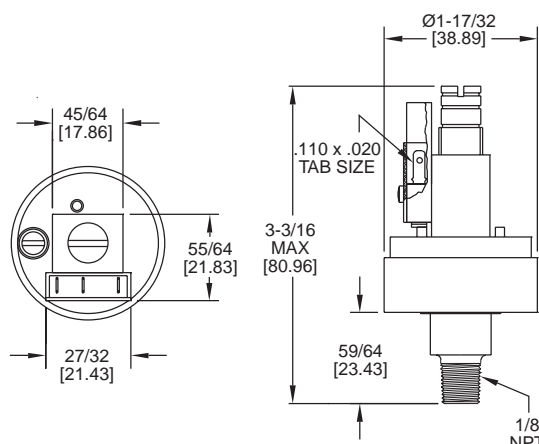


Series A1N Compact Pressure Switch

Specifications - Installation and Operating Instructions



The A1N Pressure Switch is a low cost open case control suitable for water, oil, and non-combustible gas service with an electrical rating of 5 amperes at 125/250 VAC. The compact Series A1N control is available in field adjustable operating ranges from as low as 1.5 to 4.5 psig up to 41 to 100 psig (10.3-31.0 kPa to 283-690 kPa). The A1N features a Buna-N diaphragm and cast zinc housing with a proof pressure of 200 psig.

OPTIONS

Low Temperature Option, -20 to 180°F, Setpoint shift greater than 10% may occur below 0°F. The available ranges versus model numbers are shown in the table below.

PHYSICAL DATA

Proof Pressure: 200 psig (1379 kPa).

Operating Temperature: 0 to 180°F (82°C).

Switch Type: SPDT snap action.

Mounting and Connections: 1/8 to 27 NPT(M).

Electrical Connections: .110 x .020 quick connect tabs.

Electrical Ratings: 5 A @ 125/250 VAC, 1/10 HP @ 125/250 VAC.

Pressure Ranges: 1.5-4.5 PSI (10-31 kPa), 4.5-15 PSI (31-103 kPa), 15-41 PSI (103-283 kPa), and 41-100-PSI (283-690 kPa).

Setpoint Adjustment: Slotted screw.

Housing Materials: Zinc.

Diaphragm Material: Buna-N.

Media Compatibility: Oils, water and non-combustible gases.

Weight: 6.0 ounces.

Installation: Within 20 degrees of vertical.

Approval: UL 508.

Stocked Models

Ratings: 0 to 180°F (-18 to 82°C) 5A @ 125/250 VAC, 1/10 HP @ 125/250 VAC

Model Number	Range, PSIG	Range, kPa	Typical Deadband in psig (kPa) at min./max.
A1N-11	1.5-4.5	10-31	.35/.65 (2.4/4.5)
A1N-21	4.5-15	31-103	.65/.90 (4.5/6.2)
A1N-31	15-41	103-283	1/1.7 (6.9/11.7)
A1N-41	41-100	283-690	3.7/4.5 (25.5/31)

Optional Models

Ratings: -20 to 180°F (-29 to 82°C) 5A @ 125/250 VAC, 1/10 HP @ 125/250 VAC

A1N-12	2.0-4.5	13.8-31	.55/.60 (3.8/4.1)
A1N-22	4.5-15	31-103	.75/1.0 (5.2/6.9)
A1N-32	15-41	103-283	1.4/1.6 (9.7/11)
A1N-42	41-100	283-690	4.8/6.0 (33/41)

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INSTALLATION

Location - Select a location where the temperature limits of 0 to 180°F (-18 to 82°C) will not be exceeded. Locate the switch as close as possible to the pressure source. Long lengths of piping will not affect accuracy of the actuation point but will increase response time slightly.

Mounting and Process Connection - Avoid mounting surfaces with excess vibration, which could cause false actuation when pressure is near the setpoint. The switch should be mounted within 20 degrees of vertical for proper operation. Mount the switch by connecting it to the process piping using the 1/8" NPT(M) connection. Pipe compound or Teflon® thread tape should be used to prevent leakage.

Electrical Connection - The SPDT snap switch includes normally open, normally closed and common connections. The common and normally open contacts will close and the common and normally closed contacts will open when pressure increases to the setpoint. The actions will reverse when pressure decreases below the setpoint minus the deadband. On UL approved switches, a green grounding screw is provided on the switch housing. All wiring should be in accordance with local codes.

SETPOINT ADJUSTMENT

1. Determine the setpoint pressure. Turning the slotted adjustment screw clockwise or counter-clockwise can set the actuation.
2. Connect tubing or piping from the pressure port on the bottom of switch to one leg of a tee. Connect the second leg to a pressure test gage of known accuracy and in an appropriate range. The third leg should be connected to a controllable source of pressure.
3. Connect a volt/ohm meter or other circuit tester to the snap switch terminals to indicate when switching occurs.
4. Slowly apply pressure to the system and note the pressure at which switching occurs. If adjustment is necessary, use a screwdriver to rotate the slotted adjustment screw clockwise to increase or counter-clockwise to decrease the actuation point.

5. Operate the switch through several cycles to confirm proper actuation point.

6. Remove the test apparatus, attach switch to pressure source, and control circuit wiring. Place switch in service.

SETPOINT ADJUSTMENT (for cold or hot temperature)

1. For service at 0°F setpoint will change approximately +.25 psig or +6% of room temperature setpoint, whichever is greater.
2. For service at -20°F, setpoint will change approximately +.5 psig or +10% of room temperature setpoint, whichever is greater.
3. For service at 180°F, setpoint will change approximately -5% to -10% of the room temperature setpoint.
4. For precise actuation, adjust the setpoint at the temperature the switch will be in service.

MAINTENANCE

The moving parts of these switches require no routine maintenance or lubrication. The switch setpoint is the only user adjustment. Units in need of repair should be returned to the factory at the address below, with freight prepaid. Be sure to include a brief explanation of the problem plus any relevant application information available.

Mercoid Division, Dwyer Instruments, Inc.
Attn: Repair Department
102 Highway 212
Michigan City, IN 46360