • If liquid and suction pressure average ratio does not fall within the expected range. • Service compressor. 	Automatically clears when the system detects that the issue no longer exists.
71519		Service Urgent	HP: Incorrect Reversing Valve Mode	<ul style="list-style-type: none"> • If Outdoor coil temperature plus 3°F is less than outdoor temperature or if ODT plus 3°F is greater than ODT Coil temperature along with Reverse valve status open/closed. • Check solenoid wiring for reverse valve. 	Automatically clears when the system detects that the issue no longer exists.
71520		Service Urgent	OU: Blocked Liquid Line	<ul style="list-style-type: none"> • If superheat suction pressure values are not within expected range. • Check liquid line, expansion and service valves. 	Automatically clears when the system detects that the issue no longer exists.
71521		Service Urgent	HP: Outdoor TXV Failure	<ul style="list-style-type: none"> • Superheat average is not in expected range. • Replace Outdoor Expansion Valve. 	Automatically clears when the system detects that the issue no longer exists.

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Alert Code	Inverter Flash Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
80001		Information only Dealer	IAQ: Persistent Poor Air Quality	<p>Cycle power to device.</p> <p>If cycling power does not resolve the issue, check all installed Indoor Air Quality (IAQ) equipment installed in the HVAC system. For example check:</p> <ul style="list-style-type: none"> All installed IAQ equipment are power on, connected and working properly. HC air filters and replace if dirty. Pure Air or Pure Air S UV lamp and if not working replace. Check filter and replace if dirty. ERV/HRV filter and replace if dirty. UV Germicidal lamp is working and replace if necessary. 	<ul style="list-style-type: none"> If cycling power and checking all installed IAQ equipment does not resolve the issue, then replace device. Automatically clears when the system detects that the issue no longer exists.
80002		Information only Lennox	XX: Unresponsive Wireless Device Fault	<p>Wireless BLE device is connected to the network but has failed to respond to commands. Try cycling power to device.</p> <p>If cycling power does not resolve issue then:</p> <ul style="list-style-type: none"> Remove device from the BLE network. Perform a factory reset of the device. Attempt to add device back to BLE network. 	<ul style="list-style-type: none"> If recycling power or factory reset does not resolve issue then replace device. Automatically clears when the system detects that the issue no longer exists.
80003		Service Soon	Lost communication with wireless Device	<p>Try cycling power to the device.</p> <p>If cycling power does not resolve issue then:</p> <ul style="list-style-type: none"> Remove device from the BLE network. Perform a factory reset of the device. Attempt to add device back to BLE network. 	<ul style="list-style-type: none"> If recycling power or factory reset does not resolve issue then replace device. Automatically clears when the system detects that the issue no longer exists.
80005		Service Soon	XX: Unknown Wireless Device Found.	<ul style="list-style-type: none"> Upon power cycle condition may clear itself. Move the wireless BLE device closer to the thermostat or add a Lennox Wireless Extender to increase the wireless coverage area. 	Automatically clears when the system detects that the issue no longer exists.
--		Service Soon	--	<p>Possible loose, incorrectly wired connections or two zone sensors are assigned the same zone number. Two dashes will be displayed on the S30/S40 thermostat for indoor temperature and/or zone sensor then</p> <ul style="list-style-type: none"> System will go into central mode. Individual zone functions is disabled. 	If two zone sensors are assigned the same zone number, this could cause the double dashes to appear. If loose or incorrectly wired connection was confirmed, correct the issue and run the re-configuration procedure.

