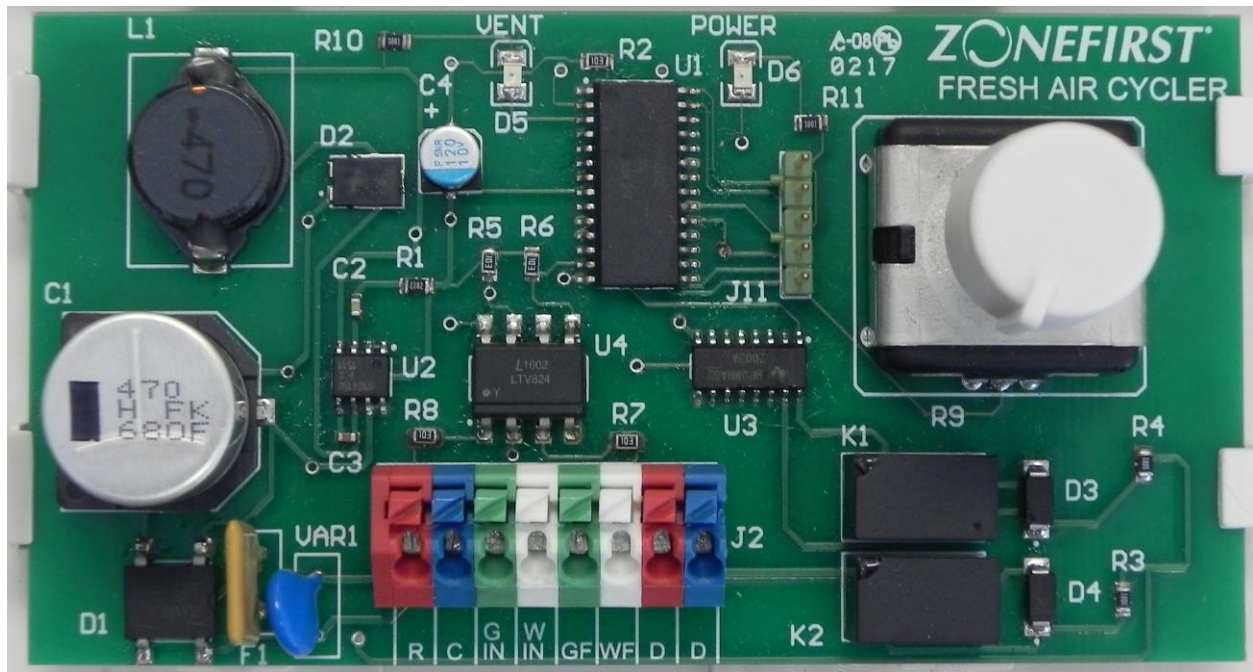


Fresh Air Cyclor Model FX1

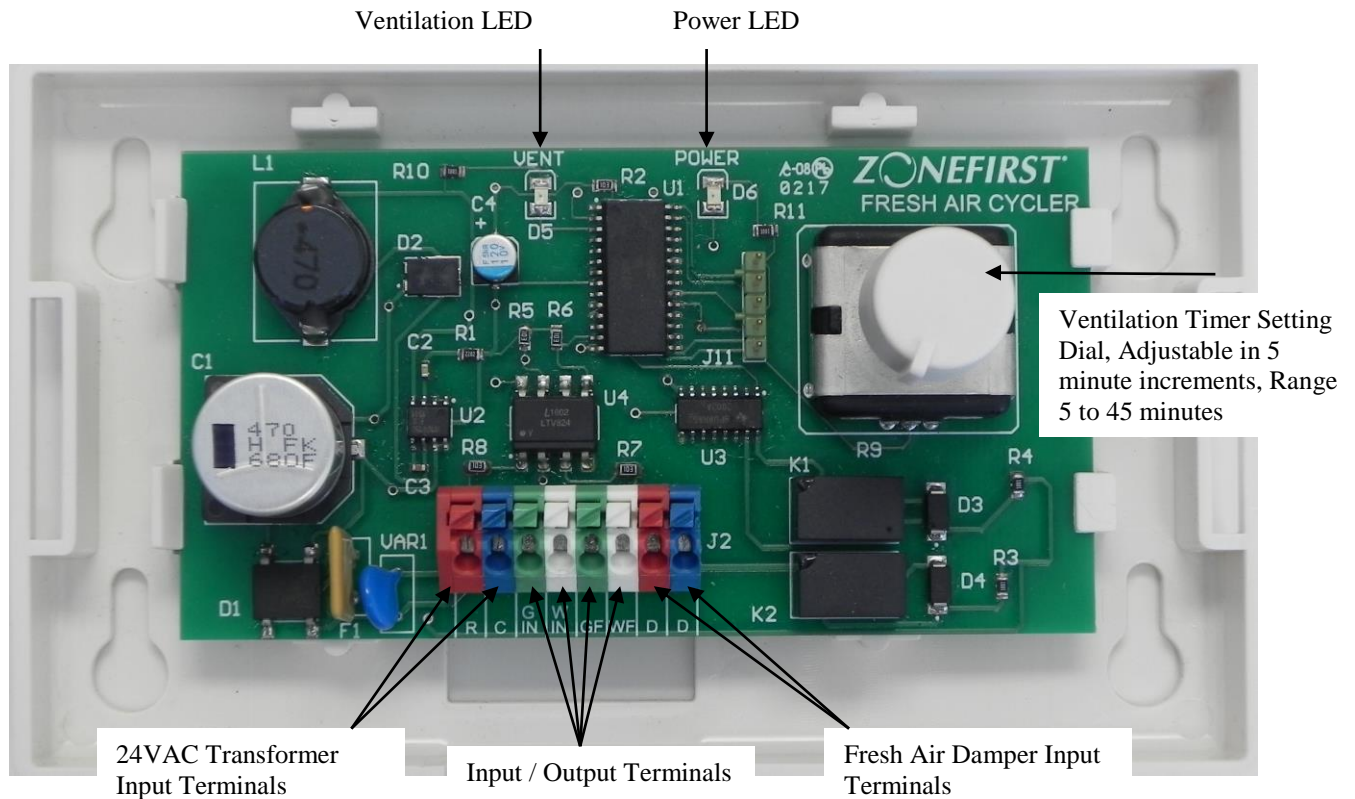


Installation and Operating Instructions

ZONEFIRST[®]
Controlling Your Comfort Room by Room



Control Panel Features



INSTALLATION

The Fresh Air Cyclor (Model FX1) is a board that interfaces between a zone control panel or thermostat and the HVAC unit in order to open a spring closed damper to bring in fresh (outside Air) to the return plenum.

When installing the FX1 panel it is important to pick a central location where it is most convenient to bring all the wires. Most often this is near the furnace or air handler and close to power source and the HVAC unit control, typically located at or near the plenum.

The FX1 case and cover are made of sturdy ABS plastic and can be mounted to any flat surface. It is recommended that the panel be mounted to a wall or return plenum and NOT on the furnace or supply plenum where it will be in contact with the high heating temperatures. The panel can be located in an attic space or in an enclosed cabinet of a rooftop unit, provided the panel is enclosed and not in direct exposure to the elements.

The cover easily removes from the case by pulling firmly and separating the cover from the case exposing the circuit board. There are 4 key-hole mounting points in each corner of the case. The case has openings in the rear of the case for all wiring.

OPERATION

The FX1 controls the fan signal going to the HVAC unit and one 24VAC spring closed damper. When the FX1 gets a signal from the zone control panel or thermostat that the HVAC equipment is activated it will activate the fan (when appropriate) and open the fresh air damper for the duration of the call if the fresh air requirement for the hour has not been satisfied.

A 60 minute timer begins to countdown as soon as FX1 is powered. The OFF setting does not turn off the FX1 it just keeps the damper closed regardless of a heat/fan call. If the knob is switched to OFF from a different setting, the timer resets back to 60 minutes and starts counting down again.

Example scenario #1: 5 minute setting ON

A fan call is activated -> damper opens and a timer begins to track time damper is open -> if fan runs for 5 minutes the damper will be open for 5 minutes and then close. The damper will not open again during a fan or heat call until the hour resets.

Example scenario #2: 10 minute setting ON

A fan call is activated -> damper opens for 5 minutes and the fan call drops -> 5 minutes still remain in the hour for the damper to be open -> later in the hour there is a heat call -> the damper opens for the remaining 5 minutes then closes. The damper will not open again during a fan or heat call until the hour resets.

Example scenario #3: 20 minute setting ON

A heat call is activated -> The damper opens for 10 minutes and the heat call drops -> 10 minutes still remain in the hour for the damper to be open -> There is no fan or heat call the rest of the hour -> the FX1 will force the damper to open the last 10 minutes of the hour to satisfy the 20 minute setting for that hour.

Ventilation Minutes Per Hour

The ventilation setting dial on the board is configurable from 5 – 45 minutes in 5 minute increments. As well, the FX1 can be set to OFF and ON, when set to OFF the FX1 will not open the damper and when set to ON the DAMPER will always be open and when there are no active calls coming in to the HVAC unit the FX1 will run the fan.

Power LED

The power LED will illuminate any time the FX1 has a 24VAC power signal coming to it and the self-resetting thermal fuse hasn't tripped.

Ventilation LED

Anytime the FX1 is powering open the fresh air damper the ventilation LED will be illuminated.

Power – The FX1 is to be powered by the equipment transformer in order to operate properly.

Fresh Air Damper

The FX1 is designed to work Power Open Spring Closed dampers with motors that have a power rating of 6 watts or less. Although dampers that draw higher power may work they are not recommended as the equipment transformer

may not have enough power to properly actuate the motor's higher power requirements.

TROUBLESHOOTING

The FX1 is a very simple control to troubleshoot. The only other device needed is a simple Volt/Ohm meter.

Almost all problems can be traced to an external component or wiring to the FX1. While the FX1 has been designed to operate under extreme voltage conditions and is fuse protected, like any computer the micro-processor can hang up and not operate properly. Should the FX1 hang up or not work properly turn off the power to the panel for several seconds until the power LED goes out, then turn the power back on to see if the panel resets. In many instances this resolves the problem.

The first check is for 24VAC power to the panel. When there is power the power LED will be illuminated. If not check the transformer and the power supply to it.

Damper Not Closing

If the fresh air damper is not closing and there is not an active HVAC call it may be that the Fresh Air requirement for the hour has not been met by active HVAC calls and the FX1 had to initiate a fan call and open the damper to satisfy the fresh air requirement. Insure that there are no HVAC calls and using the Ventilation Minutes Per Hour Dial turn it to off. At this point the ventilation LED should turn off and the unit's fan should shut off and the fresh air damper should close.

Damper Motor Checkout Procedure

First end all HVAC calls and check that the FX1 ventilation LED is no longer illuminated, at this point your damper should be closed, if not disconnect the damper wires from the controller and the damper should spring to the shut position. If the damper does not appear to be opening when it should you can disconnect it and apply 24VAC directly to the 2 wires going to it and it should power open, if at this point it does not open check for voltage at the point where the wires attach to the pigtail coming off the fresh air damper.



6 Aspen Drive • Randolph, New Jersey 07869- USA

Telephone 877-FIRSTZONE (347-7896)

FAX 1.201.794.1359

www.zonefirst.com info@zonefirst.com

Follow us on

