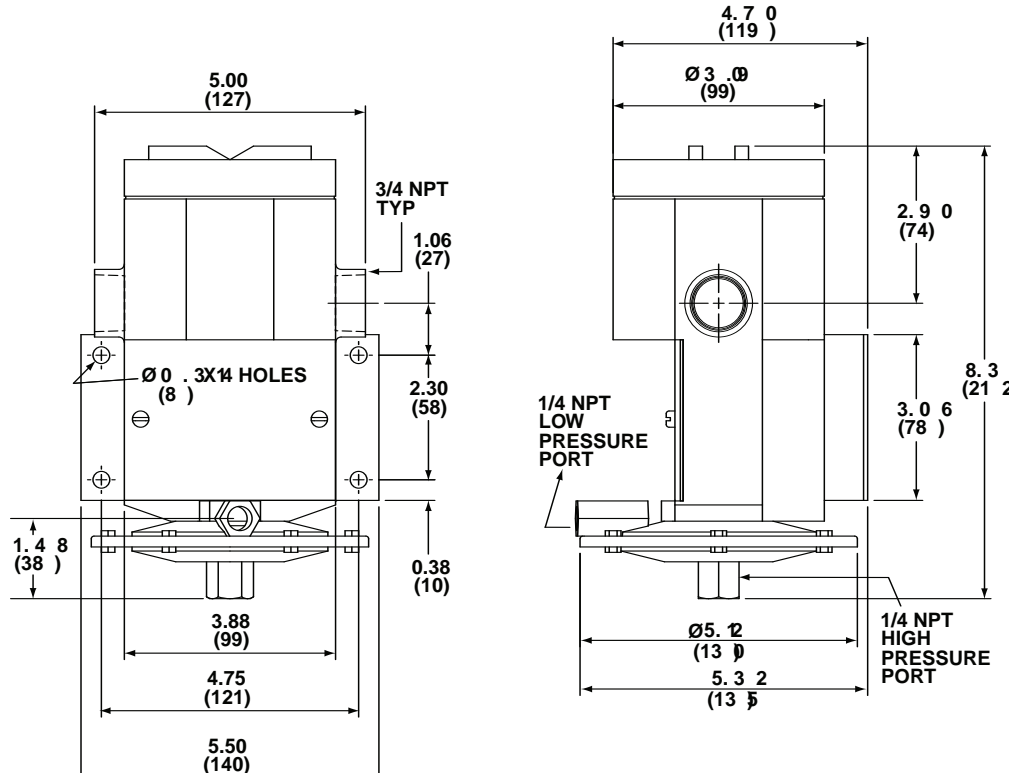


**Installation and Maintenance Instructions for
ASHCROFT® P-Series Snap Action Switches
for Low Range Differential Pressure Control**



N4 – 6.1 lb. (2.8)
N7 – 6.7 lb. (3.0)

STANDARD RANGES
30, 60, 100, 150 [°]H₂O Diff.

INTRODUCTION

The Ashcroft pressure control is a precision device which features a snap action switch. Fixed dead band is available with single or dual SPDT independently adjustable switches with various electrical ratings. Adjustable deadband is available with a SPDT switch with various electrical ratings. Several wetted material constructions for compatibility with pressure media may be obtained.

The “P” Series Ashcroft snap action pressure switch is available in both standard NEMA-4 and explosion-proof NEMA 7 & 9 configurations. The enclosure is an epoxy coated aluminum casting.

INSTALLATION

This control is a precision instrument and should never be left with internal components exposed. During installation ensure that covers are in place and conduit openings are sealed.

MOUNTING

Four holes in the bracket supplied are used in surface mounting of the control. Location of these holes is shown on the general dimension drawings. An optional pipe mounting bracket is also available. Mount on a vibration free surface or pipe. When tightening control to pressure line, always use the wrench flats or hex on the pressure connection. Never tighten by twisting the case.

PRESSURE CONNECTIONS

For operation as a pressure control, connect the pressure source to the lower port marked “H.” If venting is required connect vent line to side port marked “L.” If no venting is required, port “L” must be left open.

For operation as a differential control-connect the high pressure to the lower port marked “H” and the low pressure to the side port marked “L.”

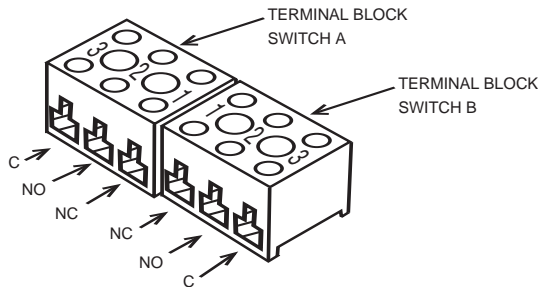
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ELECTRICAL CONNECTION

Remove top cover, cover unscrews (CCW).

On all units except one with terminal blocks – wire directly to the switch according to circuit requirements. Units with terminal blocks – wire directly to terminal blocks as required. Terminals are marked common, norm open and norm closed.

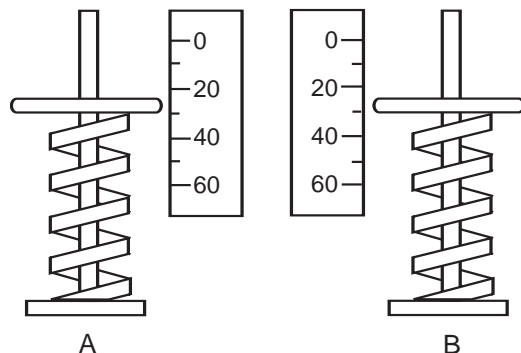


CONDUIT CONNECTIONS

Two 3/4 NPT holes are provided, one fitted with a plug, the other with a cap. It is recommended that Teflon tape or other sealant be used on conduit bushing or plug threads to ensure integrity of the enclosure. NEMA 7 & 9 enclosures require proper conduit seals and breathers as per the National Electrical Code.

SETPOINT ADJUSTMENTS

Note: Due to the sensitivity of this control it is imperative that the LOW pressure side volume be large so that there is no increase in LOW pressure when shut off and HIGH side pressure is applied. If this is not possible, approximate setpoint under operating conditions can be obtained by setting operating point with LOW side open to atmosphere. Then make final setpoint adjustments after installation.



Series PD-S Single Switch – Remove front cover, held in place by two screws. For setpoint adjustment to within ± 1 % of nominal range, use a suitable reference such as an Ashcroft Duragauge or test gauge. Monitor switch with a suitable pilot light or meter. Apply LOW pressure. Then apply HIGH pressure to the required setpoint and turn the adjusting wheel until the switch changes mode. When the setpoint has been achieved, raise and lower HIGH pressure to insure that differential pressure between HIGH and LOW pressures is correct.

Series PD-D Dual Switch – Remove front cover, held in place by two screws. There are two range adjusting wheels. The adjusting wheel on the left (labeled A) controls the left switch, the adjusting wheel on the right (labeled B) controls the right switch. The switches are set independently.

Note: The units are calibrated at the factory such that for proper operation switch B setpoint must be set higher than switch A setpoint.

For setpoint adjustment to within ± 1 % of nominal range mount the switch on a calibration stand, and use a suitable reference such as an Ashcroft Duragauge or test gauge. Monitor switch with a suitable pilot light or meter.

Apply LOW pressure. Then apply HIGH pressure to the required setpoint and turn adjusting wheel until the switch changes mode. When the setpoint has been achieved raise and lower the pressure to insure the setpoint is correct. This must be done for both setpoint A and setpoint B.

Series PD-A Adjustable Deadband Switch – Remove front cover, held in place by two screws. The adjusting wheel labeled A controls the resetpoint of the switch. The adjusting wheel labeled B controls the setpoint of the switch.

Note: The units are calibrated at the factory such that for proper operation setpoint B is always higher than re-setpoint A.

For accurate setpoint adjustment, mount the switch on a calibration stand, and use a suitable reference such as an Ashcroft Duragauge or Test Gauge. Monitor switch with a suitable pilot light or meter. Apply low pressure. Then apply high pressure to the required setpoint. Move adjusting wheel for switch B until switch changes mode. Then lower the HIGH pressure to the re-setpoint and move adjusting wheel for switch A until the switch changes mode. Raise and lower HIGH pressure to insure that differential pressure between HIGH and LOW pressure is correct. Repeat as necessary.