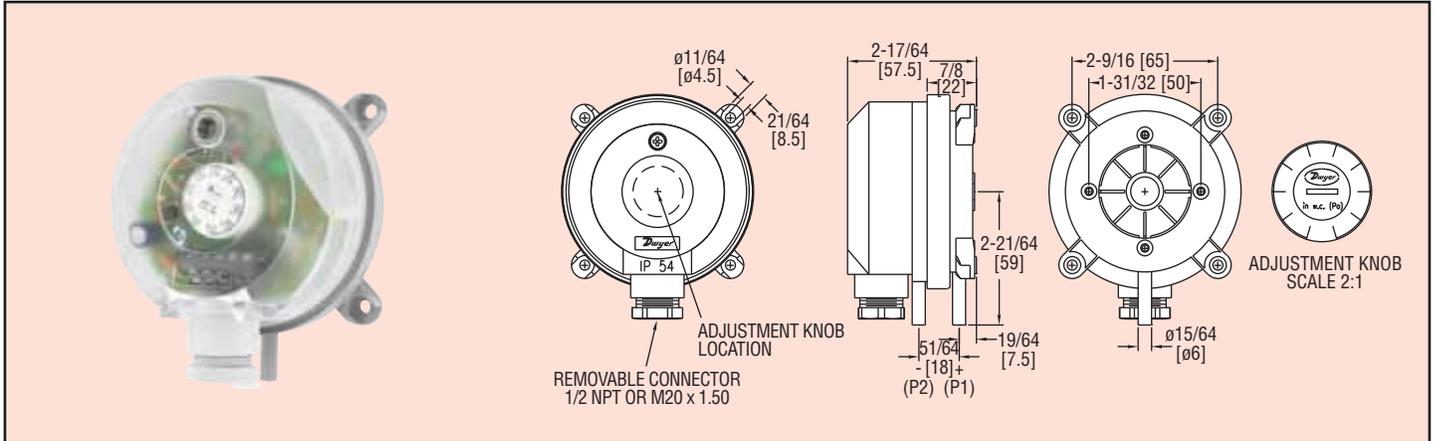




Series  
BYDS

# Bypass Damper Switch

Controls Zone Static by Modulating Motorized Damper

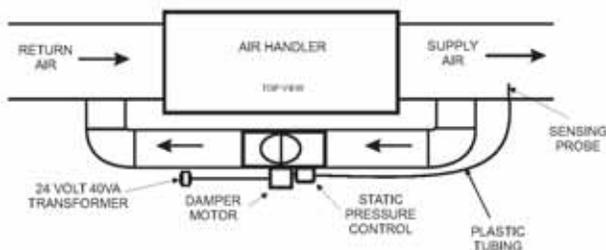


The Series BYDS Bypass Damper Switch is designed to control motorized bypass dampers. As individual zone dampers open and close, the system static pressure will rise and fall. In order to maintain proper airflow and static pressure through the HVAC system, a bypass system incorporating a floating type motorized damper and a static pressure control should be incorporated. A typical on/off pressure switch cannot operate in this application due to the high cycle rate that would result, eventually causing contact burn-out. The BYDS static pressure control is equipped with a solid-state switching and timing circuit to enhance operation and improve long-term reliability in this demanding application.

## CONTROL OPERATION

The BYDS Bypass Damper Switch is designed for use with a three wire floating point damper actuator used to control the static pressure on zone control systems requiring motorized bypass dampers. A bypass damper, bypasses air from the discharge air side of the HVAC unit back in the return air side. The air flow is modulated in order to maintain a constant static pressure in the system as individual zone dampers open and close. The static pressure control is equipped with solid-state switching which dramatically increases the life of the control. On an increase in static pressure the BYDS will send 24 volts out and start the actuator to drive open. When the static pressure reaches set-point the actuator will stop. After a ten second delay the actuator will start to drive the damper closed if there has not been an increase in static pressure. A green LED indicates when the damper is in the open position or being driven open. A 24 VAC transformer is required to power the BYDS control and damper actuator. The unit includes tubing and two static pressure probes.

## INSTALLING THE BYPASS DAMPER AND STATIC PRESSURE CONTROL ASSEMBLY



## SPECIFICATIONS

**Service:** Air and non-combustible, compatible gases.

### Materials:

Diaphragm material: Silicone;  
Housing material: Switch body: PA 6.6 and POM;  
Cover: Polystyrene.

**Temperature Limits:** Process and ambient temperature from -4 to 185°F (-20 to 85°C).

**Pressure Limits:** Max. operating pressure: 40" w.c. (10 kPa) for all pressure ranges.

**Switch Type:** Single-pole double-throw (SPDT).

**Electrical Rating:** 1A @ 24 VAC.

**Electrical Connections:** Screw terminal block. M20 x 1.5 with cable strain relief or 1/2" NPT connection.

**Process Connections:** 5/16" (7.94 mm) outside diameter tubing, 1/4" (6.0 mm) inside diameter tubing.

**Mounting Orientation:** Vertically, with pressure connections pointing downwards.

**Enclosure Rating:** NEMA 13 (IP54).

**Mechanical Working Life:** Over 10<sup>6</sup> switching operations.

**Weight:** 5.6 oz (160 g).

**BYDS-01-1,** Bypass Damper Switch, .08-.8" w.c., 1/2" NPT connection

**BYDS-01-2,** Bypass Damper Switch, .08-.8" w.c., cable gland connection

**Note:** For alternate ranges contact the factory.