

ELECTRONIC FIREPLACE DAMPER

Model: FSE Series



The Flue Sentinel® Electronic Fireplace Damper is designed to increase the comfort and energy efficiency of residential homes with gas-fired fireplaces. Consisting of a stainless steel pipe/blade assembly and solid-state controller housed in a weather-proof enclosure, the damper is installed outdoors on the top of the chimney of a gas-fired fireplace. The damper automatically opens the flue outlet when the fireplace is turned on and automatically closes off the flue outlet when the fireplace is turned off. By closing off the flue outlet the fireplace is not in use, the damper prevents drafts and conserves energy by preventing heat in the home from escaping through an open flue.

The Flue Sentinel® is design certified by the Canadian Standards Association (CSA) to CSA Requirement No. 2.03-US for Automatic Vent Damper Devices for Use Outdoors on Fireplace Chimneys and is covered by U.S. Patent No. 6,915,799.

⚠ WARNING: Do NOT install this damper on a chimney burning solid fuel such as wood. Do NOT install this damper on a chimney used for venting central heating or water heating appliances.

READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION.

This device MUST be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction.

Please retain these instructions after installation.

Installed By: _____ Phone: _____ Installation Date: _____



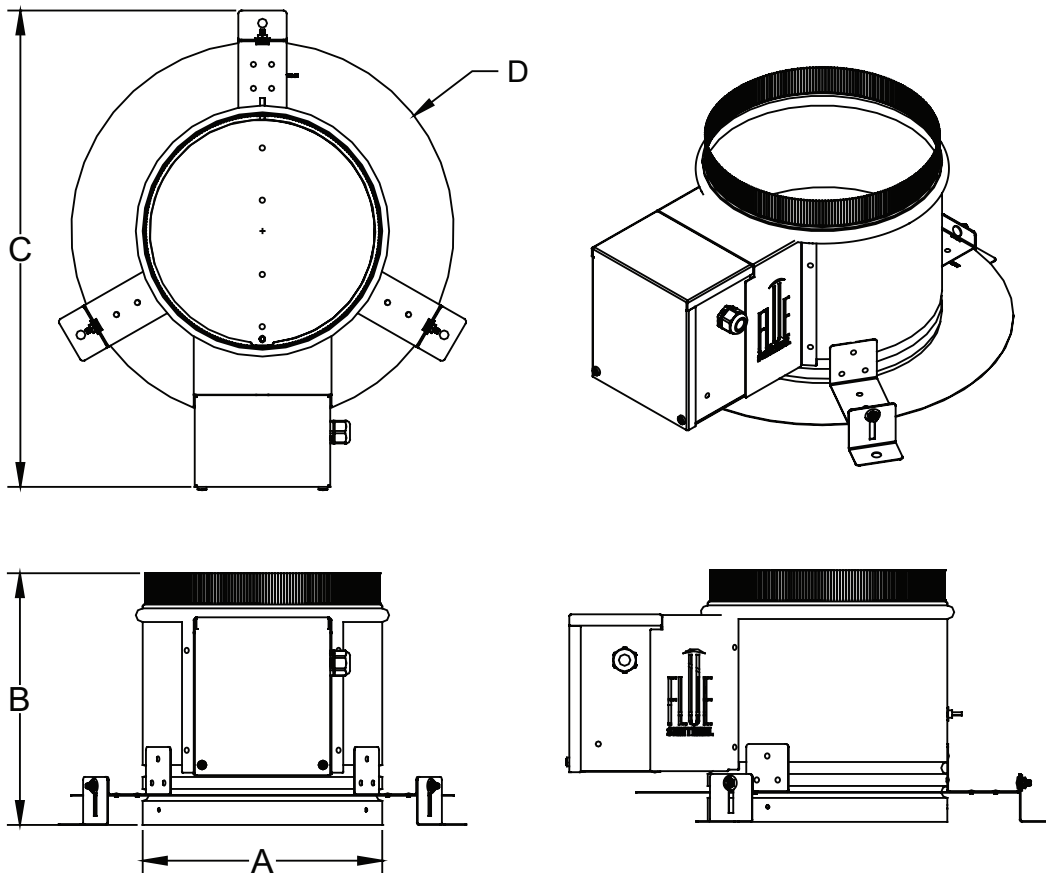
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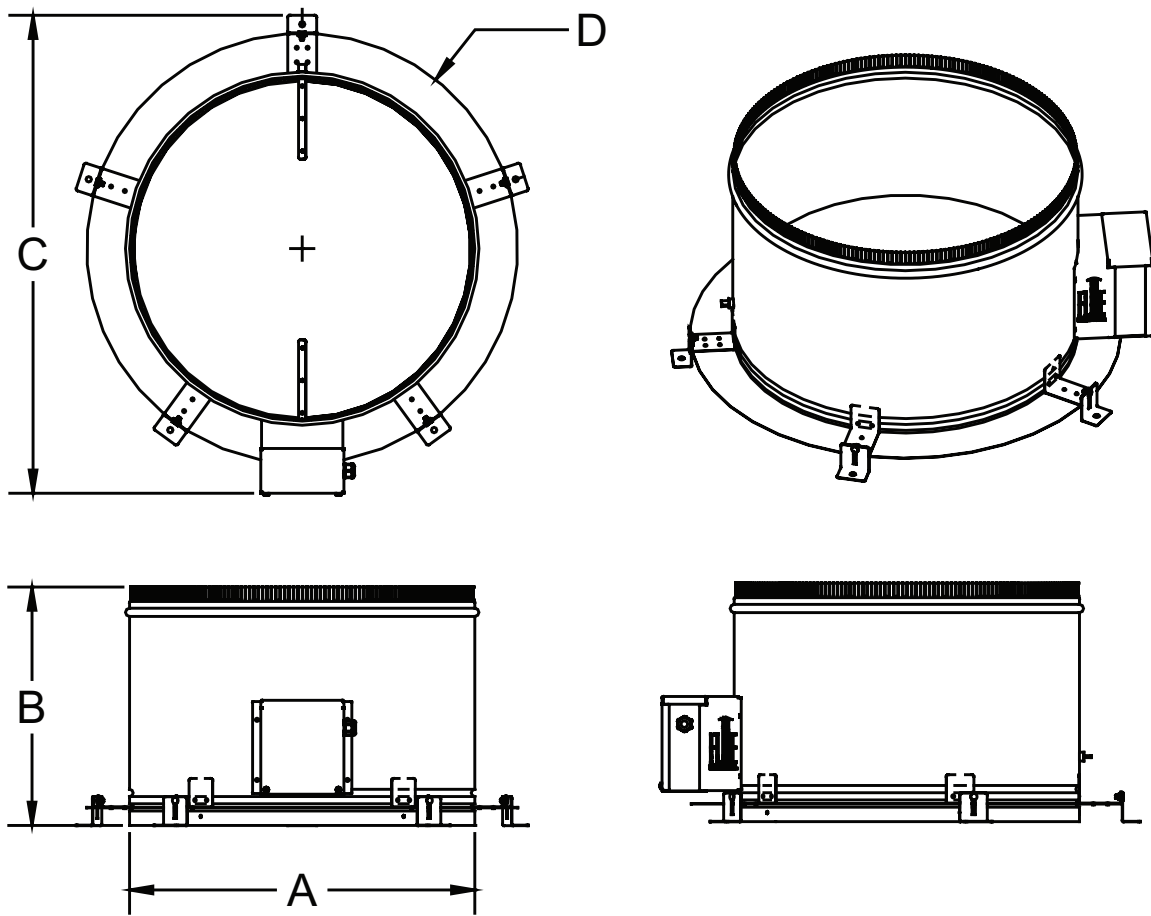
SPECIFICATIONS

OPERATING SPECIFICATIONS	
Voltage (Range)	24VAC (Max 27.6, Min 20.4 VAC)
Frequency	50/60 Hz
Current (running)	80 mA
Maximum current rating for output circuit	5A
Operating Temperature Range	Controller: (-40) - 140°F Pipe: (-40) - 650°F
Timing	7 seconds to open 30-40 seconds to close (incl. time delay)



Flue Sentinel® Dimensions and Weight- FSE-8 through FSE-16					
MODEL	DIM A	DIM B	DIM C	DIM D	WT. (LB)
FSE-8	7.8	10.5	17.0	13.8	7.8
FSE-10	9.8	10.5	19.0	15.8	8.9
FSE-11	10.8	10.5	20.0	16.8	9.4
FSE-12	11.8	10.5	21.0	17.8	10.0
FSE-13	12.8	12.5	22.0	18.8	11.3
FSE-14	13.8	12.5	23.0	19.8	12.0
FSE-16	15.8	12.5	25.0	21.8	13.3

*All dims are in inches



Flue Sentinel® Dimensions and Weight- FSE-18 through FSE-24

MODEL	DIM A	DIM B	DIM C	DIM D	WT. (LB)
FSE-18	17.8	13.5	27	23.8	15.6
FSE-20	19.8	14.5	29.0	25.8	17.8
FSE-22	21.8	15.5	31.0	27.8	20.1
FSE-24	23.8	16.5	33.0	29.8	22.9

*All dims are in inches

INSTALLATION

The Flue Sentinel® has been designed to fit a variety of chimney types including masonry and manufactured chimneys. It features a mounting collar that seals the chimney, adjustable legs for means of attachment and a crimped outlet for mounting the chimney top. Figure 1 is an example of a typical installation

Installation of the Flue Sentinel® must comply with the following requirements

- The Flue Sentinel® must be installed only on a factory built chimney or vent complying with a recognized standard, or a masonry or concrete chimney acceptable to the authority having jurisdiction.
- The Flue Sentinel® must be located on a chimney so that it serves only the single fireplace appliance for which it is installed.
- The Flue Sentinel® shall be installed in accordance with local codes, or in the absence of local codes, in accordance with the National Fuel Gas Code, ANSI Z223.1.
- If the Flue Sentinel® is to be installed on an air-cooled chimney, it must be installed with the appropriate Flue Sentinel® Mounting Kit per the kit instructions.

Installation Steps:

1. Set the damper in the opening of the chimney flue to check the fit. The damper's mounting collar should rest evenly on the top edge of the flue. Also check the orientation of the damper control housing and mounting legs to ensure the proper attachment and routing of the wiring harness.
2. Remove the damper and apply a bead of high temperature sealant on the top edge of the flue.
3. Center the damper in the opening of the chimney flue.
4. Adjust the mounting legs to rest on top of the chimney and secure with screws. Tighten the mounting leg bolts at the collar brackets.
5. Install the chimney top and secure per the manufacturer's instructions.
6. Install the warning tag on the damper wiring harness near gas valve. To identify the requirement that the Flue Sentinel device be removed before converting to wood burning.

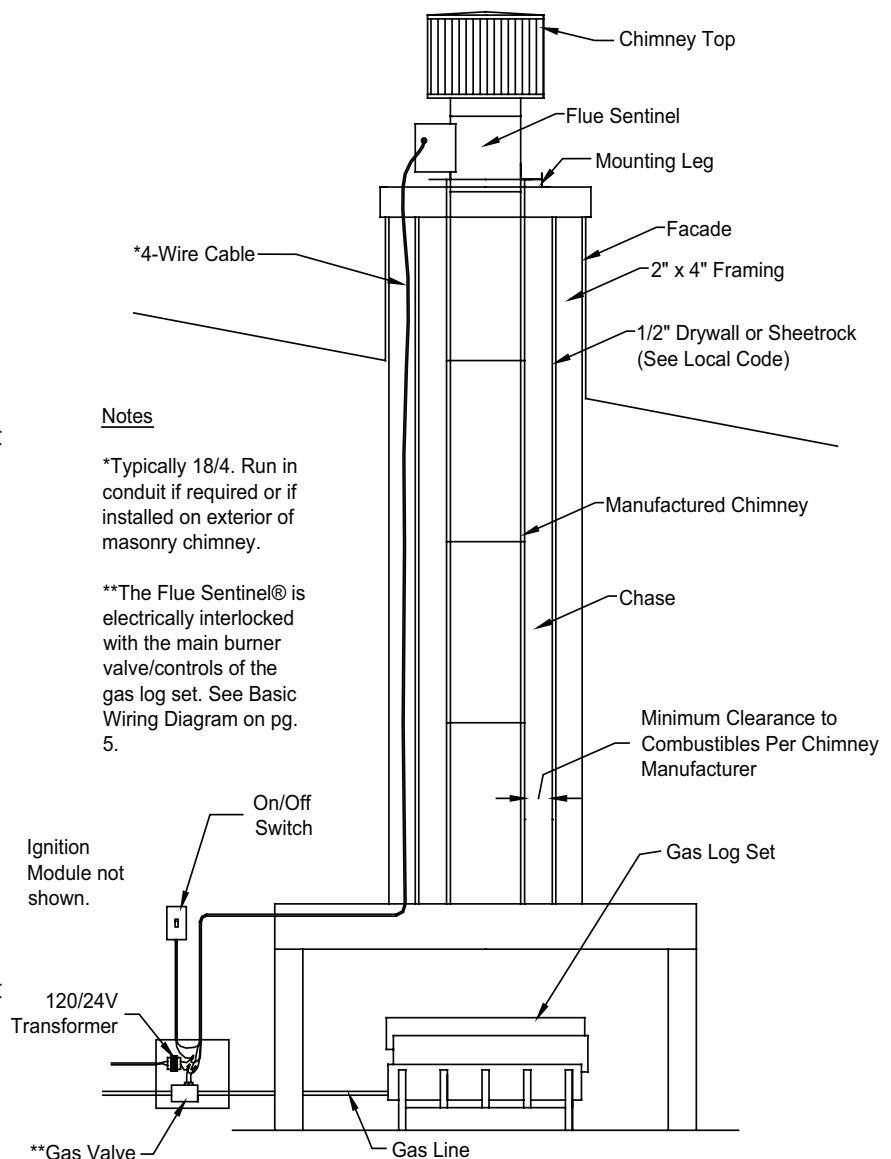


Figure 1

WIRING



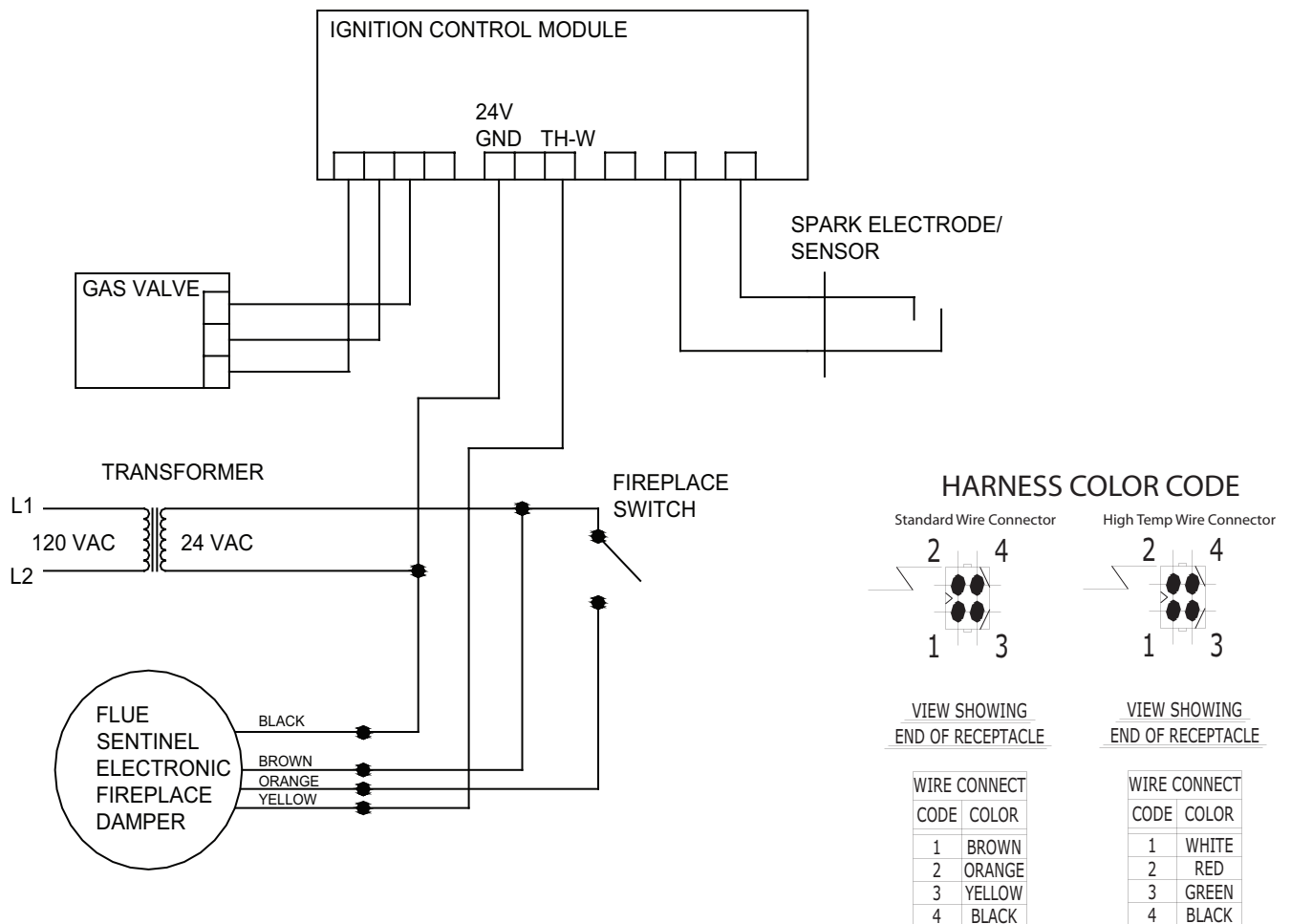
WARNING: This damper device **MUST** be interlocked with all automatic gas valves on the fireplace appliance. **DO NOT** negate the action of any existing safety of operational control.

The following requirements must be met to ensure safe and proper operation:

- The Flue Sentinel® Electronic Fireplace Damper must be electrically connected to the fireplace appliance using the chimney upon which the damper is installed.
- The damper must be installed in accordance with the NEC NFPA 70 (most recent edition) and/or local codes.
- The damper must be installed using the wiring harness supplied with it. This harness has a mated connector which plugs into the damper controller.
- The damper's wiring harness must terminate at the gas valve.
- The wiring connecting the damper controller to the gas valve must be a minimum of 18 AWG and must be run in conduit if installed on the exterior of the chimney or required by code.
- Figure 2 is a wiring connection diagram for a typical installation with an intermittent ignition system.
- The damper control wiring must always be connected as follows:

Brown - 24 VAC Hot
 Orange - Signal In
 Yellow - Signal Out
 Black - 24 VAC Common

Figure 2



SEQUENCE OF OPERATION

When the fireplace is turned on, a 24V signal is sent by the fireplace control to the damper controller. The damper controller motor then rotates the damper blade, which is indexed to a cam, to the open position to allow products of combustion to pass through the flue outlet. The cam proves the damper is in the open position and switches 24V from the motor to the main gas valve or ignition system, which fires the main burner.

When the fireplace is turned off, the fireplace control removes the 24V signal to the damper controller, shutting off the main burner. After a 30-40 second delay, the damper controller motor then rotates the damper blade to the closed position and resets itself for the next time the fireplace is turned on.

FINAL INSPECTION

Turn on the gas and electrical supplies to the appliance. Check the operation of the Flue Sentinel® by cycling the appliance at least three times as follows:

1. Switch the fireplace control to turn on the fireplace.
2. The damper will open and fire the main burner. **The damper must be in the open position when appliance main burner is operating.**
3. Switch the fireplace control to turn off the fireplace. The main burner will immediately shut off and, after approximately 30-40 seconds, the damper will rotate to the closed position.

If the Flue Sentinel® Electronic Fireplace Damper and/or fireplace appliance does not operate as described above, consult the Troubleshooting Chart below for the proper course of action to resolve the problem.

TROUBLESHOOTING CHART		
PROBLEM	POSSIBLE CAUSES	ACTION
Damper won't open	No power or insufficient power at damper	Check for opens in the power supply circuit and correct
	No signal into damper	Check for opens in fireplace control/circuit and correct
	Obstruction preventing damper blade from rotating	Check for protruding screws or binding in pipe/blade assembly and correct
	Defective damper controller	Replace controller
Damper opens but appliance main burner(s) does not fire	Defective gas valve or ignition control on appliance	Check for power at gas valve and/or ignition control. If present, replace defective part
	Defective damper controller	If not present, check for power at controller, yellow wire should be energized. If not, replace controller
Damper rotates continuously	Defective damper controller	Replace controller
Damper won't close, main burner off	No power or insufficient power at damper	Check for power at controller, only black and brown wires should be energized. If not, check wiring diagram
	Obstruction preventing damper blade from rotating	Check for protruding screws or binding in pipe/blade assembly and correct
	Defective damper controller	Replace controller
Damper won't close, main burner on	Fireplace control still sending signal to damper to open	Check for shorts in fireplace control/circuit and correct

MAINTENANCE

CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

The Flue Sentinel® has been designed to provide years of maintenance free service. However, for continued safe operation, the Flue Sentinel®, chimney and fireplace appliance should be examined once a year by a qualified service agency. It is also recommended that the homeowner examine these components at least every (6) months, with particular attention given to deterioration from corrosion or other source

WARRANTY

For warranty about this or any Field Controls product, visit:
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Phone: 252.522.3031 • Fax: 252.522.0214
www.fieldcontrols.com