

# INSTALLATION & MAINTENANCE INSTRUCTIONS

## ASCO® TRIPPOINT® Pressure Switches MINIATURE-SIZE, FIXED DEADBAND PRESSURE SWITCHES NON-ADJUSTABLE, ENVIRONMENTALLY SEALED

**ASCO®**

SERIES

J

Form No.P7077

### DESCRIPTION

Series J are miniature size pressure switches having factory-set, (non-adjustable) set points, fixed deadbands, and diaphragm/piston sensors. These pressure switches are designed to provide long life and maintain nearly constant set point accuracy despite environmental conditions. Materials wetted by the process fluid include pressure connections of brass or stainless steel and internal elastomers of Buna N, ethylene propylene, fluorosilicone, or VITON® depending upon service requirements.

### OPERATION

The pressure switch will control electrical circuits in response to changes in pressure. The pressure switch set points are non-adjustable. The fixed deadband is the difference between the set point on increasing pressure and set point on decreasing pressure.

NOTE: The maximum overrange pressure for Series J pressure switches is 250 psig.

### INSTALLATION

Check the nameplate for the correct catalog number, electrical rating, circuitry, and pressure range.

**IMPORTANT:** All internal adjustments have been made at the factory. Any adjustment, alteration or repair to the internal parts of the switch voids all warranties.

### Temperature Limitations

Ambient: -4°F to +140°F

Check catalog number on nameplate to determine fluid temperature limitations. The seventh (7th) digit in the catalog number indicates the diaphragm material and fluid temperature limitations. See chart below.

Seventh (7th Digit) in Catalog Number	Diaphragm Material	Fluid Temperature Limitations
1	Buna N	-4°F to +180°F
2	VITON*	-4°F to +250°F
6	Ethylene Propylene	-4°F to +250°F
7	Fluorosilicone	-40°F to +250°F

EXAMPLE: For Catalog Number JB67A218, the seventh digit of the catalog number is 1. This indicates that the diaphragm material is Buna N and the fluid temperature limitations are -4°F to +180°F.

### Positioning

Pressure switch may be mounted in any position.

### Mounting

For mounting bracket (optional feature) dimensions, refer to Figure 1. For panel mounting a 7/8" diameter hole is required.

### Piping/Tubing

Adequate support of piping and proper mounting of pressure switch should be made to avoid excessive shock or vibration. To minimize the effect of vibration on a switch, mount perpendicular to vibration. Connect piping or tubing to base of pressure switch. **CAUTION: Do not use 1/2" pipe thread on pressure switch body as a pressure connection. This thread is provided for mounting the pressure switch in a panel enclosure or mounting bracket through a 7/8" diameter hole.**

**CAUTION:** Pressure switches with the seventh (7th) digit in the catalog number being a six (6) are provided with ethylene propylene diaphragm material which can be attacked by oils and greases. Wipe the pipe threads clean of cutting oils.

Apply pipe compound sparingly to male pipe threads only. If applied to internal threads, the compound may enter the sensor and cause operational difficulty. Avoid pipe strain on pressure switch by properly supporting and aligning piping. Apply wrenches to pressure switch body on wrenching flats only.

**CAUTION:** For steam service, install a condensate loop (pigtail or steam siphon tube) between the steam line and the pressure switch.

### Wiring

Wiring must comply with local codes and the National Electric Code. Number 14 AWG stranded copper wire is recommended. The electrical circuitry is marked on the nameplate as NO (normally open),

NC (normally closed) or SPDT (single pole double throw). On SPDT switches the black wire is common, red is normally open, and blue is normally closed. Circuitry represents the electrical position without pressure. **CAUTION:** Electrical load must be within range stated on electrical nameplate. Failure to stay within the rating of the switch may result in damage to or premature failure of the electrical contacts.

### STANDARD SWITCH RATINGS

(Single Pole, Double Throw)

Maximum Load

5 amp resistive, 250 volts AC

3 amp resistive, 28 volts DC

**IMPORTANT:** Series J pressure switches are available with optional snap switches which have different electrical ratings than listed above. Check electrical nameplate on pressure switch to verify electrical ratings.

### Testing the Pressure Switch

Testing of the pressure switch may be done before or after final installation. If bench tested, the pressure switch should be retested when installed in the line of final application. Be sure switch can be test operated without affecting other equipment.

For testing, use a pressure gauge within suitable range and locate the gauge as close as possible to the pressure switch. If electrical hook up to the switch is not desirable, a battery powered test lamp or ohmmeter may be used. Check nameplates for electrical rating and circuitry (Normally closed or Normally open) of pressure switch. Cycle pressure switch a few times to check operation.

### MAINTENANCE

**WARNING:** Turn off electrical power supply and line pressure to switch before removal or inspection.

**IMPORTANT:** The pressure switch is not field repairable. In case of damage, replace entire pressure switch. Address all service inquiries to Automatic Switch Company, 50-60 Hanover Road, Florham Park, New Jersey 07932, Valve Service Department.

### Preventive Maintenance

1. While in service, operate the pressure switch periodically (cycle between two desired pressures or set points) to insure proper operation. If necessary, electrical wiring and pipe connections should be made so that switch can be test operated without affecting other equipment.
2. Keep the medium entering the pressure switch as free from dirt and foreign material as possible.

### Causes of Improper Operation

1. **Incorrect Electrical Connection:** Check leads to switch. Be sure they are properly connected. See "Wiring" section for circuitry color code.
2. **Faulty Control Circuit:** Check electrical power supply to switch. Check for loose or blown fuses, open-circuited or grounded wires, loose connections at switch. See nameplate for electrical rating.
3. **Incorrect Pressure:** Check pressure in system with suitable pressure gauge. Pressure must be within range specified on nameplate.
4. **External Leakage or Snap Switch Failure:** Replace pressure switch, see "ORDERING INFORMATION."
5. **Excessive Vibration or Surges Causing Switch to Operate Undesirably:** Check for pressure fluctuations in system and install pressure surge suppressor. Check switch mounting and be sure there is no excessive vibration.

If the operation of the pressure switch cannot be corrected by the above means, it should be replaced.

### FOR SERVICE, REPLACEMENT OR INFORMATION

Consult Factory or Authorized Factory Representative or Distributors

### ORDERING INFORMATION

When Ordering, Specify Catalog Number, Fluid, and Pressure Range.

See Nameplate

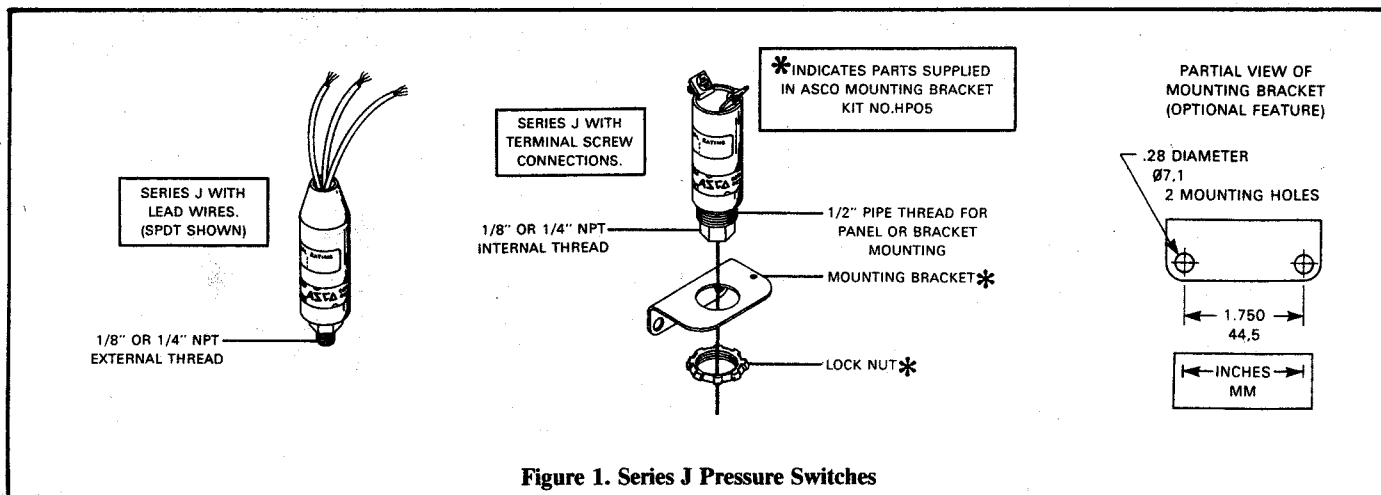


Figure 1. Series J Pressure Switches

\*DuPont Co. Registered Trademark

Form No. P7077

Printed in U.S.A.

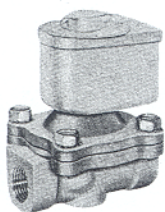
Automatic Switch Co. 50-60 Hanover Road, Florham Park, New Jersey 07932

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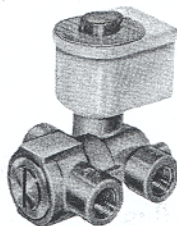
# To control gas or liquid, ASCO® Solenoid and Air Operated Valves give you the largest selection and the highest reliability

ASCO is your best choice for 2, 3 and 4 way solenoid and air operated valves. They are made with state-of-the-art materials and production techniques. And, every ASCO product is 100% tested before shipment. Nobody provides higher reliability. Moreover, ASCO offers you over 2,000 catalog-listed solenoid valves plus air operated valves to choose from. Special designs are available. See below for details.



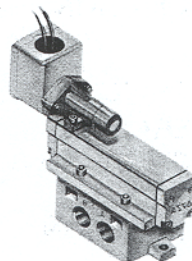
### 2 Way Red-Hat® Solenoid Valves

Pipe sizes from 1/8" to 3". Temperatures from -340°F. to +400°F. Pressures to 2200 psi.



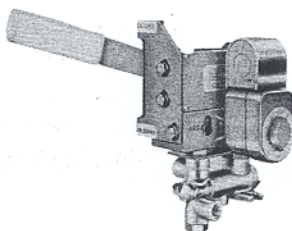
### 3 Way Red-Hat® Solenoid Valves

Pipe sizes from 1/8" to 2". Temperatures from -340°F. to +400°F. Pressures to 600 psi.



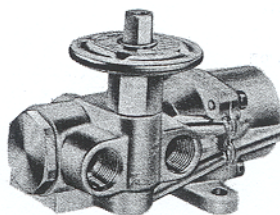
### 4 Way Red-Hat® Solenoid Valves

Pipe sizes from 1/4" to 1". Temperatures from -65°F. to +200°F. Pressures to 350 psi. Poppet, slide or spool type; group and pad mounted; single and dual solenoid constructions.



### Manual Reset Valves

A wide range of 2, 3 and 4 way manual reset valves for a wide variety of fluids is available with electrically tripped, no voltage release or free handle movements.



### 2, 3 and 4 Way Air Operated Valves

These valves are engineered and manufactured to the same high quality standards as ASCO solenoid valves; the only difference is that the solenoid has been replaced by an air operator.

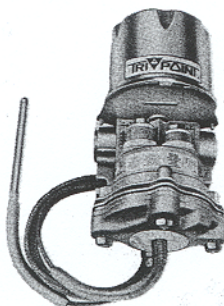
# To sense pressure or temperature of gases or liquids, ASCO TRI-POINT switches give you highest quality, best value and widest selection

ASCO TRI-POINT pressure and temperature switches are constructed from two separate components: a switch unit and a transducer unit. Using variations of these stock units, we can supply you with 2,000 different pressure switches and over 500 different temperature switches — right off the shelf! And, each unit is 100% tested before shipment to assure dependable performance.



### TRI-POINT Pressure Switches

Pressures from 12" H<sub>2</sub>O to 6000 psig. Transducers for air, water, gas, oil, steam and corrosive service. Adjustable and fixed deadband types. Repeatability of ±1% of full operating range.



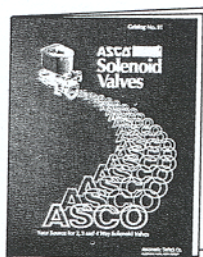
### TRI-POINT Temperature Switches

Temperatures from -60°F. to +640°F. Transducers for air, water, gas, oil, steam and corrosive service. Adjustable and fixed deadband types. Repeatability of 1°F.

Also Available in Compact Size for Pressure and Temperature



For complete information on ASCO Solenoid and Air Operated Valves or Pressure and Temperature Switches, write for free ASCO Catalogs.



ASCO Products are designed and manufactured by Automatic Switch Co., Florham Park, New Jersey 07932, Telephone (201) 966-2000