

P-SERIES Pressure Switches

Switches for Vacuum through 6000 psig with Adjustable Set Points and Fixed or Adjustable Deadband

Features:

- Set point repeatability, $\pm 1\%$ of operating range.
- All wiring terminals, adjustments and visual scales are accessible from the front of the switch.
- Choice of open frame type, general purpose or watertight enclosure.
- Choice of fixed, limited-adjustable or full-range adjustable deadband.
- Choice of single or two-stage units.
- Compact size.
- Mounts in any position.
- Rugged and vibration resistant; e.g., for compressors.
- Visual adjustment scales in psig and bars.
- Wide selection of transducer wetted materials suitable for air, water, oil or corrosive fluids.
- Mix and match switch and transducer components for increased stock flexibility or to change pressure ranges in field.

General Description:

ASCO P-Series pressure switches consist of an open frame or enclosure protected switch unit and a transducer unit. They can be ordered separately for customer stocking and/or field assembly or as a complete factory-assembled unit.

Switch

P-Series pressure switch units incorporate the unique ASCO TRI-POINT alternating fulcrum balance plate to control the operation of one or more electrical snap-action switches. The electrical snap-action switch together with the adjusting mechanism is a fully-tested, self-contained subassembly.

Transducer

Transducer unit incorporates a diaphragm/piston type pressure sensor, and is also a fully-tested, self-contained subassembly.

Operation

When pressure is applied to the transducer it is converted into movement of the piston. This piston movement is then used to control the operation of the electrical snap-action switch in the switch unit.

Options (See pages 34-35)



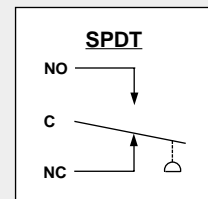
Standard Electrical Ratings

PA, PB, PC ① Series

- 15 Amp Res., 125 VAC
- 10 Amp Res., 250 VAC
- 1/8 HP, 125 VAC
- 1/4 HP, 250 VAC
- 1/2 Amp Res., 125 VDC
- 1/4 Amp Res., 250 VDC

PG Series

- 15 Amp Res., 125 VAC
- 10 Amp Res., 250 VAC
- 1/8 HP, 125 VAC
- 1/4 HP, 250 VAC



- ① PC Series, UL recognized component, rated 10 Amp Res., 125/250 VAC; 1/3 HP 125/250 VAC.
- ② Open frame construction, UL recognized component.
- ③ FM listed for air flow interlocking service.

Standard Temperature Ratings

- Ambient:** -4°F (-20°C) to 122°F (50°C)
- Fluid:**
 - For Buna "N" or Neoprene Diaphragm: -4°F (-20°C) to 180°F (82°C)
 - For Viton Diaphragm: -4°F (-20°C) to 250°F (121°C)
 - For 316 SS Diaphragm: -50°F (-45°C) to 300°F (149°C)
 - For Nylon Transducers: -4°F (-20°C) to 180°F (82°C)

Enclosures

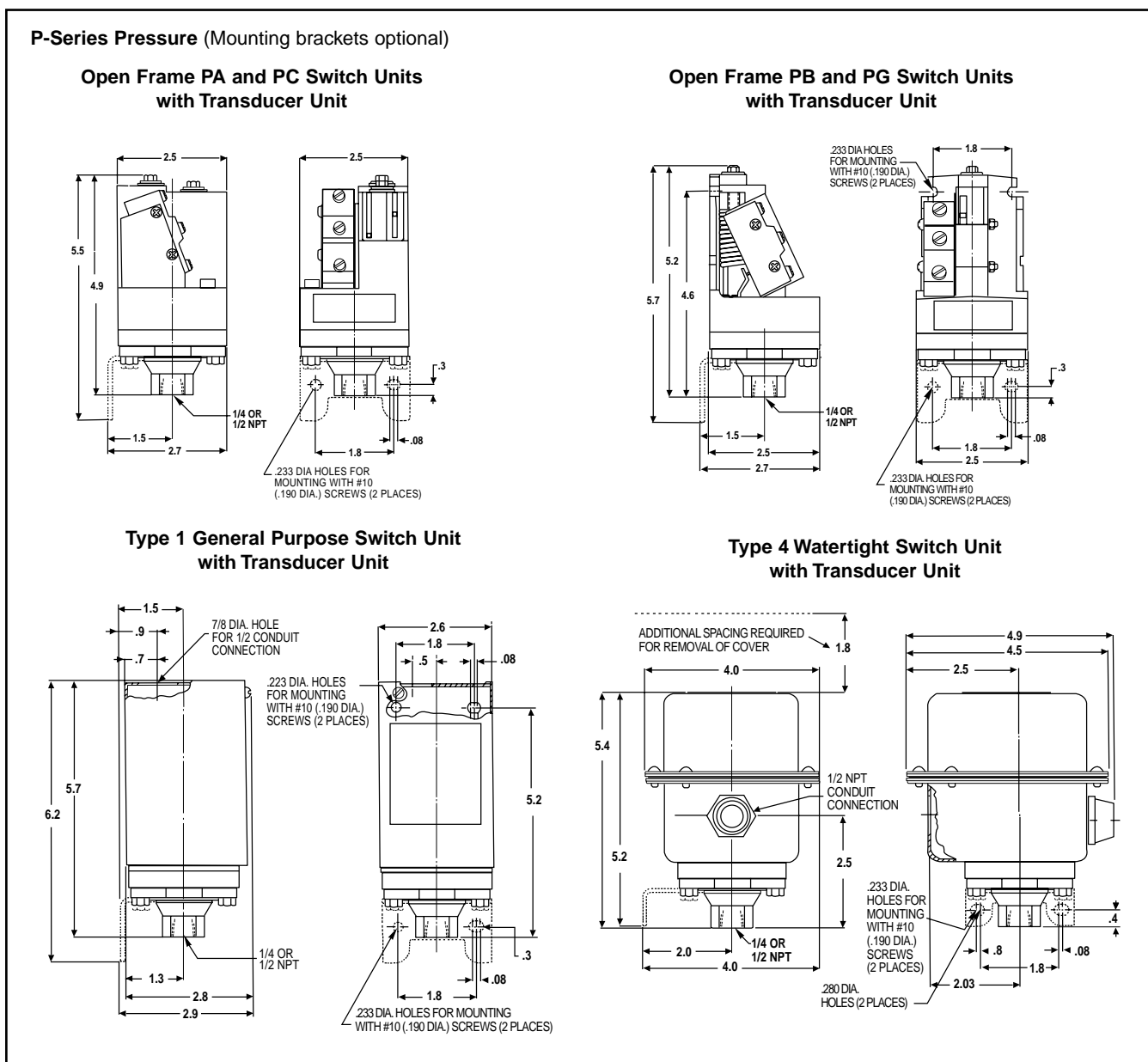
ASCO TRI-POINT switches are available in either a general purpose or watertight enclosure, in addition to open frame construction. These enclosed units are made in accordance with NEMA and UL standards. These standards define the protection level an enclosure gives and the tests it must pass to meet a particular design.

General Purpose – Type 1. These enclosures are designed for indoor use to protect personnel from accidental contact with the equipment. P-Series general purpose enclosures are painted, zinc-coated

steel and have a 7/8" diameter hole at the top for electrical entry.

Watertight – Type 4. Watertight and dust-tight enclosures are intended for use indoors and outdoors to protect the enclosed equipment against splashing or falling water, windblown dust and water, hose directed water, and severe external condensation. P-Series watertight switch enclosures are epoxy-painted, zinc-coated steel with a 1/2" conduit hub in the side of the lower housing for electrical entry. (For optional 316 SS watertight enclosure see page 13.)

Dimensions (inches)



P-SERIES Pressure Switches



General Purpose Enclosure



Watertight Enclosure

How to Select and Order

ASCO P-Series switches consist of two components, the switch unit and the transducer unit.

How to Select

1. Select the adjustable operating range based on desired actuation pressure.
2. Check that proof pressure is sufficient.
3. Read across and select the desired P-Series switch unit with the proper enclosure.
4. Continue across and select a matching transducer unit compatible with the fluid.

Specifications		Adjustable Deadband				Fixed Deadband			
		Adjustable Deadband	Open Frame	General Purpose	Watertight Enclosure	Fixed Deadband At Mid-Range (psig) ①	Open Frame	General Purpose	Watertight Enclosure
Adjustable Operating Range (psig)	Proof Pressure (psig)	Maximum Full Scale	Open Frame	General Purpose	Watertight Enclosure	Fixed Deadband At Mid-Range (psig) ①	Open Frame	General Purpose	Watertight Enclosure
		Minimum At Mid-Range (In W.C.) ②	Catalog No.	Catalog No.	Catalog No.		Catalog No.	Catalog No.	Catalog No.
Vacuum 0 - 30" Hg	50	4" Hg	PA36A	PA30A	PA31B	1" Hg	PB36A	PB30A	PB31B
Compound Pressure 30"Hg - 14 psig	50	6" Hg	PA26A	PA20A	PA21B	1" Hg	PB26A	PB20A	PB21B
0 - 4	60	---	---	---	---	0.05	PB46A	PB40A	PB41B
0 - 9	60	1.2	PA36A	PA30A	PA31B	0.4	PB36A	PB30A	PB31B
2 - 18	60	1.8	PA26A	PA20A	PA21B	0.4	PB26A	PB20A	PB21B
2 - 18	100	2.5	PA36A	PA30A	PA31B	0.6	PB36A	PB30A	PB31B
4 - 36	150	4.0	PA26A	PA20A	PA21B	0.7	PB26A	PB20A	PB21B
6 - 60	150	5.4	PA16A	PA10A	PA11B	0.9	PB16A	PB10A	PB11B
10 - 100	200	9	PA16A	PA10A	PA11B	1.5	PB16A	PB10A	PB11B
20 - 200	400	18	PA16A	PA10A	PA11B	3.0	PB16A	PB10A	PB11B
30 - 300	450	27	PA16A	PA10A	PA11B	5.0	PB16A	PB10A	PB11B
40 - 400	500	36	PA16A	PA10A	PA11B	6	PB16A	PB10A	PB11B
60 - 600	2000	54	PA26A	PA20A	PA21B	12	PB26A	PB20A	PB21B
100 - 1000	2000	90	PA16A	PA10A	PA11B	15	PB16A	PB10A	PB11B
160 - 1650	5000	250	PA26A	PA20A	PA21B	100	PB26A	PB20A	PB21B
270 - 2700	5000	300	PA16A	PA10A	PA11B	125	PB16A	PB10A	PB11B
600 - 6000	9000	650	PA16A	PA10A	PA11B	200	PB16A	PB10A	PB11B

All switch units above are in stock for immediate delivery.

How to Order

Factory assembled – Simply order the switch and transducer unit by catalog number joined by a slash (/), e.g., PA36A/RD30A11.

Field assembled – Simply order the switch and transducer units separately by individual catalog number, e.g., one PA36A and one RD30A11.

Options – Add appropriate suffix for desired option or accessory (see pages 34-35).

Important Note: The third digit of each of the catalog numbers must be identical, e.g., PA 3 6A and RD 3 0A11.

PA, PB, or PC unit below

PC Switch Unit

Two-Stage Fixed Deadband units consist of two separate snap-action switches, each with an independently adjustable set point and non-adjustable reset point. The difference between the set and reset points of each switch is the deadband listed below; the minimum difference between the set points of the two switches is the separation.



Open Frame

Two-Stage Fixed Deadband

Fixed Deadband At Mid-Range (psig) ①	Separation Maximum Full Scale Minimum At Mid-Range (psig) ①	Open Frame	General Purpose	Watertight Enclosure
		Catalog No.	Catalog No.	Catalog No.
		2.7" Hg	3" Hg	PC36A
4.3" Hg	6" Hg	PC26A	PC20A	PC21B
---	---	---	---	---
0.6	1.0	PC36A	PC30A	PC31B
0.8	1.8	PC26A	PC20A	PC21B
1.2	1.8	PC36A	PC30A	PC31B
2.0	3.6	PC26A	PC20A	PC21B
2.4	6.0	PC16A	PC10A	PC11B
4	10	PC16A	PC10A	PC11B
8	20	PC16A	PC10A	PC11B
12	30	PC16A	PC10A	PC11B
16	40	PC16A	PC10A	PC11B
30	60	PC26A	PC20A	PC21B
40	100	PC16A	PC10A	PC11B
200	300	PC26A	PC20A	PC21B
250	400	PC16A	PC10A	PC11B
400	600	PC16A	PC10A	PC11B

Select transducer unit below



Standard connection is 1/4" NPT
(optional 1/2" NPT add suffix "B" to catalog number)

Transducer Unit

These **gauge pressure type transducers** provide for one pressure connection in the bottom of the transducer. They are diaphragm/piston type transducers using an elastomer in contact with the fluid, backed by a piston cylinder. This allows high sensitivity for low pressures and strength for high pressures.

Transducer Units

Air or Gas ②	Air, Oil or Gas	Water, Air, Oil or Gas	Corrosive Fluids	
Nylon & Buna "N"	Aluminum & Buna "N"	Brass & Buna "N"	All 316 SS ③	316 SS & Viton ④
Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.
---	RV34A11	RV34A21	---	RV34A32
---	RV24A11	RV24A21	---	RV24A32
RD40A71	RD40A11	RD40A21	---	RD40A42
RD30A71	RD30A11	RD30A21	---	RD30A42
RD20A71	RD20A11	RD20A21	---	RD20A42
---	---	---	RE30A44	---
RE20A71	RE20A11	RE20A21	RE20A44	RE20A42
RE10A71	RE10A11	RE10A21	RE10A44	RE10A42
RF10A71	RF10A11	RF10A21	RF10A44	RF10A42
RG10A71	RG10A11	RG10A21	RG10A44	RG10A42
---	RH10A11	RH10A21	RH10A44	RH10A42
---	RJ10A11	RJ10A21	RJ10A44	RJ10A42
---	---	RL20A21	---	RL20A42
---	---	RL10A21	---	RL10A42
---	---	RN20B21	---	RN20B42
---	---	RN10B21	---	RN10B42
---	---	---	---	RQ10B42

All switch units and transducer units above are in stock for immediate delivery.

P-SERIES Pressure Switches

How to Select and Order

ASCO P-Series switches consist of two components, the switch unit and the transducer unit.

How to Select

1. Select the adjustable operating range based on desired actuation pressure.
2. Check that rated proof pressure is sufficient.
3. Read across and select the desired P-Series switch unit with the proper enclosure.
4. Continue across and select a matching transducer unit compatible with the fluid.

How to Order

Factory assembled – Simply order the switch and transducer unit by catalog number joined by a slash (/), e.g., PG36A/RV34A11.

Field assembled – Simply order the switch and transducer units separately by individual catalog number, e.g., one PG36A and one RV34A11.

Options – Add appropriate suffix for desired option (see pages 34-35).

Important Note: The third digit of each of the catalog numbers must be identical, e.g., PG 36A and RV 34A11.

Select P-Series switch unit and transducer unit below

PG Switch Unit

Limited Adjustable Deadband units have an adjustable set point and use a special snap-action switch that varies the deadband within the limits listed below.



Open Frame

Transducer Unit

These gauge pressure type transducers are diaphragm/piston type transducers using an elastomer in contact with the fluid, backed by a piston cylinder. This allows high sensitivity for low pressures and strength for high pressures.



Standard port connection is 1/4" NPT (optional 1/2" NPT add suffix "B" to catalog number)

Specifications		Limited Adjustable Deadband				Transducer Units				
Adjustable Operating Range (psig)	Proof Pressure (psig)	Adjustable Deadband At Mid-Range (psig) ① From/To	Open Frame Catalog No.	General Purpose Catalog No.	Watertight Enclosure Catalog No.	Air or Gas ②	Air, Oil or Gas	Water, Air, Oil or Gas	Corrosive Fluids	
						Nylon & Buna "N"	Aluminum & Buna "N"	Brass & Buna "N"	All 316 SS ③	316 SS & Viton ④
						Catalog No.	Catalog No.	Catalog No.	Catalog No.	Catalog No.
Vacuum 0 - 30" Hg	50	1.8 - 5.0	PG36A	PG30A	PG31B	---	RV34A11	RV34A21	---	RV34A32
Compound 30"Hg-14 psig Pressure	50	2.8 - 6.0	PG26A	PG20A	PG21B	---	RV24A11	RV24A21	---	RV24A32
0 - 9	60	0.7 - 1.3	PG36A	PG30A	PG31B	RD30A71	RD30A11	RD30A21	---	RD30A42
2 - 18	60	0.8 - 2.1	PG26A	PG20A	PG21B	RD20A71	RD20A11	RD20A21	---	RD20A42
2 - 18	100	1.8 - 3.1	PG36A	PG30A	PG31B	---	---	---	RE30A44	---
4 - 36	150	2.0 - 4.0	PG26A	PG20A	PG21B	RE20A71	RE20A11	RE20A21	RE20A44	RE20A42
6 - 60	150	2.1 - 4.6	PG16A	PG10A	PG11B	RE10A71	RE10A11	RE10A21	RE10A44	RE10A42
10 - 100	200	4 - 8	PG16A	PG10A	PG11B	RF10A71	RF10A11	RF10A21	RF10A44	RF10A42
20 - 200	400	8 - 17	PG16A	PG10A	PG11B	RG10A71	RG10A11	RG10A21	RG10A44	RG10A42
30 - 300	450	15 - 25	PG16A	PG10A	PG11B	---	RH10A11	RH10A21	RH10A44	RH10A42
40 - 400	500	22 - 45	PG16A	PG10A	PG11B	---	RJ10A11	RJ10A21	RJ10A44	RJ10A42
60 - 600	2000	35 - 75	PG26A	PG20A	PG21B	---	---	RL20A21	---	RL20A42
100 - 1000	2000	65 - 110	PG16A	PG10A	PG11B	---	---	RL10A21	---	RL10A42
160 - 1650	5000	190 - 290	PG26A	PG20A	PG21B	---	---	RN20B21	---	RN10B42
270 - 2700	5000	200 - 300	PG16A	PG10A	PG11B	---	---	RN10B21	---	RN10B42
600 - 6000	9000	300 - 500	PG16A	PG10A	PG11B	---	---	---	---	RQ10B42

All switch units and transducer units above are in stock for immediate delivery.

① Values shown are nominal. ② Rated proof pressure on RF10A71 is 150 psig and on RG10A71 is 300 psig.

③ 316 SS transducer deadbands are approx. 50% greater than listed. ④ Transducers ending in 32 have 303 SS process connections, not 316 SS.

Switches with Optional 316 Stainless Steel Enclosure

Every ASCO P-Series pressure switch is available in a corrosion-resistant, stainless steel enclosure. Typical applications include:

- Offshore platforms
- Hydrocarbon processing plants
- Oil & gas fields
- Oil & gas transmission lines
- Chemical plants
- Breweries
- Paper pulp mills
- Salt spray locations

Stainless Steel Enclosure

ASCO Type 4X watertight enclosure is designed to provide protection against windblown dust, rain, sleet or external ice formation. The switch and transducer unit are available only as factory-assembled units, and include a UL-approved 1/2" NPT conduit hub.



How to Select and Order

ASCO P-Series switches with 316 SS enclosure consist of two factory-assembled components, the switch unit and the transducer unit.

How to Select (use tables on pages 10-12)

1. Select the adjustable operating range based on desired actuation pressure.
2. Check that rated proof pressure is sufficient.
3. Read across and select the desired P-Series switch unit with open frame construction.
4. To add a 316 SS enclosure, change the fourth digit of the open frame catalog number from "6" to "4", e.g., PG3[6]A becomes PG3[4]A.
5. Continue across and select a matching transducer unit compatible with the fluid.

How to Order

Factory assembled only – Simply order the switch and transducer unit by catalog number joined by a slash (/), e.g., PG34A/RV34A32.

Options – Add appropriate suffix for desired option (see pages 34-35).

Dimensions (inches)

