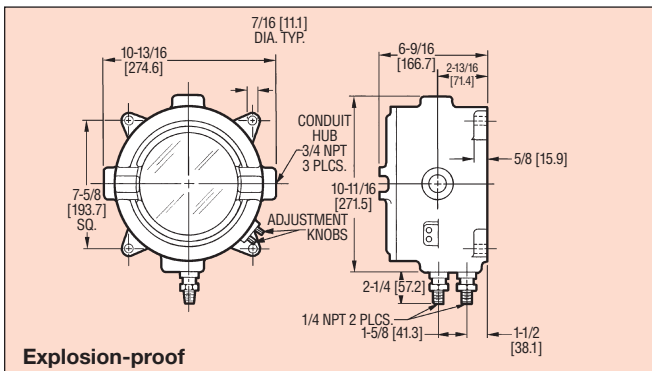
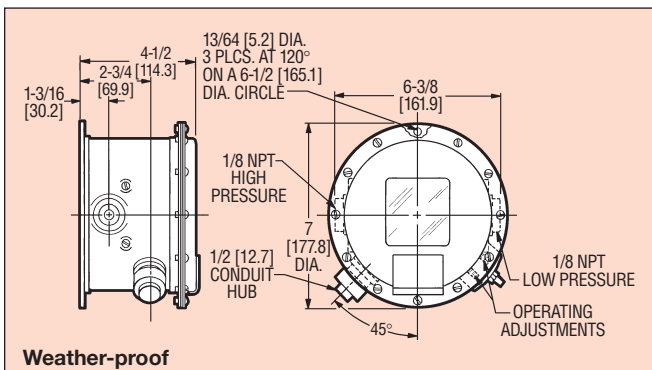
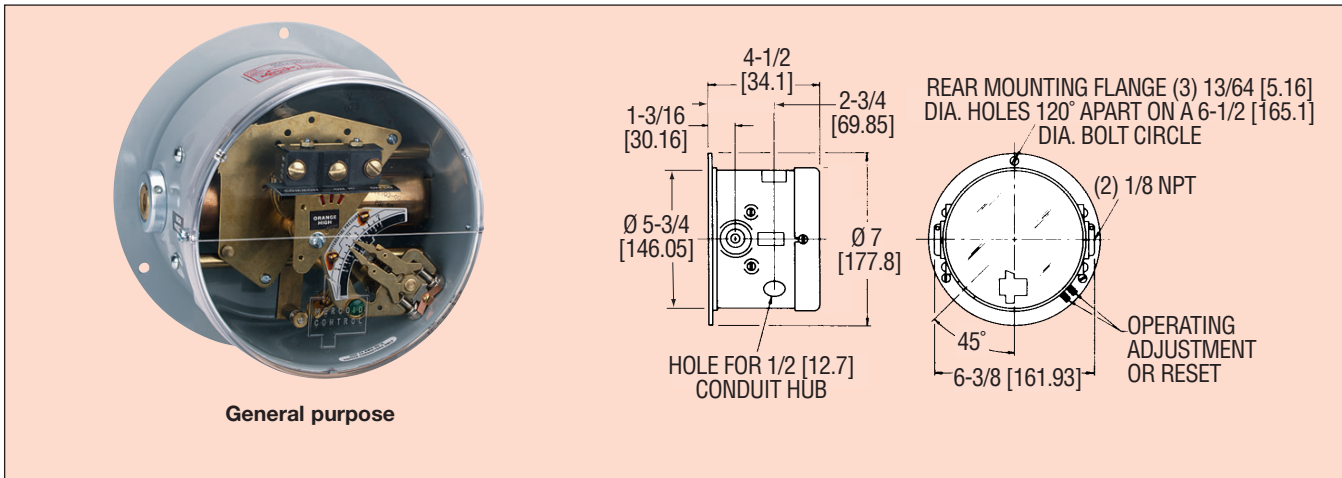




Series DP

Double Bellows Differential Pressure Switches

Visible setpoints, adjustable or fixed deadband, high pressure ranges.



Two opposing bellows in the Model DP differential pressure switch result in maximum sensitivity, quick response to changes and good vibration resistance. Choice of brass or 316 stainless steel assures broad media compatibility. Setpoint adjustment is easy thanks to external knobs and large, clear scale reading directly in psid.

A wide variety of switches and circuit styles enables exactly the specific type of control function needed for any system. Mercury switches are a good choice for humid areas while snap switches are better able to resist vibration. Various operations possible include single adjustment - fixed deadband, double adjustment - adjustable deadband, manual reset (increasing or decreasing pressure) and two stage with each SPST or SPDT switch independently adjustable. Standard enclosure is NEMA-1 style. Optional weather-proof construction is for outdoor use and explosion-proof enclosure meets requirements for Class I, Groups C & D; Class II, Groups E, F & G.

PHYSICAL DATA

Temperature Limits: -10°F to 180°F (-23°C to 82°C).

Pressure Connections: (2) 1/8" female NPT.

Electrical Rating: See chart.

Conduit Opening: 7/8" hole for 1/2" hub.

Switch Type: Mercury or snap.

Wiring Connections: Screw type.

Setpoint Adjustment: Knobs - external.

Housing: DPA, DPAW painted steel, DPAE aluminum.

Wetted Parts: Range 61-62-64 brass, range 62E-64E-65E stainless steel.

Weight: DPA 5 lbs. (2.3 kg), DPAW 7 lbs. (3 kg), DPAE 25 lbs. (11 kg).

Installation: Vertical.

Suggested Specification

Differential pressure switch shall be operated by opposing bellows of (brass) (316 stainless steel). Bellows shall actuate (one) (two) (SPST) (SPDT) (DPDT), (mercury) (snap) switches over range of 0-() PSID. Switch shall be Mercoïd Model DP() () () () ().

SWITCH DEADBAND - SINGLE STAGE psid [kg/cm²]

RANGE NUMBER	RANGE psid	MAX. PRESS. psi	APPROX. DEADBAND WITH MERCURY SWITCH			APPROX. DEADBAND WITH SNAP SWITCH		
			ADJ. MIN. DPA33	FIXED DPA-533	DPS-233	ADJ. MIN. DPA-7033-153	FIXED DPS-7233-153	2 FIXED DPS-7233-804
61	0-10 [0-0.7]	50 [3.5]	1 [0.07]	.75 [0.053]	.38 [0.027]	1.5 [0.11]	.5 [0.035]	.6 [0.042]
62	0-20 [0-1.4]	100 [7.0]	1.5 [0.11]	1 [0.07]	.5 [0.035]	2.5 [0.18]	1 [0.07]	1 [0.07]
64	0-30 [0-2.1]	300 [21]	3 [0.21]	2 [0.14]	.75 [0.053]	6 [0.42]	1.5 [0.11]	1.5 [0.11]
			DPA43	DPA-543	DPS-243	DPA-7043-153	DPS-7243-153	DPS-7243-804
62E	0-20 [0-1.4]	100 [7.0]	2 [0.14]	1.5 [0.11]	1 [0.07]	3 [0.21]	1.5 [0.11]	1.5 [0.11]
64E	0-30 [0-2.1]	300 [21]	3.5 [0.25]	2.5 [0.18]	1.5 [0.11]	6 [0.42]	2 [0.14]	2.5 [0.18]
65E	0-80 [0-5.6]	600 [42]	16 [1.12]	4 [0.28]	3 [0.21]	20 [1.4]	6 [0.42]	8 [0.56]

SWITCH DEADBAND - TWO STAGE psid [kg/cm²]

RANGE NUMBER	RANGE psid	MAX. PRESS. psi	DPA 400 WITH MERCURY SWITCHES		DPA 7400 WITH SNAP SWITCHES	
			MINIMUM SPREAD BETWEEN SWITCHES DPA433	FIXED DEADBAND APPROX. DPA433	MINIMUM SPREAD BETWEEN SWITCHES DPA7433	FIXED DEADBAND APPROX. DPA7433
61	0-10 [0-0.7]	50 [3.5]	2 [0.14]	.5 [0.035]	1.5 [0.11]	.6 [0.042]
62	0-20 [0-1.4]	100 [7.0]	4 [0.28]	1 [0.07]	3 [0.21]	1 [0.07]
64	0-30 [0-2.1]	300 [21]	8 [0.56]	1.5 [0.11]	6 [0.42]	1.5 [0.11]
			DPA443	DPA443	DPA7443	DPA7443
62E	0-20 [0-1.4]	100 [7.0]	4 [0.28]	.75 [0.053]	3.5 [0.25]	1.5 [0.11]
64E	0-30 [0-2.1]	300 [21]	8 [0.56]	1 [0.07]	6.5 [0.46]	2.5 [0.18]
65E	0-80 [0-5.6]	600 [42]	16 [1.12]	6 [0.42]	20 [1.4]	12 [0.84]

MODEL CHART – SERIES DP

EXAMPLE	DPA	-	-	33	-	153	-	61	DPA-33-153-61 Differential Pressure Control, brass bellows, adjustable deadband, automatic reset, SPDT mercury switch, adjustable range 0-10 psid [0-0.7], operating range 30" Hg. VAC – 50 psig [75 cm Hg- VAC -3.5].	
CONSTRUCTION	DP	-							General purpose enclosure, NEMA-1 (standard)	CSA
RESET OPTIONS	A							U	Automatic reset, adjustable deadband, double adjustment Manual reset, single adjustment – operates on decrease automatically Manual reset, single adjustment – operates on increase automatically Fixed deadband, single adjustment, automatic reset	CSA CSA
HOUSING OPTIONS		W							Weather-proof enclosure, NEMA-3R, 4, 4X Explosion-proof enclosure, NEMA-7, 9 – Class I, Group C & D, Class II, Group E, F & G	CSA CSA
CIRCUIT (SWITCHING) OPTIONS FOR ELECTRICAL CODE SEE CHART BELOW.	S	S	2	_	2	2	_	2	SPST mercury switch, Elect Code A – opens on differential pressure increase	CSA
						3			SPST mercury switch, Elect Code A – closes on differential pressure increase	CSA
						153			SPDT mercury switch, Elect Code B	CSA
						156			SPDT: 2 each SPST mercury switches – 1 each opens on differential pressure increase, 1 each closes on differential pressure increase. Elect Code A	CSA
						804			DPDT: 2 each SPDT mercury switches, Elect Code B	CSA
						()			Other circuits available, consult factory.	
						2			SPST magnetic mercury switch, Elect Code I – opens on differential pressure increase. Fixed deadband.	CSA
						3			SPST magnetic mercury switch, Elect Code I – closes on differential pressure increase. Fixed deadband.	CSA
						4122			2 stage: 2 each SPST magnetic mercury switches – 1 each opens on differential pressure increase, 1 each opens on further increase. Elect rating per note †† below.	CSA
						4132			2 stage: 2 each SPST magnetic mercury switches – 1 each closes on differential pressure increase, 1 each closes on decrease. Both open mid range. Elect rating per note †† below.	CSA
						4129			2 stage: 2 each SPST magnetic mercury switches – 1 each closes on differential pressure increase, 1 each closes on further increase. Elect rating per note †† below.	CSA
						4123			2 stage: 2 each SPST magnetic mercury switches – 1 each opens on differential pressure increase, 1 each opens on decrease. Both closed mid range. Elect rating per note †† below.	CSA
5	2	SPST magnetic mercury switch, Elect Code H – opens on differential pressure increase. Narrow adjustable deadband.	CSA							
5	3	SPST magnetic mercury switch, Elect Code H – closes on differential pressure increase. Narrow adjustable deadband.	CSA							
70	153	SPDT snap acting switch. Elect Code D, adjustable deadband.								
70	804	DPDT: 2 each SPDT snap acting switches, consult factory.								
72	153	SPDT snap acting switch, Elect Code E, Fixed deadband, Note ‡‡								
72	804	DPDT: 2 SPDT snap acting switches. Fixed deadband, Elect Code G. Note ‡‡								
74		2 stage: 2 each SPDT snap acting switches. Elect Code G. Note ‡‡								
OPTION								B	Optional: Delrin Bushed Movement	
BELLOWS MATERIALS									Brass bellows. Ranges 61, 62, 64 only Type 316 Stainless Steel bellows – ranges 62E, 64E, 65E only	CSA CSA
ADJUSTABLE DIFFERENTIAL PRESSURE RANGES								61	Adjustable range 0-10 psid, operating range 30" Hg VAC -50 psig [75 cm Hg VAC -3.5]	CSA
OPERATING PRESSURE RANGES								62	Adjustable range 0-20 psid, operating range 30" Hg VAC -100 psig [75 cm Hg VAC -7.0]	CSA
								64	Adjustable range 0-30 psid, operating range 30" Hg VAC -300 psig [75 cm Hg VAC -21]	CSA
								62E	Adjustable range 0-20 psid, operating range 30" Hg VAC -100 psig [75 cm Hg VAC -7.0]	CSA
								64E	Adjustable range 0-30 psid, operating range 30" Hg VAC -300 psig [75 cm Hg VAC -21]	CSA
								65E	Adjustable range 0-80 psid, operating range 30" Hg VAC -600 psig [75 cm Hg VAC -42]	CSA

[kg/cm2]

Electrical Ratings DP Control

CODE	SUFFIX	AC CAPACITY			DC CAPACITY HP		AC	DC
		120V	240V	440V	120V	240V		
A	-2, -3 -156	10A	5A	3A	10A	5A	3/4	1/3
B	-153 -804	4A	2A	**	4A	2A	1/8	NA
D	-153	15A	15A	15A	0.5A	0.25A	1/8	NA
E	-153	15A	15A	NA	‡	‡	†	NA
G	-804	5A	5A	NA	•	•	NA	NA
H	-2, -3	5A	2A	NA	2.5A	1A	1/8	1/10
I	*-2, -3	0.5A	0.25A	NA	0.25A	0.15A	NA	NA

- * Also rated 1.0A at 24 VAC
- † 1/4 HP at 120 VAC, 1/2 HP at 240 VAC
- ‡ DC controls up to 10A. Consult factory.
- 5A 30 VDC resistive.
- ** -153 Circuit available 1A, 440V on special order.
- †† DP-433 & DP-443 rated 0.3A at 120 VAC, 0.15A at 240 VAC, 0.9A at 24 VAC, 0.15A at 120 VDC, 0.07A at 240 VDC. Manual reset not available.
- ‡‡ Manual reset not available.

STOCKED MODELS in bold

BELLOWS MATERIAL	SNAP ACTION SWITCH SPDT, 15A @ 120/240 VAC	MERCURY SWITCH 4A @ 120V, 2A @ 240V, AC/DC.
	MODEL NUMBER	MODEL NUMBER
Brass	DPA-7033-153-61	DPA-33-153-62
Brass	DPA-7033-153-62	
Brass	DPA-7033-153-64	
316SS	DPA-7043-153-65E	

Series DP with Viton® Diaphragm Seals

Seals may be connected with remote capillary (max. length 10 ft.) or mounted integrally with controls. Viton® seal suitable up to 300 psig and tem. from -10 to 400°F.