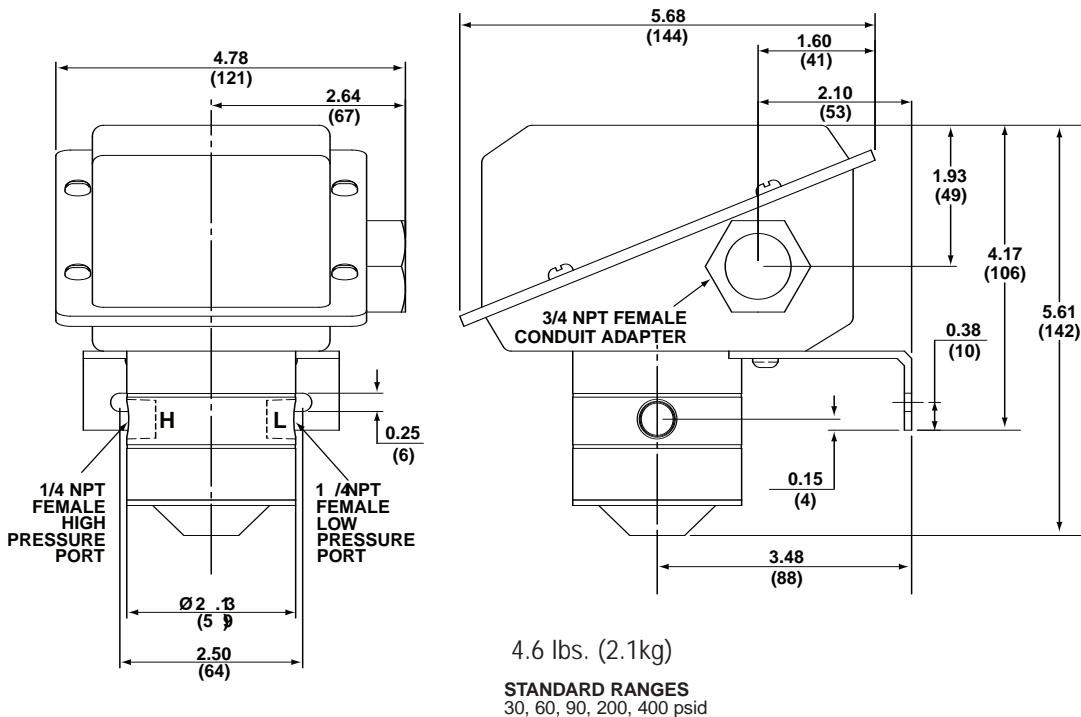


**Installation and Maintenance Instructions  
for ASHCROFT® G-Series Snap Action  
Switches for Differential Pressure Control**



**OPERATION**

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

Series GD-S switches have a fixed deadband which will be within the limits noted on the nameplate.

Series GD-D switches may be set to operate simultaneously or up to 85 percent of the range apart. The dead band of each switch will be within the limits noted on the nameplate.

Series GD-A switches may be set to operate with any deadband within the limits shown on the nameplate.

**MOUNTING**

The "G" Series ASHCROFT® snap action differential pressure switch has a NEMA-4X enclosure made of 316 stainless steel.

Two holes in the bracket supplied are used to surface mount 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 in any orientation.

**PRESSURE CONNECTIONS**

For operation as a differential pressure control – connect the high pressure to the side port marked "H" and the low pressure to the side port marked "L."

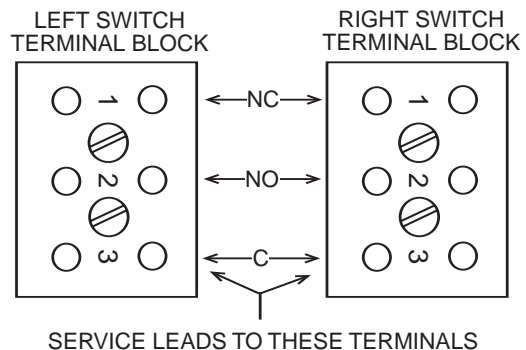
**CONDUIT CONNECTIONS**

One 3/4 NPSM conduit adapter of 316 stainless steel is provided. It is recommended that Teflon tape or other sealant be used on conduit bushing or plug threads to ensure integrity of the enclosure.

**ELECTRICAL CONNECTION**

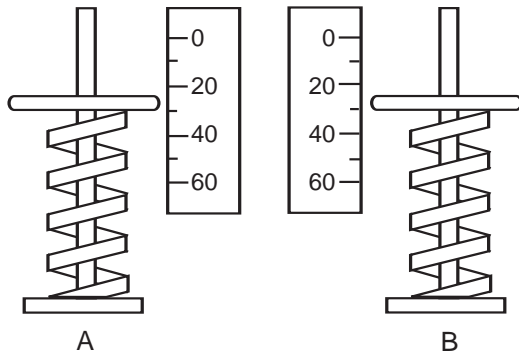
Remove cover, held in place by four screws.

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 (C), normally open (NO) and normally closed (NC).



### SETPOINT ADJUSTMENTS

Setpoints are changed by means of the setpoint adjusters. The GD-S single switch has one adjuster and the GD-A adjustable deadband and GD-D dual switches each have two adjusters. On switches with two adjusters, the one on the left is referred to as "A" and the right one is referred to as "B"; see illustration. Setpoints can be adjusted from 20 to 100 percent of full range on increasing pressure.



### SERIES GD-S SINGLE SWITCH

Remove cover. For setpoint adjustment on either increasing or decreasing pressure to within  $\pm 1\%$  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 light or meter.

Apply *Low* pressure. Then apply *High* pressure equal to the low pressure plus the differential pressure setpoint. If setpoint is on increasing differential pressure, turn adjuster so that switch operates (if common – normally closed circuit is being monitored light goes off). If setpoint is on decreasing differential pressure, turn adjuster so that switch resets (if common – normally closed circuit is being monitored light comes on). When the setpoint has been achieved, raise and lower the high pressure to ensure that the setpoint is correct.

The deadband (difference between the operate and reset pressures) may be verified at this time to be between the values noted on the nameplate label.

### SERIES GD-D DUAL SWITCH

Remove cover. For setpoint adjustment to within  $\pm 1\%$  of nominal range, mount the switch on a calibration stand and use the suitable reference such as an ASHCROFT® Duragauge or test gauge. Monitor switch with a light or meter.

Apply *Low* pressure. Then apply *High* pressure to the higher of the two required setpoints. Turn adjuster "B" until the switch operates or resets as required. See discussion of increasing or decreasing differential pressure setpoints and deadband verification under Series GD-S Single Switch. When the setpoint has been achieved, raise and lower the *High* pressure. Then reduce the *High* pressure to the lower setpoint differential pressure and turn adjuster "A" until the switch operates or resets as required. Verify this setpoint by raising and lowering the *High* pressure. Now increase the *High* pressure to the higher setpoint and make final adjustment on "B."

### SERIES GD-A ADJUSTABLE DEADBAND SWITCH

Remove cover. Adjuster "B" controls the operating point of the switch on increasing pressure. Adjuster "A" controls the re-setpoint of the switch on decreasing pressure.

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 light or meter. Apply *Low* pressure. Then apply *High* pressure to the required setpoint pressure.

Turn adjuster "B" until switch operates. Then lower differential pressure to the re-setpoint and turn adjuster "A" until the switch resets. Now increase pressure to the operating point and make final adjustment on "B." Raise and lower pressure to ensure that the setpoint and re-setpoint are correct.

### SOME PRECAUTIONS TO OBSERVE

Do not loosen the screws holding the precision switch element(s) or mounting bracket in place.

Nameplate *PROOF* pressure should not be exceeded. Intermittent operation up to proof pressure is permissible, however, some change of setpoint may be noted.

Operation and correct setpoint actuation should be routinely tested.