



**SERIES DP-7000  
DIFFERENTIAL PRESSURE CONTROLS**

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**INSTALLATION AND OPERATING INSTRUCTIONS**

**LOCATION**

Install control in location recommended by equipment manufacturer. Select a location that is reasonably free from vibration caused by reciprocating or rotating machinery.

**MOUNTING**

GENERAL PURPOSE TYPES DPA, DPS, DPR, and WEATHER-PROOF TYPES DPAW, DPSW, DPRW: Do not support control by its pressure connections — attach control to wall or post by means of the 3 holes in flange attached to control.

EXPLOSION PROOF TYPES DPAE, DPSE, DPRE: Mount by means of mounting lugs attached to the control housing.

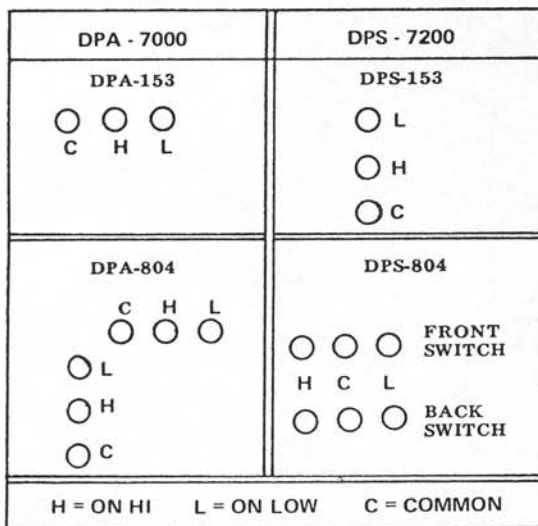
**PIPING**

Connect HIGH PRESSURE source to the 1/8" N.P.T. pressure connection located on left side of control case. Connect LOW PRESSURE source to the other 1/8" N.P.T. pressure connection located on the right side of case.

**WIRING**

Wire in accordance with the National Electrical Code and local regulations. For general purpose controls use a short piece of BX between the rigid conduit and control so that the control will not be subjected to conduit expansion and contraction. Where control is directly connected into load circuit it should be connected into hot side of line.

Do not exceed electrical rating as stamped on control nameplate.



**SWITCH OPERATING INDICATOR**

Some types equipped with switch indicator. Orange indicates switch is in the high pressure position on DPA-7000 series and arrow indicates position of DPS-7200-153 series. DPS-7200-804 Does Not have indicator.

**HOW TO SET OPERATING POINT**

**DOUBLE ADJUSTMENT TYPES — FULLY AUTOMATIC DPA 7000**

Prefixed by the letters DPA, DPAW, DPAE: The value indicated by the position of the UPPER POINTER is the pressure difference (PSID) required to operate the switch or switches on an INCREASE in pressure difference. The value indicated by the position of the LOWER POINTER is the pressure difference (PSID) required to RESET the switch on a decrease in pressure difference.

**EXAMPLE SETTING —**

With UPPER POINTER set at 8 psi., the high pressure source must increase to 8 psi. above low pressure source regardless of the actual pressure of either source for control to operate the switch contact.

With LOWER POINTER set at 5 psi., as pressure decreases from 8 psi. or more, it must decrease to 5 psi. before control will function to reclose switch circuits. Three psi difference (8 minus 5) is the DEADBAND OR RESET VALUE. Table shows maximum and minimum DEADBAND (RESET VALUE) for each range.

**SINGLE ADJUSTMENT TYPES — FULLY AUTOMATIC DPA 7200**

Prefixed by letters DPS, DPSE, DPSW: A single outside adjustment is used to set the pointer on the visible calibrated dial for switch operation. The deadband (RESET VALUE) is fixed and cannot be changed in the field.

Example setting: Range R-62, 30" vac. to 100 psig. (SP-DT suffix -153). If pointer is set at 10 psi., the control will operate switch when the difference between the high and low pressure sources increases to 10 psi., and will restore the circuit when the pressure difference decreases by the fixed deadband of 1.0 psid.

**SEMI-AUTOMATIC WITH MANUAL RESET**

Prefixed by letters DPR, DPRW, DPRE with letters "L" and "U" after suffix number designating the direction of automatic operation. Example: DPR-7033-153U (SP-DT). A single outside adjustment sets the operating point to actuate the circuit automatically on a decrease in differential pressure. Manual reset push button restores switch to normal position after pressure difference has increased. Suffix "L" denotes automatic operation on increase of pressure difference. Suffix "U" denotes automatic operation on decrease of pressure difference.

**LOCKING DEVICE**

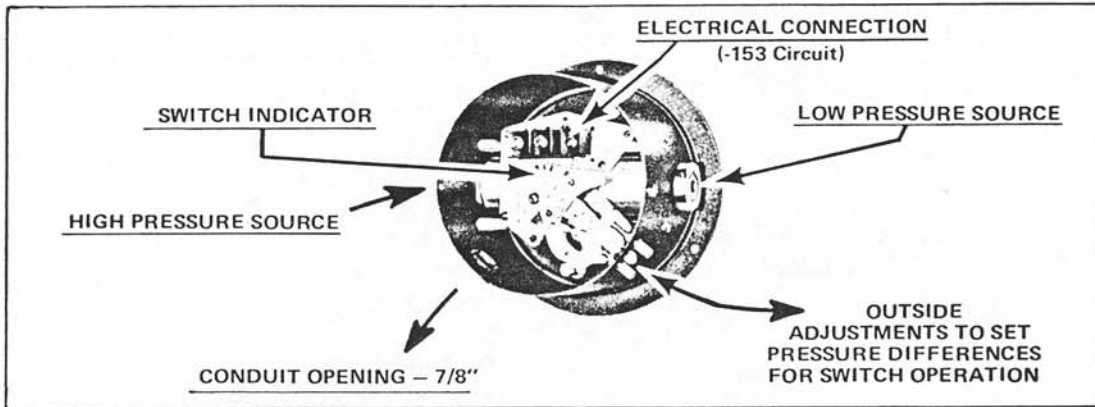
After control has been set for the required operating range, the locking bar may be inserted between the adjustment screws with slot passing over the projecting lug. By placing a sealing wire between the locking bar and the hole in the lug protruding from adjustment assembly, adjustments cannot be tampered with.

**CAUTIONS**

Control movement must not be oiled. Do not overload electrically — check electrical rating on nameplate and be sure total current passing thru switch is within specified rating. Do not use for pressures higher than those listed in table.

# SERIES DP-7000 DIFFERENTIAL PRESSURE CONTROLS

## Equipped With Enclosed Metal Snap-Action Contacts



Series DP-7000 differential pressure controls actuate one or two SP-DT snap-action switches on changes in the difference between two pressures. Two opposed bellows, each responsive to a different pressure condition operate a snap-action switch as the difference between the pressures increase or decrease. The operating points are adjustable from outside by means of two knurled knobs. Two pointers indicate the operating points or the differences in pressure between the two bellows at which switch operation occurs. (DPS Types have one pointer.)

Typical applications involve making or breaking an electrical circuit on changes in pressure differences due to changes in flow through orifices, venturis, heat exchangers, condensers or filters.

### VISIBLE SCALE — POINTERS SHOW ACTUAL VALUES IN P.S.I. OF PRESSURE DIFFERENCE AT WHICH CONTROL HAS BEEN SET TO OPERATE

#### OPERATING RANGES — ADJUSTMENT — DEADBAND — SINGLE POLE-DOUBLE THROW

With Snap Switch Operation

Range No.*	Working Pressure Range	Press Diff. Adj. Between (PSID)	DEADBAND (PSID)		
			ONE SPDT Adj. (Min.)	ONE SPDT Fixed	TWO SPDT Fixed
			DPA-7033-153	DPS-7233-153	DPS-7233-804
61	30" Hg. Vac. - 50 psig	0-10	1.5	0.5	0.6
62	30" Hg. Vac. - 100 psig	0-20	2.5	1.0	1.0
64	30" Hg. Vac. - 300 psig	0-30	6.0	1.5	1.5
			DPA-7043-153	DPS-7243-153	DPS-7243-804
62E	30" Hg. Vac. - 100 psig	0-20	3.0	1.5	1.5
64E	30" Hg. Vac. - 300 psig	0-30	6.0	2.0	2.5
65E	30" Hg. Vac. - 600 psig	0-80	20	6	8
Electrical Rating			Code D	Code E	Code F

\*"E" after Range No. indicates 316 S.S. bellows.

#### ELECTRICAL RATINGS

Code	Suffix	AC Capacity			DC Capacity		HP	
		120V	240V	440V	120V	240V	AC	DC
D	-153	15A	15A	15A	0.5A	0.25A	1/8	NA
E	-153	15A	15A	NA	(3)	(3)	(2)	NA
F	-804	5A	5A	NA	(4)	(4)	NA	NA

(2) 1/4 HP at 120V AC, 1/2 HP at 240V AC

(3) DC controls up to 10A

(4) 5A 30V DC resistive



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