

## ZSPC800 STATIC PRESSURE CONTROLLER

For use with Ruskin Models ZEBD15 and ZEBD25 Electronic Bypass Damper

### APPLICATION

Ruskin Model ZSPC800 Static Pressure Controller is designed for use with the motorized electronic bypass dampers listed above, and can measure static pressure down to 0.08" W.C. (20 Pa). A bright LED facilitates static pressure control set up and confirms when the bypass damper is being powered open.

A single 24 VAC transformer is required to power the ZSPC800 and the motorized bypass damper. Wiring is made directly to the lug terminals, located inside the enclosure box.

### STANDARD CONSTRUCTION

#### HOUSING

EC approved 3 1/2" Dia x 2 1/4" Deep (89 x 57) Plastic (IP54) NEMA13

#### PRESSURE CONNECTION

1/4" (6) I.D., 5/16" (8) O.D. plenum rated flex hose

#### SENSING PROBE

1/4" Dia. x 2 1/2" Long (6 x 64)

#### PRESSURE RANGE

0.08" to 1.20" W.C. (20 to 300 Pa)

#### MAXIMUM PRESSURE

40" W.C. (10 KPa)

#### MAXIMUM SWITCHING CURRENT

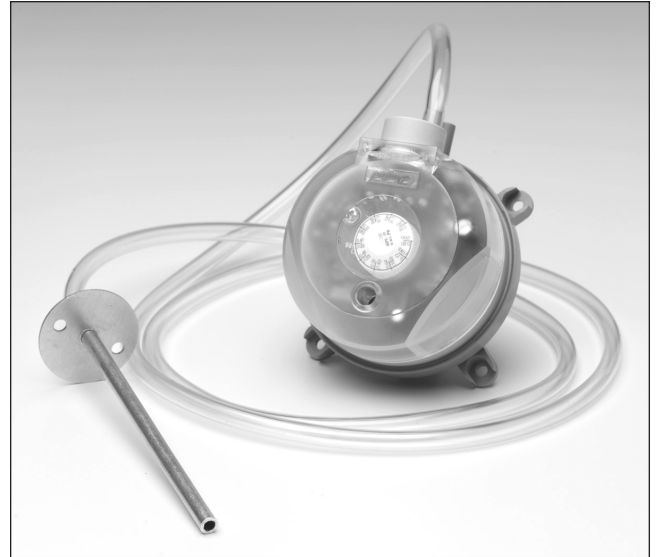
1 Amp at 24 VAC

#### OPERATING TEMPERATURE

32° to 122° F (0° to 50° C)

#### WEIGHT

6 Oz (170 g)



### FEATURES

- Easy to install
- Solid state control design
- Built-in LED indication for damper direction
- Fully-calibrated setpoint dial for easy field setup
- 1/2" NPT Connection

### PACKAGE CONTENTS

- ZSPC800 static pressure controller
- 1/4" (6) 1/ I.D., 5/16" (8) O.D. plenum rated flex hose, 3 ft long
- Pressure probe
- Installation instructions

**NOTE:** Values shown in parentheses ( ) are millimeters unless otherwise indicated.

### SEQUENCE OF OPERATION

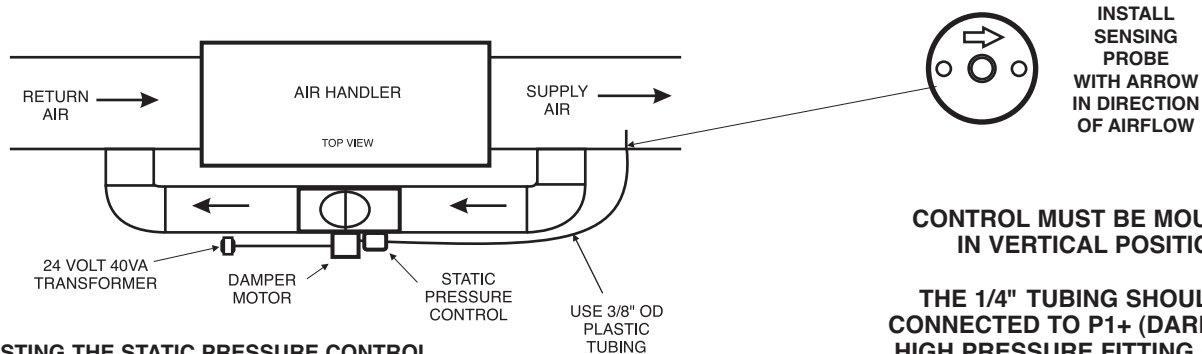
As individual zone dampers open and close, the system static pressure will rise and fall. In order to maintain proper airflow and static pressure through the HVAC system, a bypass system incorporating a floating type motorized damper and a static pressure control should be used.

The ZSPC800 is equipped with a solid state switching and timing circuit that signals the damper actuator as the system static pressure rises and falls. A setpoint adjustment knob, inside the enclosure, allows the user to set the desired static pressure at which the bypass damper will operate. A ten second delay is built into the sequence so the damper is not repositioned as a result of temporary changes in the system static pressure.

## INSTALLATION DETAILS

The bypass damper should be installed with the bypass air being discharged into the return air plenum (or above the ceiling if this area is used as a common return). The static pressure control should be installed so that the diaphragm is in the vertical position. The high pressure side (P1 +) of the static pressure control should be connected to the plastic sensing probe and inserted in the main supply plenum, downstream of the bypass damper and at least 3 feet from the air han-

dling unit in a straight section of duct at the center line. The sensing probe is 2 1/2" (64) x 1/4" (6) O.D. and is connected to the pressure control with 1/4" I.D. plastic tubing. The sensing probe should be installed with the arrow in the direction of airflow. The sensing probe, 6' of plastic tubing, and mounting hardware are furnished with static pressure control.



### ADJUSTING THE STATIC PRESSURE CONTROL

1. Confirm that the HVAC system has been properly balanced.
2. Confirm that all zone dampers are in the open position.
3. Confirm that the bypass damper is in the closed position.
4. Confirm that the fan is running.
5. Use the setpoint adjustment knob to set the static pressure by aligning with the arrow.

**CONTROL MUST BE MOUNTED IN VERTICAL POSITION**

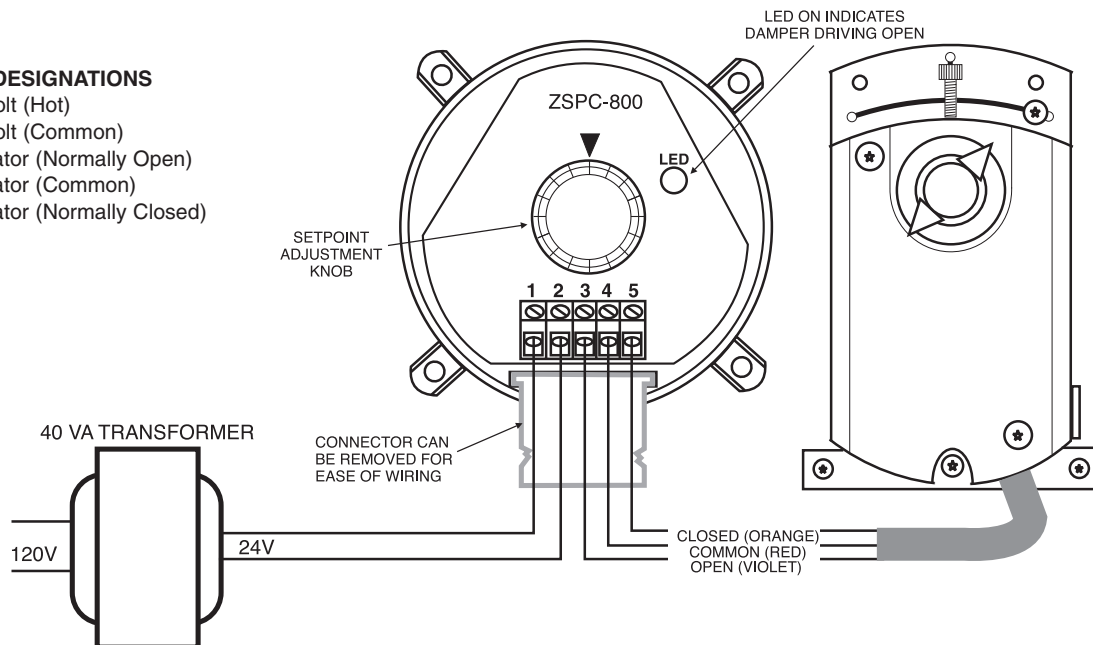
**THE 1/4" TUBING SHOULD BE CONNECTED TO P1+ (DARK GRAY) HIGH PRESSURE FITTING ON THE PRESSURE CONTROL**

**THE STATIC PRESSURE CONTROL HAS BEEN FACTORY SET AT 0.40" W.C.**

## WIRING DETAILS

### TERMINAL DESIGNATIONS

- 1 = 24 Volt (Hot)
- 2 = 24 Volt (Common)
- 3 = Actuator (Normally Open)
- 4 = Actuator (Common)
- 5 = Actuator (Normally Closed)



## SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans, or as in accordance with schedules, static pressure controllers built to the following minimum requirements. Housing shall be EC approved ABS. Static pressure switch shall control between 0.08" to 1.20" water column (20 to 300 Pa). Unit shall be rated to 1.5 PSI (10 KPa) max pressure. The sensing probe shall be 2 1/2" (64) x 1/4" (6) O.D. and is connected to the

pressure control with 1/4" I.D. plenum rated plastic tubing. The maximum switching current shall be 1 Amp at 24 VAC. The operating temperature range shall be 32° to 122° F (0° to 50° C). Complete assembly shall be, in all respects, equivalent to Ruskin model ZSPC800 Static Pressure Controller.

**RUSKIN**®

3900 Dr. Greaves Rd.  
Kansas City, MO 64030  
(816) 761-7476  
FAX (816) 765-8955  
www.ruskin.com