ZONEFIRST®

MASTERZONE™

HVAC Zoning System

Model BPEK

- For Use Only with ZoneFirst's Plug-In Zone Dampers
- Monitors the system's static pressure
- Eliminates need for traditional by-pass duct and damper
- Four Zone Inputs
- Controls up to ten dampers per zone
- Includes 10 feet of pressure tubing, duct probe and four 7 foot cables
- LCD displays status of zones (Open or Closed)

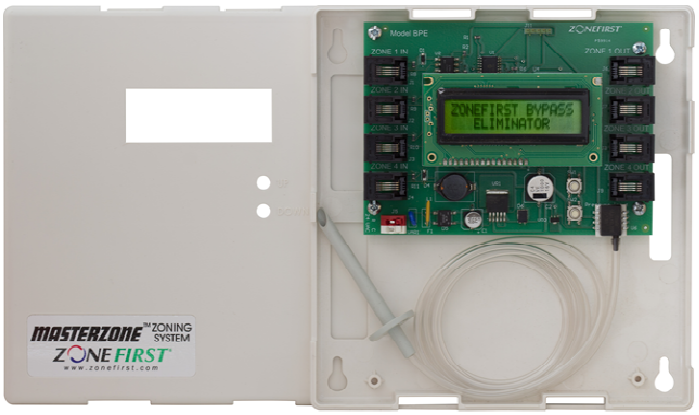
The Bypass Eliminator™ (Model BPE) Control is an interface between a ZONEFIRST Zone Control Panel and its zone dampers. The BPE is used to eliminate the need for a traditional separate by-pass duct and damper directed back into the return duct. The BPE can ONLY be used with ZONEFIRST'S Plug-In Zone Dampers and control panels.

The BPE uses an air sensor in the duct system on the supply side and before all zone dampers so it can monitor the systems static pressure, whenever the blower is running. The zone dampers are now wired directly into the BPE and not the zone control panel. The BPE has 4 zone inputs where the damper outputs of the zone control panel will plug-in on the BPE. The zone control panel controls the zone dampers through the BPE.

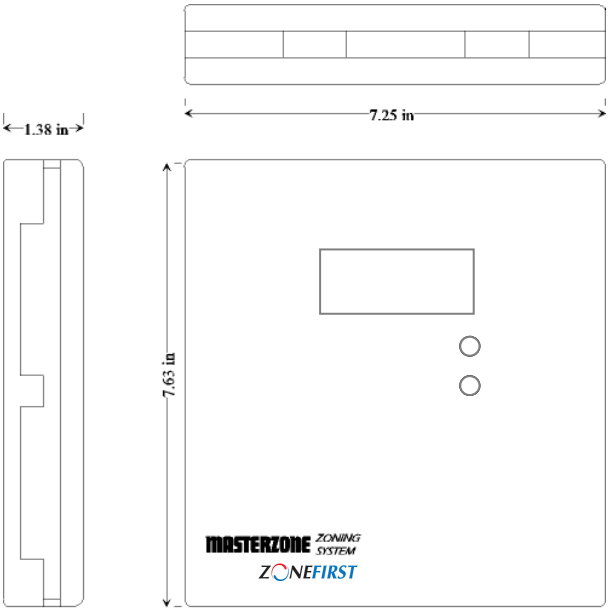
The BPE includes 10 feet of pressure tubing (which can be cut down to size), as well as a duct probe, and four 7 foot telephone cables to interface the BPE with the zone controller.

The BPE controls up to 4 zones on a single HVAC unit and up to 10 dampers per zone on the output terminals. When the BPE gets a signal from the Zone Controller that a zone damper is to be powered open it immediately opens the corresponding zone damper(s) on the output terminals. Anytime the BPE's pressure sensor detects the pressure in the supply plenum is higher than the Upper Limit Set Point it will modulate the closed zone dampers open to relieve the excess pressure into those zones. As these dampers modulate open the air pressure will drop below the high set-point and the zone dampers stop. When the BPE's pressure sensor is below than the Lower Limit Set Point it will close the zone dampers. Once the pressure has equalized to higher than the Lower Limit set point and lower than the Upper Limit set point the BPE will signal the dampers to stay in their current position.

The LCD Display will display the status of the zones OP (open), CL (closed), or a number from 01 to 99 to indicate what percent the zones that were in the closed position were modulated open in order to relieve the excess air from the ductwork. If a zone is available for modulation that means that the Zone control board is sending a close signal to the BPE. In the upper right hand corner the display will read P in with the pressure reading being displayed just below it.



Dimensional Drawing



Panel and Case Specifications

Construction – ABS plastic

Dimensions – 7-5/8"x 7-1/4" x 1-3/8"

Voltage – 24 Volts AC, 50/60 Hz

Temperature Rating - 0°F to 160°F Operating, -20°F to 180°F Storage

Humidity – 5% to 95% Non-Condensing

Connection: Colored Screwless Push-In terminal blocks

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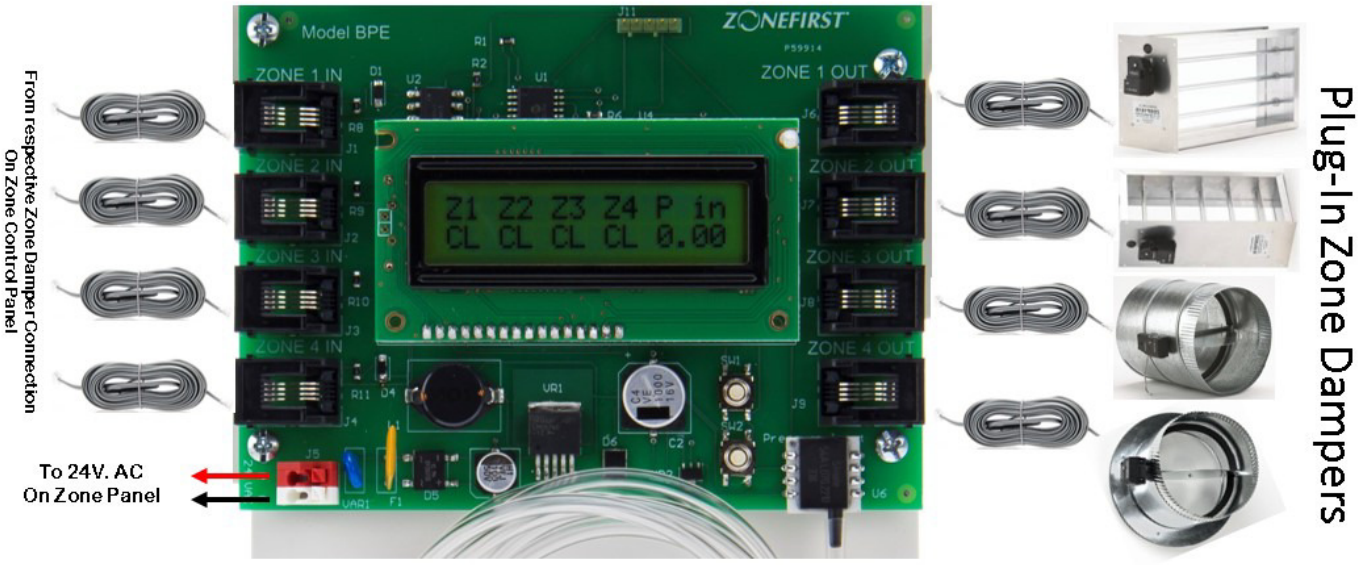
WIRING DIAGRAM

By-Pass Eliminator™ Wiring Diagram



NOTE: If there is a specific zone that should not be used to relieve air, wire zone damper directly to zone panel.

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