

S-SERIES Pressure Switches

Switches for Pressure to 8000 psig, Vacuum, or Differential with General Purpose, Watertight or Explosion-Proof Enclosures

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 general purpose, watertight or explosion-proof enclosures.
- Choice of fixed or full-range adjustable deadband.
- Choice of single or two-stage units.
- Manual reset units available.
- Mounts in any position.
- Rugged and vibration resistant.
- Visual adjustment scales in psi and bars.
- External adjusting nuts.
- Separate electrical, pressure and adjusting chambers.
- 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 S-Series pressure switches consist of a 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

S-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

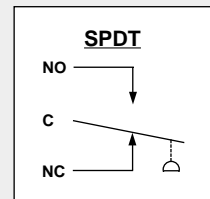
When pressure is applied to the transducer it is converted into movement of the piston. This piston movement is then used to control the operation of the electrical snap-action switch in the switch unit.



Standard Electrical Ratings

SA, SB, SC, SD and SE 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



Standard Temperature Ratings

- Ambient:** -4°F (-20°C) to 140°F (60°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)

Options (See pages 34-35)

S-SERIES Pressure Switches (to 8000 psig)



How to Select and Order

ASCO S-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 S-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., SA40D/TA40A11.

Field assembled – Simply order the switch and transducer units separately by individual catalog number, e.g., one SA40D and one TA40A11.

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., SA 40D and TA 40A11.

Select S-Series pressure switch										SA, SB, SC, SD and SE unit below				
SA Switch Unit			SB, SD or SE Switch Unit				SC Switch Unit							
Single-Stage Adjustable Deadband units allow independent adjustment of the set and reset points over the full operating range of the switch. The minimum difference between set and reset points is the deadband listed below; the maximum difference is the full range of the switch.			SB Switch Unit: Single-Stage Fixed Deadband units have an adjustable set point and a non-adjustable automatic reset point. SD Switch Unit: Manual reset on decreasing pressure units operate automatically on increasing pressure and must be reset manually on decreasing pressure. (To order, change second digit to letter "D", e.g., S 40D becomes S 40D). SE Switch Unit: Manual reset on increasing pressure units operate automatically on decreasing pressure and must be reset manually on increasing pressure. (To order, change second digit to letter "E", e.g., S 40D becomes S 40D).				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.							
 <p>General Purpose</p>							 <p>Explosion Proof</p>							

Select transducer unit below



Series TA-TC Series TD-TQ

Standard connection is 1/4" NPT; (Optional 1/2" NPT add suffix "B" to catalog numbers TD thru TQ)

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.

Specifications		Adjustable Deadband				Fixed Deadband or Manual Reset				Two-Stage Fixed Deadband					Transducer Units					
Adjustable Operating Range (psig)	Proof Pressure (psig)	Adjustable Deadband Maximum Full Scale	Minimum At Mid-Range (psig) ①	General Purpose Catalog No.	Watertight Enclosure Catalog No.	Explosion-Proof Catalog No.	Fixed Deadband At Mid-Range (psig) ①	General Purpose Catalog No.	Watertight Enclosure Catalog No.	Explosion-Proof Catalog No.	Fixed Deadband At Mid-Range (psig) ①	Separation Maximum Full Scale	Minimum At Mid-Range (psig) ①	General Purpose Catalog No.	Watertight Enclosure Catalog No.	Explosion-Proof Catalog No.	Air, Oil or Gas	Water, Air Oil or Gas	Corrosive Fluids	
																	Aluminum & Buna "N"	Brass & Buna "N"	All 316 SS ②	316 SS & Viton ③
																	Catalog No.	Catalog No.	Catalog No.	Catalog No.
0 - 12" W.C.	25	1.5" W.C.		SA40D	SA41D	SA42D	1.0" W.C.	SB40D	SB41D	SB42D	1.2" W.C.	2.4" W.C.		SC40D	SC41D	SC42D	TA40A11	---	---	TA40A32
0 - 27" W.C.	25	2.0" W.C.		SA30D	SA31D	SA32D	1.2" W.C.	SB30D	SB31D	SB32D	1.4" W.C.	2.7" W.C.		SC30D	SC31D	SC32D	TA30A11	---	---	TA30A32
0 - 65" W.C.	25	2.5" W.C.		SA20D	SA21D	SA22D	1.4" W.C.	SB20D	SB21D	SB22D	1.6" W.C.	6.5" W.C.		SC20D	SC21D	SC22D	TA20A11	---	---	TA20A32
15 - 140" W.C.	40	6" W.C.		SA20D	SA21D	SA22D	3" W.C.	SB20D	SB21D	SB22D	4.0" W.C.	14" W.C.		SC20D	SC21D	SC22D	TB20A11	---	---	TB20A32
15 - 250" W.C.	40	10" W.C.		SA10D	SA11D	SA12D	6" W.C.	SB10D	SB11D	SB12D	7.0" W.C.	25" W.C.		SC10D	SC11D	SC12D	TB10A11	---	---	TB10A32
25 - 400" W.C.	40	15" W.C.		SA10D	SA11D	SA12D	8" W.C.	SB10D	SB11D	SB12D	13.0" W.C.	40" W.C.		SC10D	SC11D	SC12D	TC10A11	---	---	TC10A32
0.4 - 4.5	100	0.4		SA40D	SA41D	SA42D	0.3	SB40D	SB41D	SB42D	0.4	0.7		SC40D	SC41D	SC42D	TD40A11	TD40A21	---	TD40A42
0.7 - 9.0	100	0.6		SA30D	SA31D	SA32D	0.3	SB30D	SB31D	SB32D	0.4	0.9		SC30D	SC31D	SC32D	TD30A11	TD30A21	---	TD30A42
0.8 - 9.0	150	1.4		SA40D	SA41D	SA42D	0.8	SB40D	SB41D	SB42D	1.0	1.6		SC40D	SC41D	SC42D	---	---	TE40A44	---
1.0 - 18	100	1.1		SA20D	SA21D	SA22D	0.4	SB20D	SB21D	SB22D	0.6	1.8		SC20D	SC21D	SC22D	TD20A11	TD20A21	---	TD20A42
1.0 - 18	150	1.6		SA30D	SA31D	SA32D	1.0	SB30D	SB31D	SB32D	1.2	1.8		SC30D	SC31D	SC32D	---	---	TE30A44	---
1.5 - 36	150	2.2		SA20D	SA21D	SA22D	0.9	SB20D	SB21D	SB22D	1.4	3.6		SC20D	SC21D	SC22D	TE20A11	TE20A21	TE20A44	TE20A42
2 - 60	150	3.6		SA10D	SA11D	SA12D	1.5	SB10D	SB11D	SB12D	2.2	6		SC10D	SC11D	SC12D	TE10A11	TE10A21	TE10A44	TE10A42
5 - 60	3000	6.0		SA30D	SA31D	SA32D	4.0	SB30D	SB31D	SB32D	5.5	8		SC30D	SC31D	SC32D	---	---	---	TG33A42
3 - 100	200	6.0		SA10D	SA11D	SA12D	2.5	SB10D	SB11D	SB12D	3.5	10		SC10D	SC11D	SC12D	TE10A11	TF10A21	TF10A44	TF10A42
5 - 120	3000	10		SA20D	SA21D	SA22D	5.0	SB20D	SB21D	SB22D	7.0	12		SC20D	SC21D	SC22D	---	---	---	TG23A42
5 - 200	3000	14		SA10D	SA11D	SA12D	6.0	SB10D	SB11D	SB12D	8.5	20		SC10D	SC11D	SC12D	---	---	---	TG13A42
6 - 200	400	12		SA10D	SA11D	SA12D	5.0	SB10D	SB11D	SB12D	7.0	20		SC10D	SC11D	SC12D	TG10A11	TG10A21	TG10A44	TG10A42
13 - 300	600	18		SA10D	SA11D	SA12D	8	SB10D	SB11D	SB12D	10	30		SC10D	SC11D	SC12D	TH10A11	TH10A21	TH10A44	TH10A42
15 - 400	600	24		SA10D	SA11D	SA12D	10	SB10D	SB11D	SB12D	14	40		SC10D	SC11D	SC12D	TJ10A11	TJ10A21	TJ10A44	TJ10A42
30 - 600	900	36		SA10D	SA11D	SA12D	15	SB10D	SB11D	SB12D	20	60		SC10D	SC11D	SC12D	---	TK10A21	---	TK10A42
50 - 1000	1500	75		SA10D	SA11D	SA12D	30	SB10D	SB11D	SB12D	40	100		SC10D	SC11D	SC12D	---	TL10A21	---	TL10A42
75 - 1500	2300	115		SA10D	SA11D	SA12D	45	SB10D	SB11D	SB12D	60	150		SC10D	SC11D	SC12D	---	TM10A21	---	TM10A42
200 - 3500	5000	225		SA10D	SA11D	SA12D	125	SB10D	SB11D	SB12D	150	350		SC10D	SC11D	SC12D	---	TN10B21	---	TN10B42
500 - 8000	9000	450		SA10D	SA11D	SA12D	275	SB10D	SB11D	SB12D	300	800		SC10D	SC11D	SC12D	---	---	---	TQ10B42

All switch units above are in stock for immediate delivery.

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

① Values shown are nominal.

② 316 SS transducers increase deadband by 50%. ③ Transducers ending in 32 have 303 SS process connections, not 316 SS.