

# WSK300

## Multifunction Wall Control



### Installation & Operating Instructions



#### ⚠ WARNING

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged system component.
- Modification of the system component.
- Installation other than as instructed by Hearth & Home Technologies.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.

**Any such action may cause a fire hazard.**

- Read, understand and follow these instructions for safe installation and operation.

Note: The electrical junction box provided with the fireplace must be wired with 110 VAC before installing this kit. See owners manual for details.

All wiring should be done by a qualified electrician and shall be in compliance with local codes and with the National Electric Code ANSI/NFGA No. 70- current (in the United States), or with the current CSA C22.1 CANADIAN ELECTRIC CODE (in Canada).



#### ⚠ WARNING

Shock Hazard

Do not provide any power to this unit until all wiring is completed. Failure to do so may destroy parts of this device and render it unusable, and may lead to possible electrical shock.



Fire Hazard

Modification of any parts or installation of damaged components will void the warranty, and you may possibly cause a fire hazard.

### Introduction

The WSK300 multifunctional wall switch is designed to control flame height, blower speed, and up to 2 other 110-120 VAC auxiliary functions on your gas fireplace. Also, the wall switch is equipped with thermostat functions which can automatically control the temperature in the room in which it is installed. The control is only for use with the Intellifire system (IPI). However, the pilot function can control the pilot flame as well. Electrical ratings for the control box are 110 VAC, 60 Hz, and is required for operation of this device.

**Note:** Whenever the fireplace is turned on, the flame size will always be on HI for 75 seconds, then the control will set the flame to the programmed setting.

### Installation

1. Locate placement of wall control. The wall control must be located within 30 feet (within the line of sight) of the fireplace and 5 feet from the flooring. A maximum wire length of 50 feet may be used.

**Note:** The wall control is a three conductor, low voltage control that requires a minimum of a 22 gauge wire. The control is shipped with 18 feet of wire.

Placement of this wall switch may affect performance or accuracy of the automatic (thermostat) control. An assessment of the space should be done prior to installation for optimal performance. See the installation instructions section I for recommendations.

2. Remove wall control from packaging material.
3. Remove wall control back plate by pushing down on two tabs located at top left and right of control face.
4. Mount control box back on wall surface. Install two screws at holes provided on wall control back at top and bottom.

**Note:** This wall control is designed to mount to a wall junction box. To secure to wall properly ensure that a wall stud is located behind wall. For exterior wall installations, it is recommended that the junction box be sealed with caulking material. This will minimize heat loss through this location and improve the accuracy of the automatic (thermostat) operation.

5. Connect red, green and white wires from the fireplace control module to the terminal block located on the back of the control face panel.

**Note:** Ensure wires are connected to the correct color coded locations on terminal block face. Red to red, green to green, and white to white/yellow.

## CAUTION

Risk of damage to control.

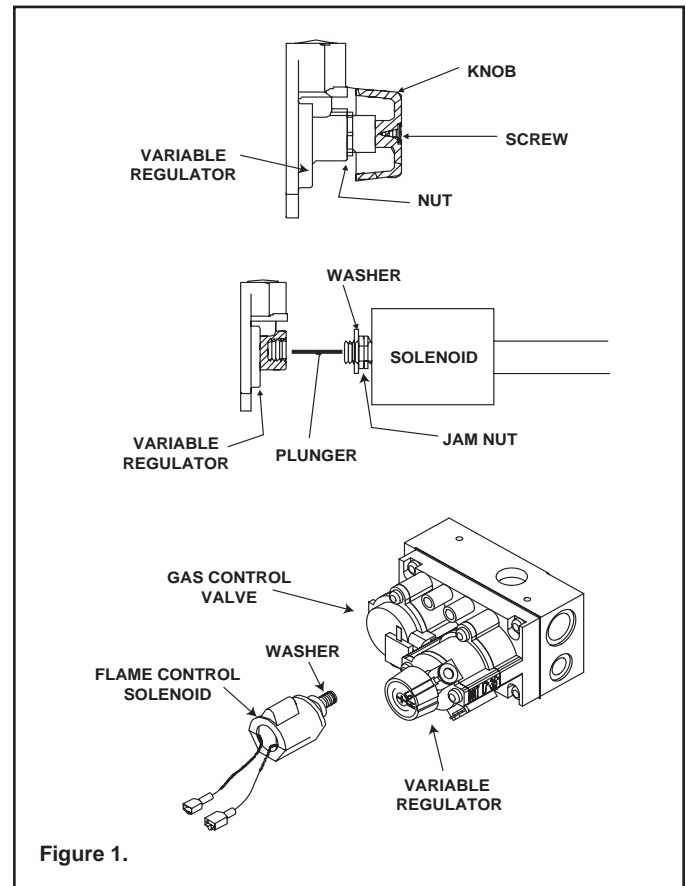
Ensure wires are placed into correct color coded terminals without touching other wires.

- Incorrect placement or crossed wires may damage wall control.

6. Place front cover plate onto wall control.
7. Place bottom of wall control faceplate into grooves. Snap upper faceplate into place.

## Installing the Hi/Lo Solenoid

1. Install the solenoid (see Figure 1).
2. Remove screw and knob from variable regulator and discard. Unscrew nut from regulator and discard.
3. Remove the bag containing a washer and blue and red plungers from the side of the flame control solenoid. Place washer on flame control solenoid.
4. Insert correct plunger (blue - natural gas, red - propane) into the flame control solenoid. Thread the flame control solenoid with correct plunger into the thread hole in the variable regulator. Turn solenoid into valve approximately two full turns. Do not tighten or damage may occur.
5. Connect two pin molex connector from the flame control solenoid to the first two pin molex plug on the control box, as noted on the control module label.
6. Refer to Setting Flame Height/Manifold Pressure instructions on page 4.



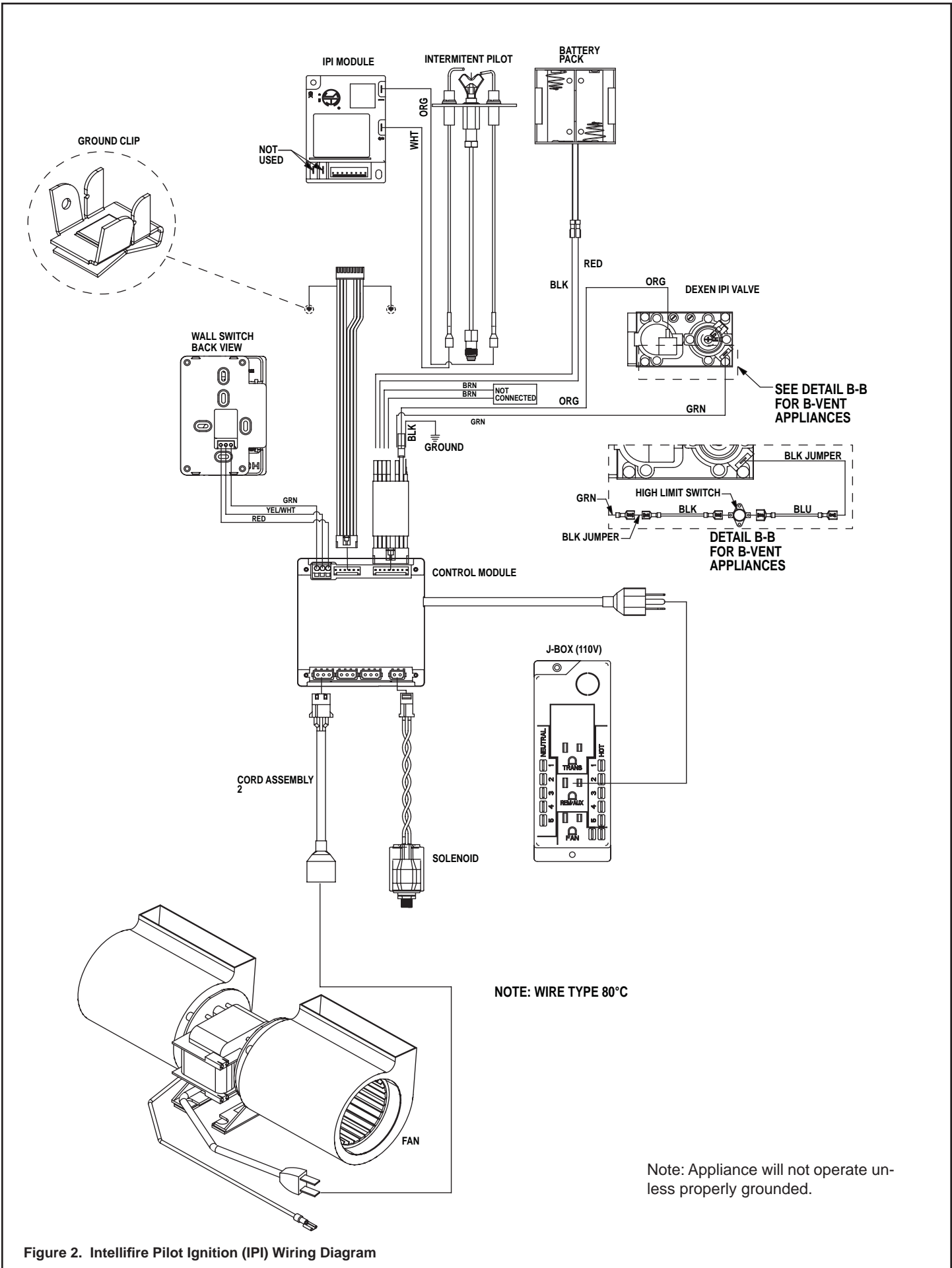


Figure 2. Intellifire Pilot Ignition (IPI) Wiring Diagram

## Installing the Control Box

### ⚠ CAUTION

- Do not install the control box when fireplace is hot.
- Do not plug control box in until all connections are complete.

1. Place control box into the base pan area of the fireplace. Place unit as close to the louvers or decorative front as possible and to either the left or right side.
2. Connect the red, yellow or white, and green wires to the appropriate labeled terminals on the control box.



### ⚠ WARNING

Shock hazard

- Failure to cap unused auxiliary connectors can result in electric shock.

3. If fireplace is equipped with a fan, plug the fan cord into "A1" on the control box. Terminals that are not occupied should be capped with the insulator caps provided. Failure to cap unused auxiliary connectors can result in a possible electric shock.

4. Disconnect the multiwire connector from existing green control box. Connect the end just disconnected to the matching terminal on the new black control.
5. Connect the new lead wire set to black and green control boxes matching connectors.
6. Attach the provided ground clip (see Figure 2) to the nearest available sheetmetal edge. Attach the black leads with the 1/4 inch female connector to the ground clip.

**Note:** Failure to ground the new 6 to 8 pin wiring harness may cause the wall control to lock up.

7. All wiring should be complete. See Figure 2 to confirm that all connections are correct.
8. After confirming wiring is correct, plug in control box to junction box.

**Note:** Proper settings and operation **MUST** be confirmed before installation is complete.

## Setting Flame Height / Manifold Pressure

### ⚠ WARNING



Explosion risk

- Incorrect adjustment of solenoid may cause delayed ignition.

Fire risk

- Incorrect adjustment of solenoid may cause a fire.

**Note:** A manometer **MUST** be used to set the manifold pressure on the gas valve.

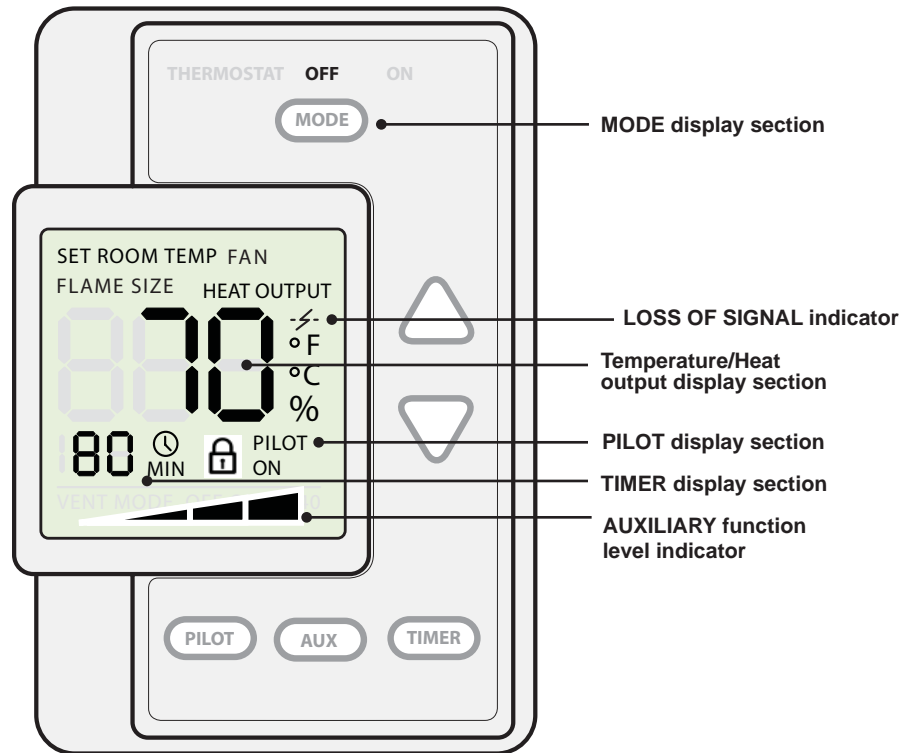
(To be done by a qualified service technician). Upon initial power-up of this device, valve pressure must be set for flame adjustment.

1. Loosen output pressure tap on valve and connect with pressure manometer.
2. Press mode button to "ON"; fireplace will light with flames on high.
3. Turn solenoid clockwise to increase pressure, counterclockwise to decrease pressure until manifold pressure on high is 3.5 inch water column for natural gas (NG), 10.0 inch water column for propane (LP).
4. Once pressure is achieved spin jam-nut on solenoid stem tight against regulator face to prevent rotation. While holding solenoid, tighten jam nut with 1/2" wrench. This will ensure that the solenoid remains locked in the proper position.
5. Press mode button to turn fireplace off.
6. Remove manometer tube and tighten or close pressure tap. Use a commercially available, non-corrosive leak check solution to carefully check the pressure tap for leaks.

# Wall Control - WSK300

## Control Specifications

### Wall Control



### Button & Display Key

#### MODE

Use **MODE** button to toggle through three mode functions “**THERMOSTAT**”, “**ON**”, and “**OFF**”. The **THERMOSTAT** and **ON** functions will be highlighted in yellow and **OFF** in red when selected.

- **THERMOSTAT** function controls the fireplace based on a desired set point.
- **ON** function allows the user to operate the fireplace and auxiliary features independently as desired.
- **OFF** function, all settings for the product are OFF.

#### PILOT

Use **PILOT** button to toggle between two pilot functions. “**PILOT ON**” will always be highlighted on display for cold climate pilot operation. “**PILOT OFF**” will be displayed when in normal pilot operation for three seconds.

#### AUX

Use **AUX** button to toggle between A1, A2 and A3. Use the up and down arrows to control the level of each Auxiliary function.

#### TIMER

Use **TIMER** button to set timer function for a countdown operation in “Manual” or “Auto” mode.



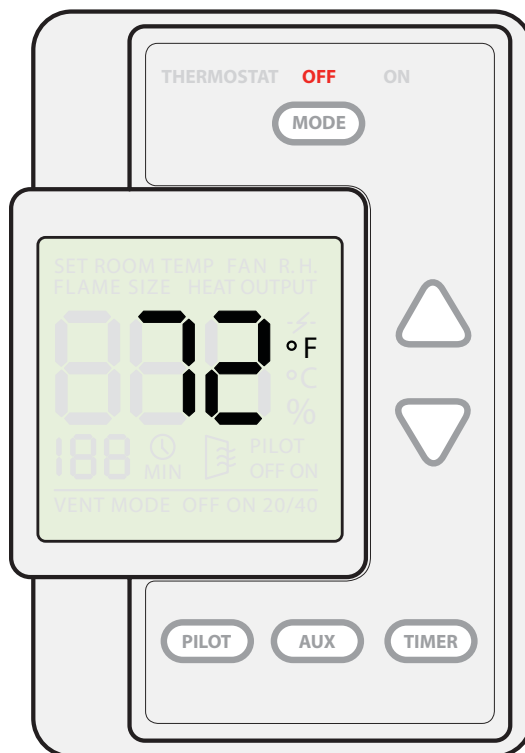
Use **UP & DOWN ARROW** button to set values within a function.

**Note:** Batteries should not be stored in the battery holder under the fireplace. The battery life will be shortened by the heat.

# Wall Control - WSK300

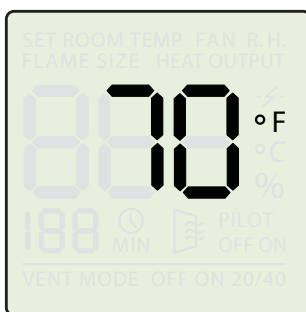
## Control Specifications

### Wall Control



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### Function - CONTINUOUS DISPLAY SCREEN

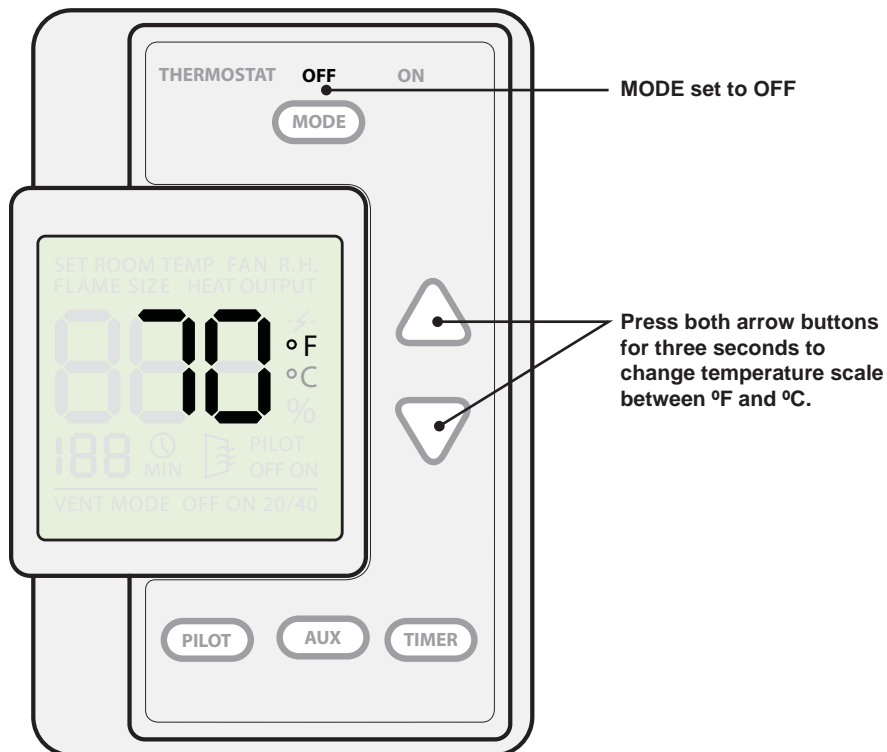


- At a continuous display mode, LCD will only display the room temperature.

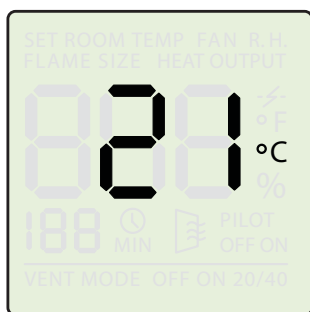
# Wall Control - WSK300

## Control Specifications

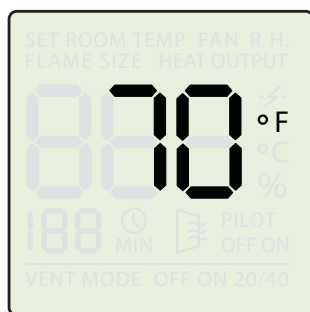
### Wall Control



### Function - TEMPERATURE SCALE INDICATOR



- Press **MODE** button until OFF setting is highlighted.
- Press both arrows  $\Delta \nabla$  for three seconds to activate the temperature scale change.
- Celsius icon will appear with the temperature level.

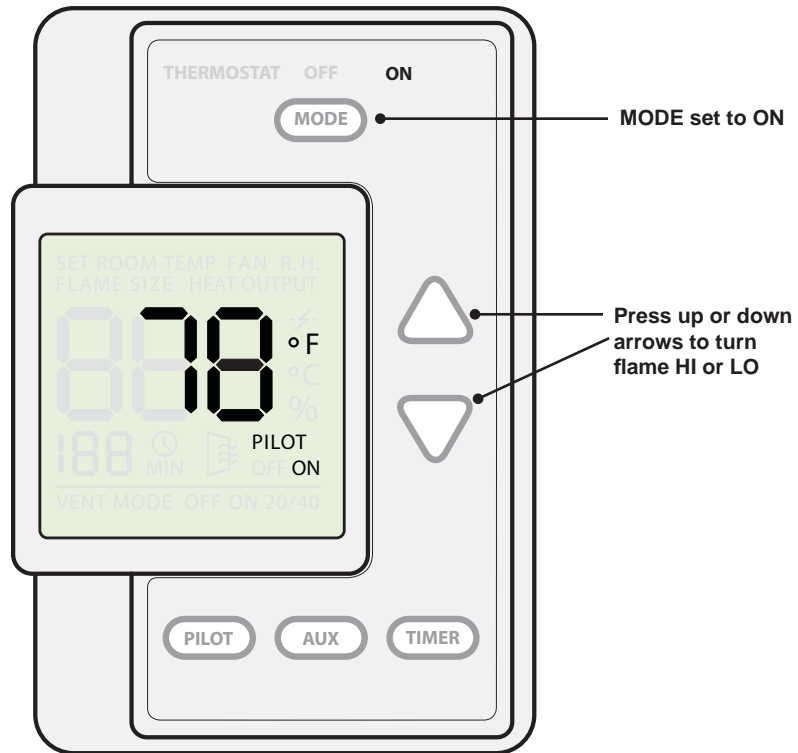


- Press both arrows  $\Delta \nabla$  for three seconds to again activate the temperature scale change.
- Fahrenheit icon will appear with the temperature level.

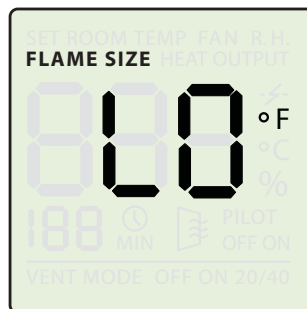
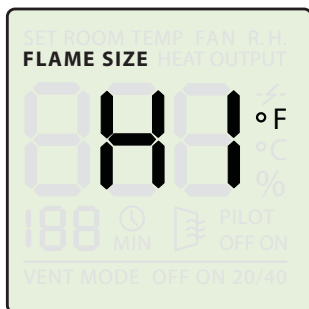
# Wall Control - WSK300

## Control Specifications

### Wall Control



### Function - ON mode



#### Adjusting Flame Size

- Pressing the UP or DOWN  $\triangle$ / $\nabla$  arrow while the continuous display screen is shown will display the current flame size.
- Pressing UP or DOWN again within 5 seconds will adjust flame size:  $\triangle$  = HI Flame  
 $\nabla$  = LO Flame

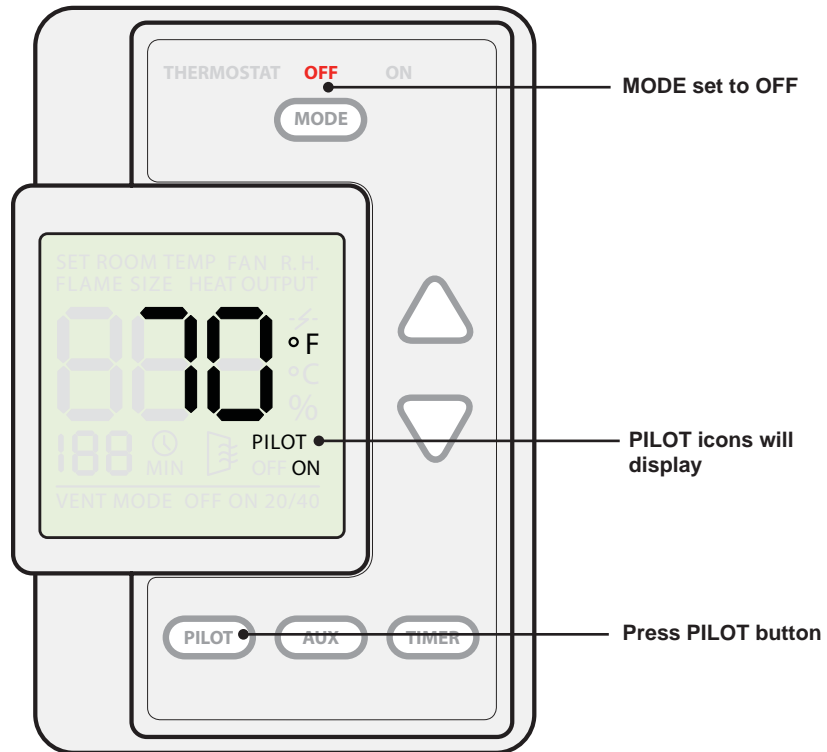
**Note:** Whenever the fireplace is turned on, the flame size will always be on HI for 75 seconds, then the control will set the flame to the programmed setting.



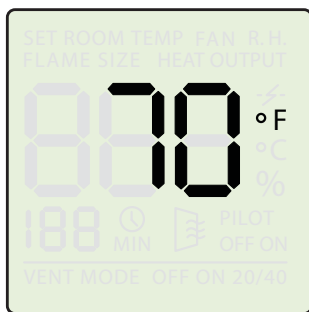
# Wall Control - WSK300

## Control Specifications

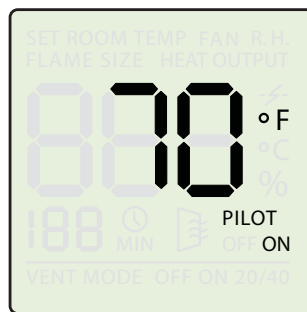
### Wall Control



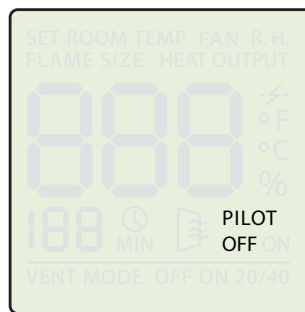
### Function - PILOT settings



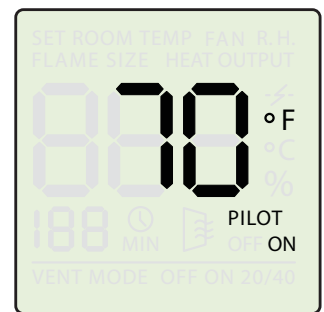
- Press **MODE** button until OFF setting is highlighted.
- Normal display will have no PILOT icons displayed.



- Press **PILOT** button to set pilot to "ON" for cold climate setting.
- Pilot "ON" icon will stay visible on display.
- Pilot flame will stay lit continuously.



- Press **PILOT** button, again, to set pilot to "OFF". This will turn off cold climate setting.
- Pilot "OFF" icon will stay visible on display for three seconds.
- Pilot flame will only light when needed to light burner.

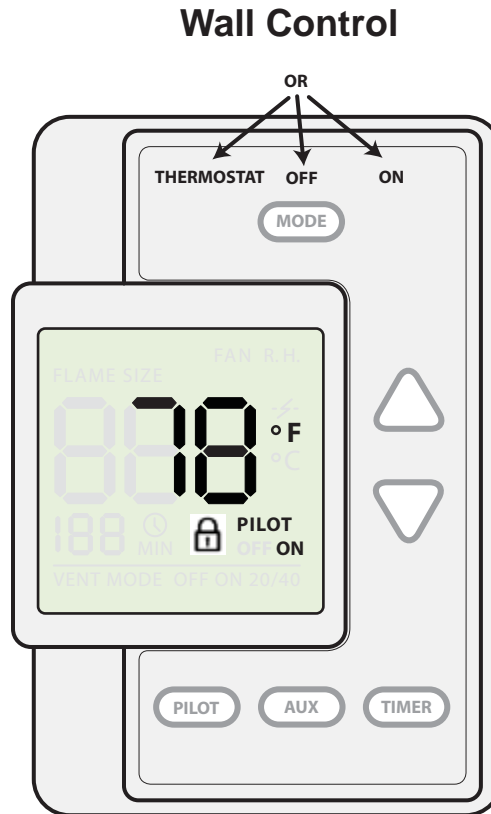


- Once the desired PILOT function is set, continuous display mode will be displayed after three seconds.

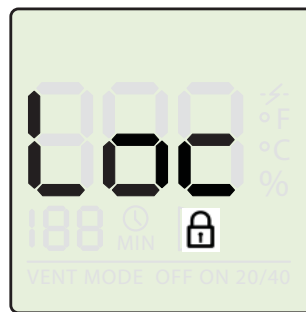
# Wall Control - WSK300

## Control Specifications

The Child Lockout Feature allows the user to lock any button press from changing the state of the fireplace or its features.



## Function - CHILD LOCKOUT feature



### Activating Child Lockout Feature

- Press and hold the **MODE** button for 3 seconds while the Continuous Display Screen is shown to activate the Child Lockout Feature. This feature may be activated in the "ON", "THERMOSTAT", or "OFF" modes; with any other features or settings active (Countdown Timer, Fan, Standing Pilot Feature, etc.).
- Once the **MODE** button is pressed for 3 seconds, the control will beep twice indicating the lockout state has changed, and "Loc" and the pad lock icon will be shown on the display. When the lockout feature is active, other buttons are disabled and "Loc" will be displayed on the screen.

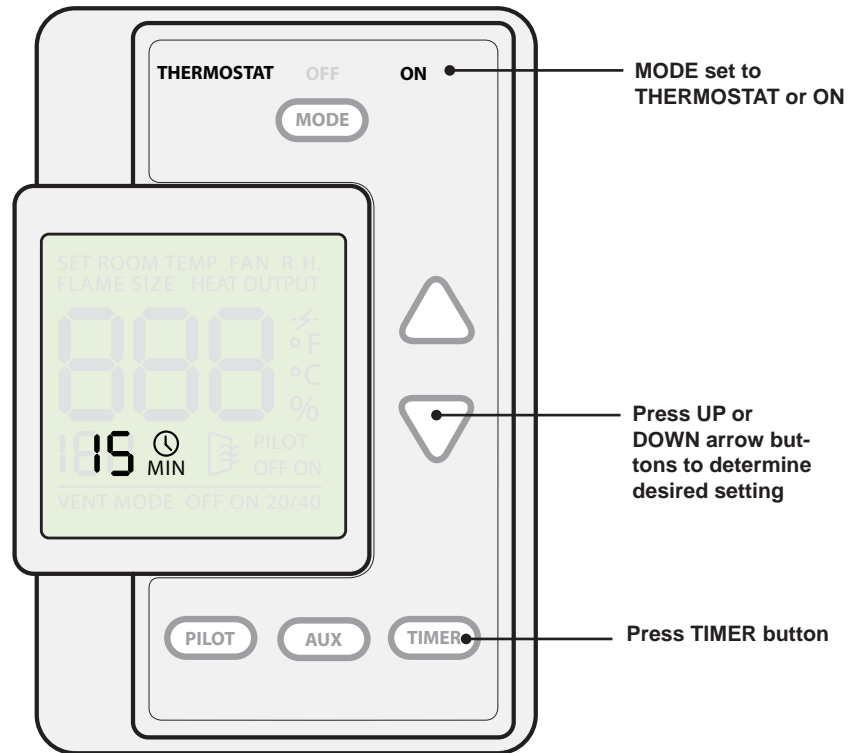
### De-activating Child Lockout Feature

- To cancel the Child Lockout Feature, press and hold the **MODE** button again for 3 seconds. The control will beep twice again, and the padlock icon will be removed from the display. The fireplace and features may now be adjusted as desired.

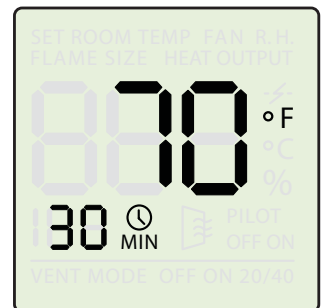
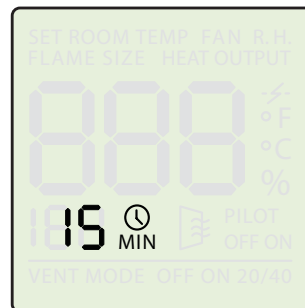
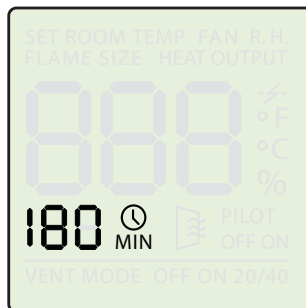
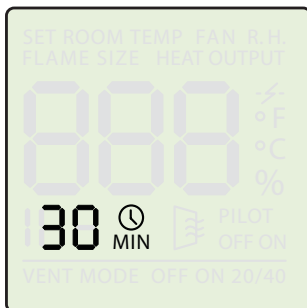
# Wall Control - WSK300

## Control Specifications

### Wall Control



### Function - TIMER settings



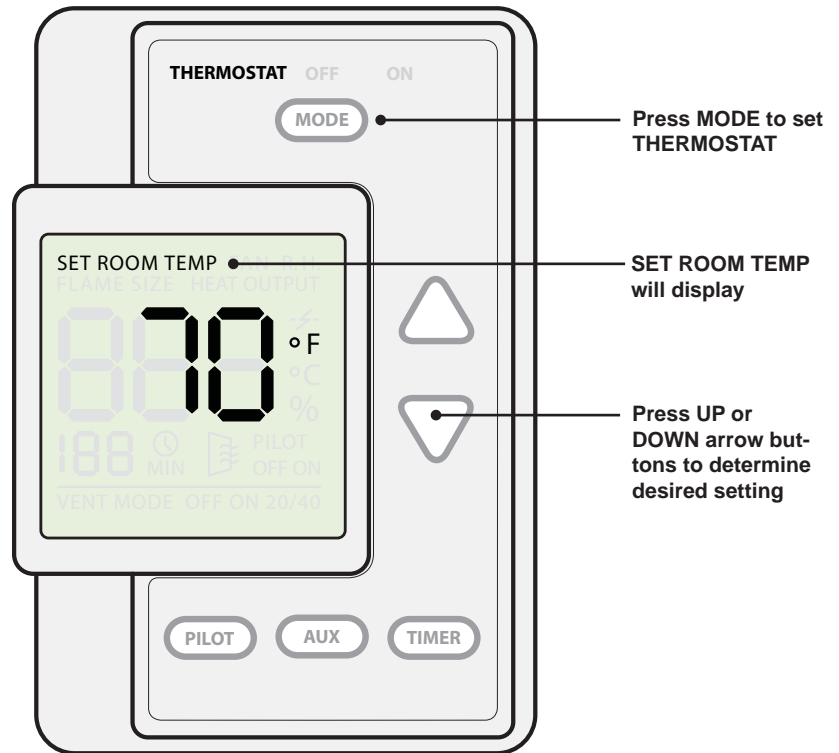
- Press **MODE** button until ON or THERMOSTAT settings are highlighted.
- Press **TIMER** button to activate TIMER display.
- Press settings within five seconds to adjust.
- Press UP arrow  $\Delta$  to increase TIMER setting, in 15 minute increments, to a maximum of 180 minutes.
- Press DOWN arrow  $\nabla$  to decrease TIMER setting, in 15 minute decrements, to a minimum of 15 minutes.
- To change TIMER settings while the TIMER is active, press **TIMER** button twice.
- Then Press UP or DOWN arrows  $\Delta$   $\nabla$  to increase/ decrease TIMER setting.
- Once the desired TIMER is set, continuous display mode and TIMER count-down will be displayed after five seconds. TIMER icon will blink indicating active.
- To cancel TIMER mode, press the **TIMER** button again.

# Wall Control - WSK300

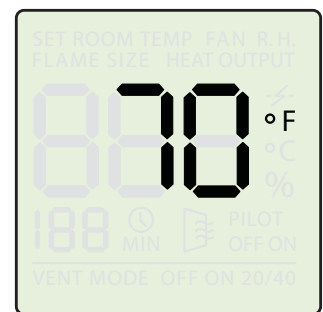
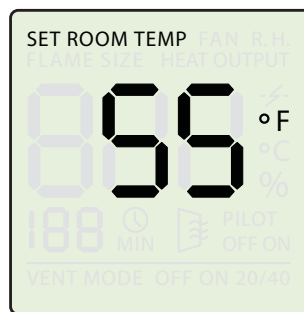
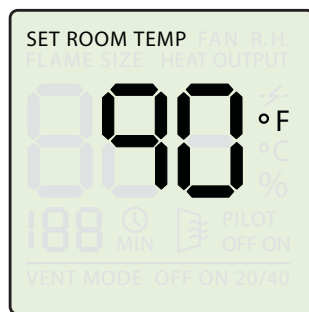
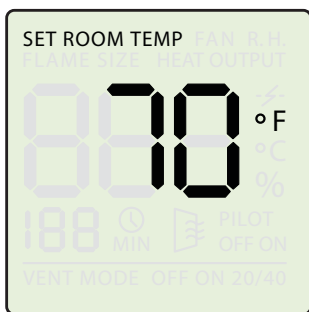
## Control Specifications

THERMOSTAT mode will automatically adjust fireplace Flame Size and Fan Speed based on the desired room temperature. If AUX 1 (Fan) is pressed AUT will display on the screen. (When the control is first powered, the THERMOSTAT mode will gather room temperature information for 4 minutes before it will begin to operate -after 4 minutes of having power THERMOSTAT mode will initiate immediately when selected).

### Wall Control



## Function - ROOM TEMPERATURE settings



- Press **MODE** button until THERMOSTAT setting is highlighted.
- In THERMOSTAT mode, SET ROOM TEMP icon is highlighted. This function will maintain room temperature based on desired setting.
- Press settings within three seconds to adjust.
- Press UP arrow  $\Delta$  to increase ROOM TEMP, in 1 degree increments, to a maximum of 90° F.
- Press DOWN arrow  $\nabla$  to decrease ROOM TEMP, in 1 degree decrements, to a minimum of 55° F.
- Once the desired ROOM TEMP is set, continuous display mode will be displayed after three seconds.
- In THERMOSTAT mode, to change ROOM TEMP again, press  $\Delta/\nabla$  buttons to desired setting.

# Wall Control - WSK300

## Control Specifications

### Auxiliary Features

The **AUX** button will operate the following 3 auxiliary features:

- A1 = FAN (always room heating)
- A2 = SWITCHES 110VAC, HI/MED/LOW
- A3 = SWITCHES 110VAC, ON/OFF

First press the **AUX** button multiple times to scroll through to the desired Auxiliary feature (A1, A2, or A3).

If desired Auxiliary selected is A1 or A2 use the UP or DOWN  $\triangle/\nabla$  arrow to step through the following 4 levels:

OFF

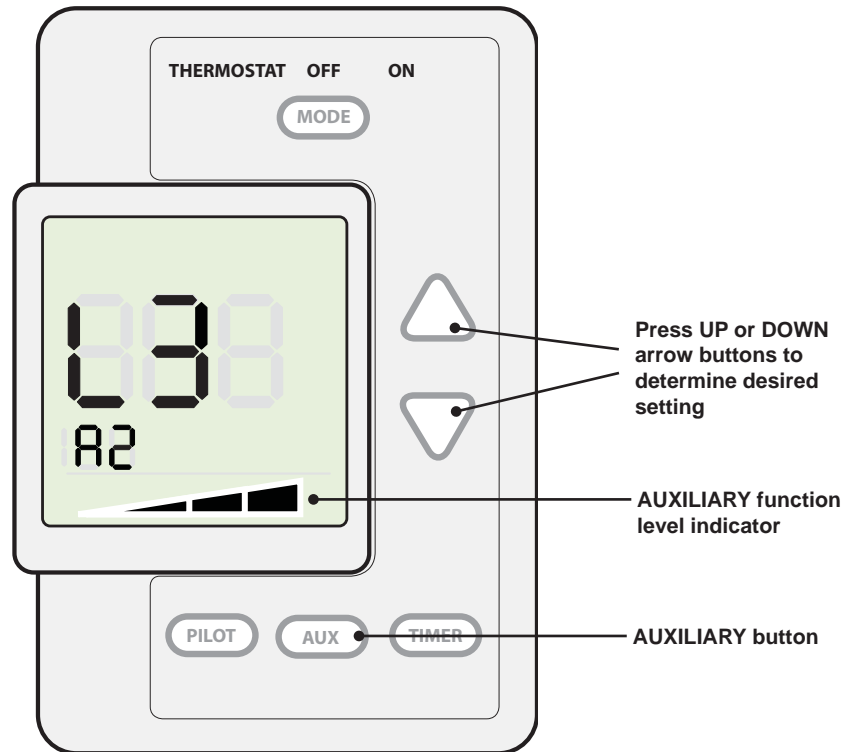
L1 = Low

L2 = Medium

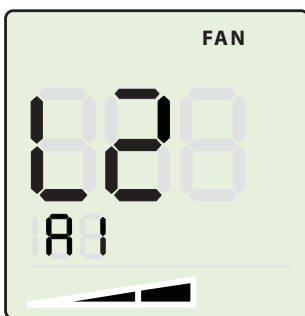
L3 = High



### Wall Control



### Function - AUXILIARY features



- Upon entering the OFF mode, all auxiliaries will be turned off with the fireplace with the exception of A1 after leaving THERMOSTAT mode. This mode activates a FAN cool-down feature that will continue to operate the fan until all remaining heat has been blown into the room. Auxiliary A1 (FAN) may not be operated in the OFF mode, as this auxiliary is always a room-heating fan.
- A1 may be operated during the ON mode as desired. During the THERMOSTAT mode A1 (FAN) will be adjusted automatically (between OFF, L1 and L2) based on the desired room temperature setting. It will also perform a warm-up when entering THERMOSTAT mode, and cool-down when the flame is no longer necessary to heat the room. This allows energy to be conserved as the fan will only operate when the fireplace is warm.
- Auxiliaries A2 and A3 may be adjusted in any of the 3 modes. When the ON or THERMOSTAT mode is active these settings will be saved to memory and set back to the desired levels when ON or THERMOSTAT mode is activated again.


## Power Out Operation:

In a power out condition, the wall control display screen will not work. The only operable functions will be ON and OFF.

1. Install 2 D cell batteries into battery holder located in the valve cavity. This may require removal of the decorative front to access. Do not operate fireplace without the front in place due to potential fire hazard conditions.
2. To turn the fireplace ON or OFF, simply push the mode button.

**Note:** During battery operation only, the wall control will provide an audible “beep” periodically indicating the batteries are getting low and that the batteries should be changed. You can expect 2 days of continuous operation from a fresh set of batteries.

## Service:

If the  symbol appears on the wall control, this indicates a loss of communication between the wall control and the control module. Check the following:

1. Unplug the control module from the junction box, and remove any batteries, for 5 seconds. Plug the control module and batteries back in.
- OR**
2. Check that the green, white/yellow, red wires are properly connected to the control module.
  3. Call your fireplace dealer’s service department.

## FREQUENTLY ASKED QUESTIONS

ISSUE	SOLUTIONS
The wall control is locked. How do I unlock the wall control?	<p>First, hold the mode button down until the unit beeps twice. The wall control should be unlocked.</p> <p>If the wall control is still locked, the system needs to have power removed and then restored (Power ON reset). This can be accomplished by unplugging the line voltage power supply and then removing the batteries from the battery backup kit if it is attached. After one minute, restore the line voltage power supply and the batteries. The wall control should now be unlocked.</p>
What does each color of the LED lights in the control module indicate?	<p>If no LED lights are lit, either there is no power to the fireplace or the fireplace is running on battery power.</p> <p>If the yellow LED light is lit as a solid yellow light, the system is powered and communicating. The pilot flame can be <b>ON</b> or <b>OFF</b>, but there is no main flame.</p> <p>If the yellow LED light is flashing, the system is powered, communicating and the system is in the ON or THERMOSTAT mode. If the wall control is in the THERMOSTAT mode, the main flame will turn ON when there is a call for heat.</p> <p>If the red LED light is lit as a solid red light, the system is powered, but not able to communicate. Check that the green, yellow/white and red wires are properly attached to the control module located in lower fireplace enclosure.</p>
The wall control unit is stuck in thermostat mode. Power ON reset does not solve this issue.	Press the MODE button until the unit is in the OFF mode. Set all AUX modes to OFF. After the wall control reverts back to the normal display (displaying current room temperature) wait ten seconds before turning off the power.
The lightning bolt icon is the only item displayed.	The wall control is unable to communicate with the DC control unit. Check for broken wires between the wall control and the DC control.
The screen on the wall control unit is blank or displays “Err.” Power ON reset does not solve this issue.	Contact your dealer and/or a qualified service technician.

## TROUBLESHOOTING

The operating characteristics of your fireplace may vary during a power failure or power outage. The options listed below will help determine the current state of your system.

Condition (at time of power failure)	Result
Wall switch is in THERMOSTAT mode with the main flame on and has no battery backup or has dead batteries.	The fireplace will shut down and the display lights in the wall switch will be off. When the power is restored to the system it will return to THERMOSTAT mode. The display lights in the wall switch will come back on and the main burner will stay off for a period of time. If the set temperature is higher than the room temperature after 4 minutes, the main flame will come on. If the set temperature is lower than the room temperature after 4 minutes, the main flame will stay off until the room temperature drops below the set point.
Wall switch is in THERMOSTAT mode with the main flame OFF and has no battery backup or has dead batteries.	The fireplace burner is not currently lit and will stay off. The display lights in the wall switch will be off. When the power is restored to the system, it will return to THERMOSTAT mode. The display lights in the wall switch will come back on and the main burner will stay off for a period of time. If the set temperature is higher than the room temperature after 4 minutes, the main flame will come on. If the set temperature is lower than the room temperature after 4 minutes, the main flame will stay off until the room temperature drops below the set point.
<b>Note:</b> If power interruption occurs when the fireplace control was in Thermostat mode and the Timer function was used to shut off the fireplace, the wall control will revert back to Thermostat mode when the power is restored and turn the unit on and off as room temperature dictates.	
Wall switch is in ON mode with the main flame on and has no battery backup or has dead batteries.	The fireplace will shut down and the display lights in the wall switch will be off. When the power is restored to the system it will default to the OFF mode. The display lights in the wall switch will come back on, the pilot will stay on, and the fireplace will stay off.
The wall switch is in OFF mode with the main flame off and has no battery backup or has dead batteries.	The fireplace will stay off and the display lights in the wall switch will be off. When the power is restored to the system, it will stay in the OFF mode. The display lights in the wall switch will come back on and the fireplace will stay off.
The all switch is in THERMOSTAT mode with the main flame on and it has battery backup.	The fireplace will stay on and the main burner will turn to HIGH. The FOL* (Flame on a log) will also have flame. The display lights in the wall switch will be off and the fireplace can be turned on and off by pressing the MODE button.  If the main flame is on when the power is restored to the system, it will return to the THERMOSTAT mode and the display lights in the wall switch will come back on.  If the main flame is off when the power is restored to the system, it will go to OFF mode and the display lights in the wall switch will come back on.  *Not all units using this system have a FOL (Flame on a Log) feature.
The wall switch is in the THERMOSTAT mode with the main flame off and it has battery backup.	The fireplace main burner will stay off and the display lights in the wall switch will be off. The fireplace can be turned on and off by pressing the mode button.  If the main flame is on when the power is restored to the system, it will return to the ON mode and the display lights in the wall switch will come back on.  If the main flame is off when the power is restored to the system, it will go to OFF mode and the display lights in the wall switch will come back on.
The wall switch is in ON mode with the main flame on and it has battery backup.	The fireplace will stay on and the main burner will turn to HIGH, the FOL* (Flame on a Log) will also have flame. The display lights in the wall switch will be off and the fireplace can be turned on and off by pressing the MODE button.  If the main flame is on when the power is restored to the system, it will return to the ON mode and the display lights in the wall switch will come back on.  If the main flame is off when the power is restored to the system, it will go to OFF mode and the display lights in the wall switch will come back on.

## TROUBLESHOOTING *(continued)*

The operating characteristics of your fireplace may vary during a power failure or power outage. The options listed below will help determine the current state of your system.

Condition (at time of power failure)	Result
The wall switch is in ON mode with the main flame on and it has battery backup	<p>The fireplace will stay on and the main burner will turn to HIGH, the FOL* (Flame on a Log) will also have flame. The display lights in the wall switch will be off and the fireplace can be turned on and off by pressing the mode button.</p> <p>If the main flame is on when the power is restored to the system, it will return to the ON mode and the display lights in the wall switch will come back on.</p> <p>If the main flame is off when the power is restored to the system, it will go to OFF mode and the display lights in the wall switch will come back on.</p> <p>*Not all units using this system have a FOL (Flame on a Log) feature.</p>
The wall switch is in OFF mode with the main flame off and it has battery backup.	<p>The fireplace main burner will stay off. The display lights in the wall switch will be off and the fireplace can be turned on and off by pressing the MODE button.</p> <p>If the main flame is on when the power is restored to the system, it will return to the ON mode and the display lights in the wall switch will come back on.</p> <p>If the main flame is off when the power is restored to the system, it will go to OFF mode and the display lights in the wall switch will come back on.</p>

## SERVICE PARTS

DESCRIPTION	PART NUMBER
Wall Switch Wire	2095-550
Solenoid, Hi/Lo Flame	2101-029
Wall Control Assembly	2106-072
Control Box Assembly (includes 1 cord assembly and 1 cable assembly)	2106-025



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