Mercoid®
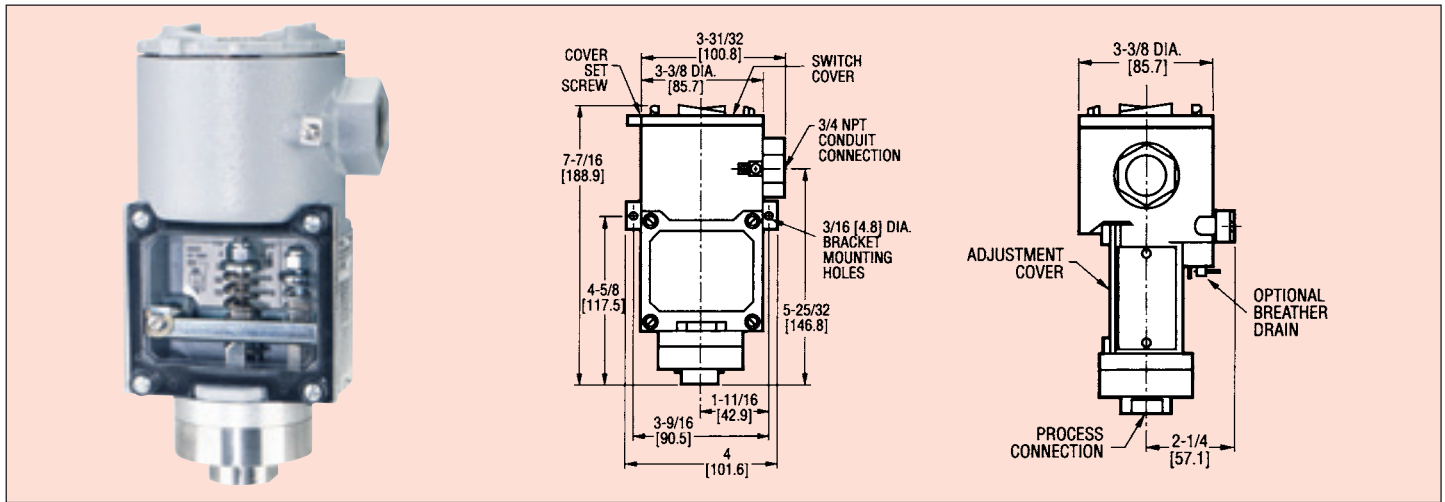
Diaphragm Operated Pressure Switches
Visible Setpoint, Adjustable Deadband, Hermetically Sealed Snap Switch, Weatherproof and Explosion-proof

Weatherproof and Explosion-Proof in One Economical Enclosure

Extremely rugged construction assures excellent reliability in chemical, petroleum and industrial plants. New design also provides burst pressure protection to 3000 psi (206 bar). The rolling diaphragm design maintains a constant effective area to minimize friction. This results in a minimum deadband as low as 5% of full scale. Since many applications require higher deadbands, the SA1100 includes a separate adjustment of this when necessary. A pump being used to control liquid level in a tank would be a typical situation where this feature would be important. Both setpoint and deadband adjustments are protected, yet clearly visible behind a clear polycarbonate window and are fully isolated from the electrical components for additional safety. A 7/16" open-end wrench is the only tool required to change settings. Terminal blocks are provided for switch wiring connections and both internal and external ground screws are included. Standard housing is weatherproof to NEMA standards 1 through 4X and 13; explosion-proof to NEMA 7, Class I, Groups B, C & D; NEMA 9, Class II, Groups E, F & G. Optional construction adds drain to meet IP54.

APPLICATIONS

Chemical, petroleum, food and drug processing industries. Used indoor, outdoor or in explosion-proof area.

SPECIFICATIONS

Wetted Materials: See pressure chamber and diaphragm material in model chart.
Temperature Limits: -30 to 180°F (-35 to 82°C).
Pressure Limit: 1200 psig (82.6 bar).
Enclosure Rating: Weatherproof: NEMA 4X and Explosion-proof: NEMA 7, 9.
Switch Type: SPDT or DPDT snap switch.
Electrical Rating: See model chart.
Electrical Connections: Screw terminal.
Conduit Connection: 3/4″ female NPT.
Process Connection: 1/4″ or 1/2″ female NPT.
Mounting Orientation: Within 20° of vertical.
Set Point Adjustment: Internal 7/16″ hex nuts.
Weight: 3.5 lb (1.6 kg).
Deadband: See deadband chart.
Agency Approvals: UL, CSA and CE. ATEX pending.

MODEL CHART - Series SA1100

Example	SA11	13	E	A	4	K	1	SA1113E-A4-K1 Pressure Control; weatherproof, NEMA 4X,explosionproof NEMA 7&9; aluminum pressure chamber, Buna-N diaphragm and O-ring; 1/4 inch female NPT process connection; adjustable deadband, automatic reset; SPDT snap acting switch; adjustable range 30-500 psig
Construction	SA11							Series Designator, weatherproof NEMA 4X, explosionproof NEMA 7, 9
Adjustable Pressure Ranges		11 12 13						Adjustable range 10-150 psig (0.7-10 bar) Adjustable range 20-250 psig (1.4-17.2 bar) Adjustable range 30-500 psig (2.0-34.0 bar)
Circuit (Switch) Options			E HS HG					Snap action switch rated 15A @ 125/250/480 VAC, 1/8 HP @ 125 VAC, 1/4 HP @ 250 VAC, 1/2 A @ 125 VDC resistive, 1/4 A @ 250 VDC resistive Hermetically sealed snap action switch rated 5A @ 125/250 VAC, 5A resistive @ 30 VDC Hermetically sealed snap action switch with gold contacts rated 1A @ 125 VAC, 1A resistive @ 30 VDC
Pressure Chamber Material (Wetted)				A B S				Aluminum Brass 316 SS
Diaphragm Material (Wetted)					4 5			Buna-N diaphragm and O-ring Fluorocarbon diaphragm and O-ring
Circuit (Switch) Type						K L		SPDT DPDT (not available with HS or HG switch options)
Process Connection							1 2	1/4 inch female NPT 1/2 inch female NPT
Options							CN DRAIN	CENELEC certified construction (UL, CSA, CENELEC approved) Housing with drain - allows condensate to be drained from inside enclosure (meets NEMA 3R instead of 4X)

STOCKED MODELS in bold

MODEL NUMBER	MODEL NUMBER
SA1111E-A4-K1	**SA1111E-S5-K2**

SWITCH DEADBAND CHART

Range Number	Adjustable Operating Range		Approximate Minimum Deadband				Approximate Maximum Deadband	
			Low		High			
	psig	bar	psig	bar	psig	bar	psig	bar
11	10-150	0.7-10	4.0	0.28	7.5	0.52	75	5.2
12	20-250	1.4-17.2	5.0	0.35	12.5	0.86	150	10
13	30-500	2.0-34	12	0.83	45	3.1	300	21