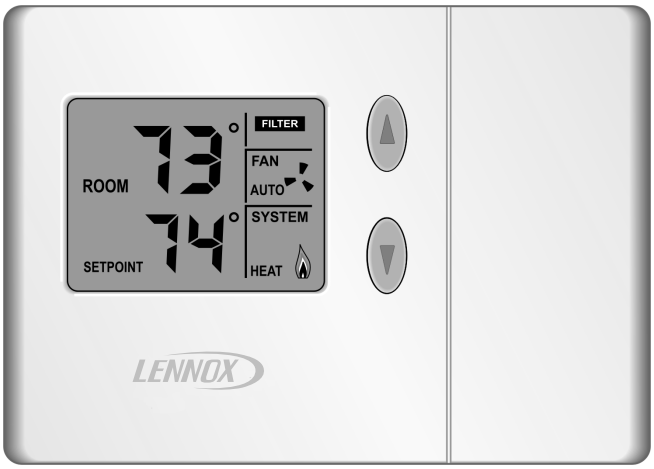

THIS MANUAL MUST BE LEFT WITH THE HOMEOWNER FOR FUTURE REFERENCE

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

L3011C/L3021H Thermostats

These are non-programmable electronic thermostats which are easy-to-use, have a large, easy-to-read display, and provide excellent temperature control. Both thermostat models also includes a programmable filter change reminder, and a system check indicator which will notify the user of the need for equipment service.

Thermostat model L3011C is suitable for non-heat pump, single-stage heat/single-stage cool applications that are matched with a gas or electric furnace.

INSTALLATION INSTRUCTIONS

ComfortSense® 3000 Series Models L3011C/L3021H Non-Programmable Thermostats

CONTROLS
506080-02
9/2018
Supersedes 5/2017

Table of Contents

Thermostat model L3021H is suitable for single-stage heat pump applications that are matched with a gas or electric furnace as the auxiliary heat source. An optional outdoor temperature sensor provides auxiliary heat lockout/balance point operation and dual-fuel compatibility.

General

These instructions are intended as a general guide and do not supersede local codes in any way. Consult authorities having jurisdiction before installation.

Check equipment for shipping damage. If you find any damage, immediately contact the last carrier.

Shipping and Packing List

1 - Thermostat (L3011C or L3021H)
2 - Plastic wall anchors
2 - Screws

Optional Accessories

Outdoor Sensor (used with L3021H only): X2658
Wall Plate: X2659

Requirements

⚠ IMPORTANT

Read all of the information in this manual before using this thermostat.

All wiring must conform to local and national building and electrical codes and ordinances.

This is a 24VAC Class II voltage thermostat. Do not install on voltages higher than 30VAC.

Be sure that power routed to the thermostat has been powered off before beginning installation.

This thermostat should be used only as described in this manual.

Do not install the thermostat on outside walls (where there is unconditioned space on opposite side of wall) or in locations where direct sunlight may be present.

Install thermostat about 5 feet up from the floor.

⚠ CAUTION

Do not short (jumper) across terminals on the gas valve or at the system control to test installation. This will damage the thermostat and void the warranty.

Installation

NOTE - If this thermostat is replacing an existing thermostat, carefully label the existing thermostat wires so that they can be identified later.

1. If a previously-installed thermostat exists, remove it; if none exists, identify the location for installation (locate, or install wiring as necessary). To facilitate installation, enlarge the hole where the thermostat wires protrude through the wall to about 1-1/2" wide by 3/4" high.
2. Pull about 3 inches of the thermostat wiring through the wall opening. Strip 1/4" of the insulation from the ends of the thermostat wires to be used.
3. Use a screwdriver to remove the thermostat subbase from the body. Carefully pry the subbase away from the body along the bottom edge of the base near the two mounting snaps; then lift the subbase upward.
4. Use the subbase as a template to mark the desired mounting hole locations on the wall.
5. Drill two 3/16" holes at the marked locations on the wall. Insert the provided plastic wall anchors provided into the holes. Press the anchors into the holes until anchors are flush with the wall.
6. Align the subbase over the plastic anchors and secure it to the wall using the provided screws.
7. Use a small slotted screwdriver to secure all wires to the subbase terminal block. Make thermostat connections as follows:
   - L3011C - See table 1 and figure 1.
   - L3021H - See table 2 and figure 2.
8. **Thermostat L3021H Only**
   - For most applications, E will be jumpered to W1. If separate wires are not provided for both E and W1, jumper the E terminal to the W1 terminal on the thermostat subbase.
   - For dual-fuel applications (heat pump with gas furnace), OR for auxiliary heat lockout applications, the optional outdoor sensor (part number X2658) MUST be installed.
   - Connect the outdoor temperature sensor wires to the T terminals on the subbase terminal strip. (The sensor connections are not polarity-sensitive.)
9. After wiring is complete, thoroughly seal the hole in the wall with a suitable material to prevent unconditioned air in the wall space from entering the thermostat.
10. Set the thermostat DIP switches as required for the application. See table 3 for DIP switch settings.
11. Carefully attach the thermostat to the subbase by first engaging the hinges at the top of the unit, then pivoting the thermostat downward until the thermostat snaps into place.

    The thermostat is now ready for operation. Turn on power to the thermostat and refer to the appropriate thermostat operation manual: 504,865M for L3011C or 504,931M for L3021H.
12. Remove the clear protective film from the face of the thermostat display.

    Note: After this film is removed, some dark streaks or lines may temporarily appear on the display. These are normal and should disappear within a few minutes.

Removing Thermostat

The thermostat hinges on tabs on the top of the subbase. After installation is complete, no tool is needed to remove the thermostat from the subbase. Pivot the bottom of the-thermostat outward (releasing the snaps), then lift up to remove.

Table 1. L3011C Terminal Designations

Terminal	Description
R	24VAC
G	Fan control
Y1	First stage cooling
W1	First stage heating
L	Service Indicator
C	24VAC common

Table 2. L3021H Terminal Designations

Terminal	Description
O	Reversing valve, cool active
B	Reversing valve, heat active
R	24VAC
G	Fan control
Y1	First-stage cooling/heating, compressor-generated
W1	Auxiliary heating, furnace-generated
L	Service Indicator
C	24VAC common
E	Emergency heat
T	Outdoor temperature sensor connection 1
T	Outdoor temperature sensor connection 2

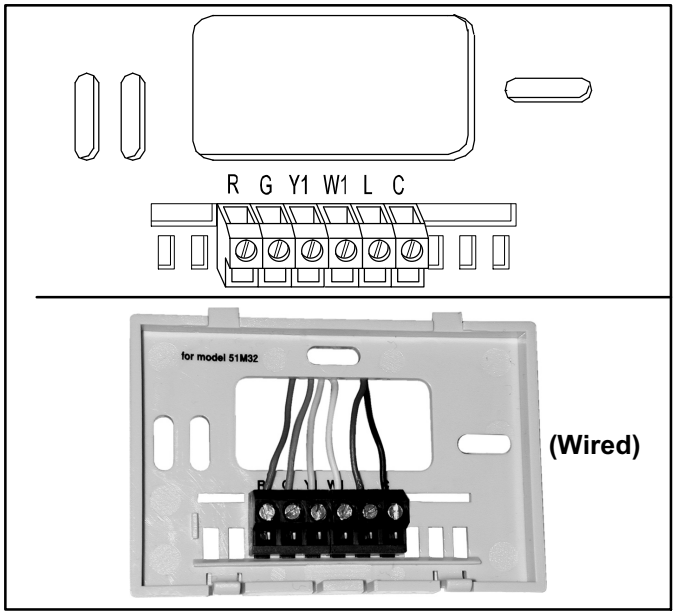

Figure 1. L3011C Terminal Strip

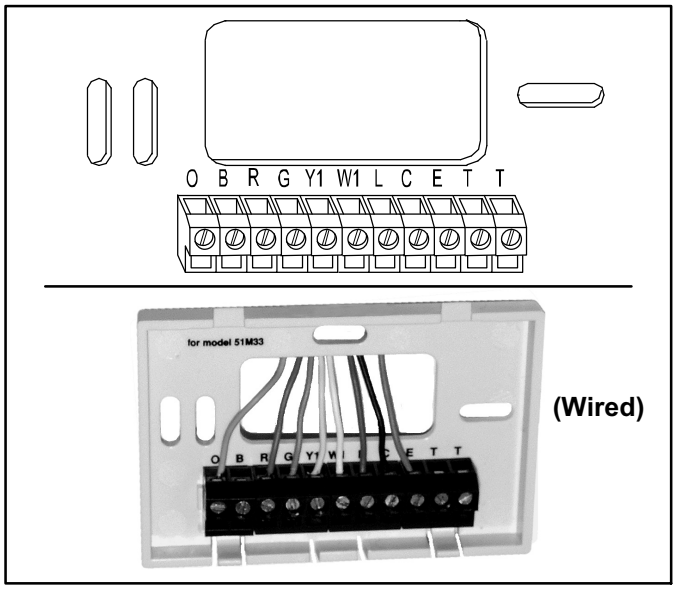

Figure 2. L3021H Terminal Strip

Thermostat Operation

NOTE: The thermostat heating mode will not operate if the thermostat has been stored or is being used at ambient temperatures that are above 93°F. The heating function will be enabled after the thermostat is exposed to ambient temperatures below 93°F for about 30 minutes.

DIP Switch Settings

DIP Switch Settings

L3011C and L3021H thermostats include five DIP switches located on the back side of the thermostat body. These switches may be used to re-calibrate the thermostat (Cal 1, Cal 2 and Cal±) and to select the thermostat display (Fahrenheit or Celsius). Thermostats L3011C also include a DIP switch used to select fan operation for either electric heat or gas heat applications.

Thermostat L3021H includes a DIP switch used to indicate whether electric or gas back-up heat will be used. Refer to table 3 for DIP switch function descriptions.

Table 3. DIP Switch Function Description

Designation	Description	Off	On	Factory Setting
1 - Cal 1	Room Temperature Offset: 1°F	0°F	1°F	0°F
2 - Cal 2	Room Temperature Offset: 2°F	0°F	2°F	0°F
3 - Cal +/-	Room Temperature Offset: Sign	Positive	Negative	Positive
4 - F/C	Select Fahrenheit or Celsius Display	F	C	F
5 - Fan Option (L3011C only)	Select Heating Fan Operation: Electric (E) or Gas (G)	G	E	G
5 - Backup Heat (L3021H only)	Select Backup Heat: Electric (Aux) or Gas (Dual)	Aux	Dual	Aux

Thermostat Calibration

The Cal 1, Cal 2 and Cal± DIP switches may be used to offset or recalibrate the room temperature display. Table 4 provides DIP switch settings and corresponding temperature offset values.

L3011C Thermostats Only - If the fan operation DIP switch is set on G, fan operation during the heating mode will be controlled by the furnace, rather than by the thermostat. The thermostat fan icon is not displayed during heating mode operation, even though the fan may be energized. This setting is used in applications which include a gas furnace. If the fan operation DIP switch is set on E, the thermostat controls fan operation during the heating mode. This setting is used in applications which include an electric furnace.

L3021H Thermostats Only - Restriction of the backup heat functions requires the installation of the optional outdoor temperature sensor (X2658). The sensor must be wired to the subbase terminal strip T terminals. Use the backup heat DIP switch to select either electric heat backup or gas heat backup.

Table 4. DIP Switch Temperature Offset

Cal 1	Cal 2	Cal +/-	Temperature Offset
Off	Off	Off	+0°F (no offset)
On	Off	Off	+1°F
Off	On	Off	+2°F
On	On	Off	+3°F
Off	Off	On	-0°F (no offset)
On	Off	On	-1°F
Off	On	On	-2°F
On	On	On	-3°F

Wiring Diagrams

Typical wiring diagrams for the thermostats are shown in figure 3 for the L3011C and figure 4 (Page 6) for the L3021H.

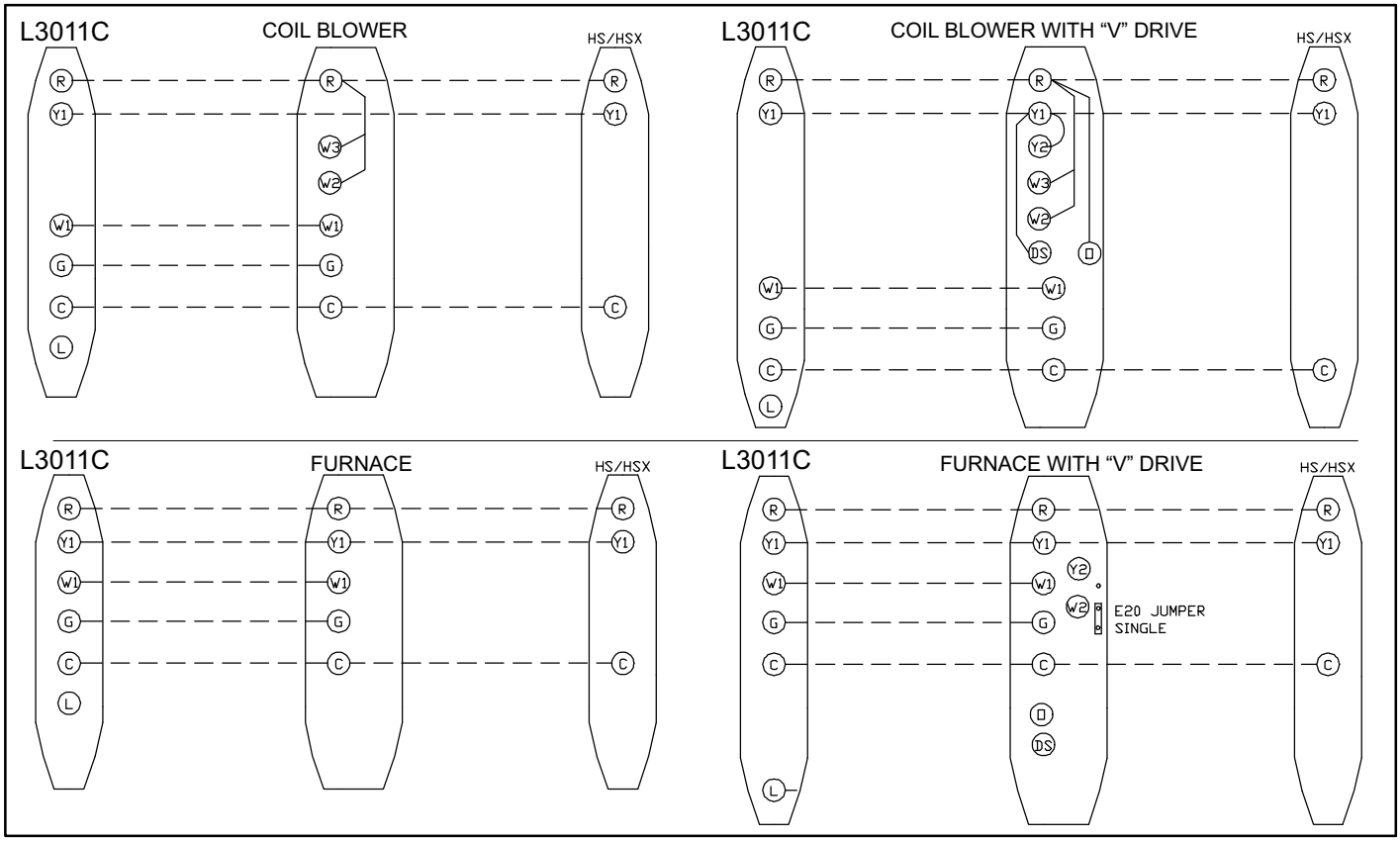

Figure 3. Typical Wiring Diagrams for Condenser and L3011C Thermostat

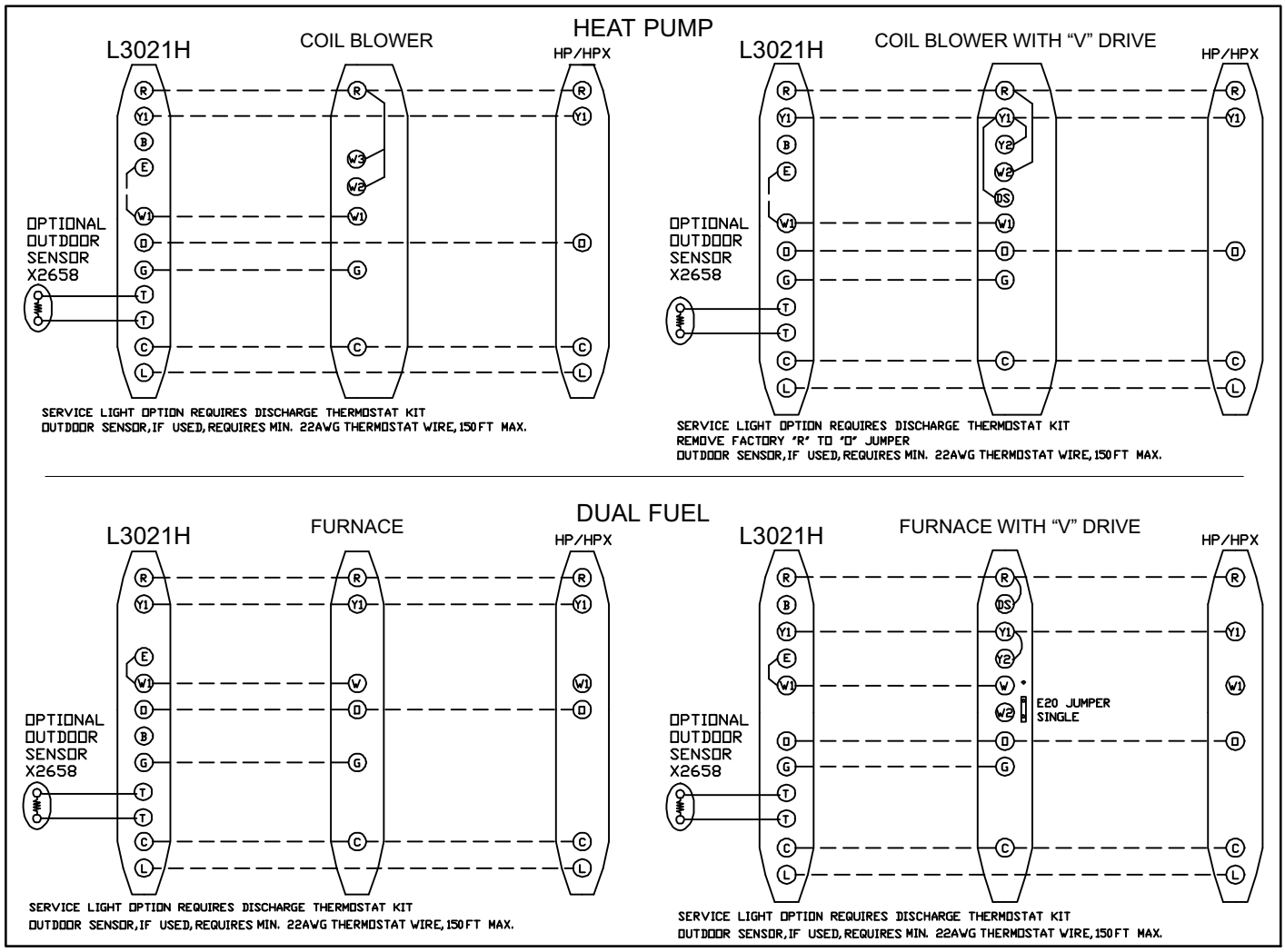

Figure 4. Typical Wiring Diagrams for Heat Pump or Dual Fuel with L3021H Thermostat