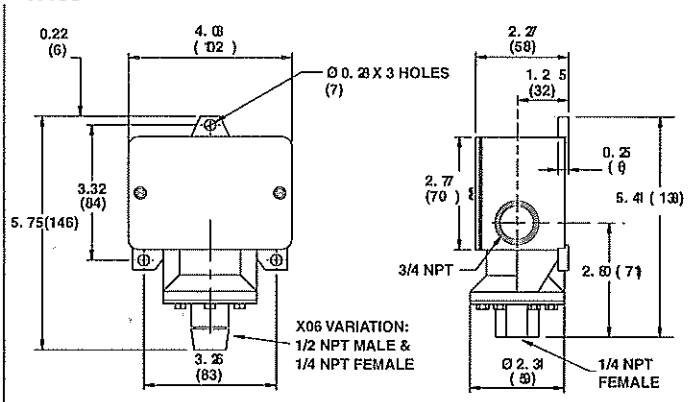
Installation and Maintenance Instructions for H400 Series ASHCROFT® Snap Action Piston Actuated Switches for Pressure Control

ASHCROFT®

H400



INTRODUCTION

The Ashcroft piston actuated pressure switch is a precision built control device which features a mechanical snap action switch. Controllers are available for operation with fixed or variable differential. Also manual reset types for operation on increasing or decreasing pressure. The manual reset types remain tripped until reset by pressing a button on top of the enclosure standard electrical switch is SPDT, available with various electrical characteristics. Two SPDT Switch elements mounted together are available except on variable differential and manual reset types. The Ashcroft piston actuated pressure switch is furnished in the standard NEMA 4 epoxy coated aluminum casting enclosure.

INSTALLATION

These controls are precision instruments and should never be left with internal components exposed. During installation insure that covers are in place and conduit openings are closed except when actually working on the control.

MOUNTING

Three holes external to the enclosure for surface mounting location of these holes is shown on the general dimension drawing. They may also be mounted directly on pressure line using the pres sure connection. *When tightening control to pressure line, always use the wrench flats or hex on the lower housing.*

ELECTRICAL CONNECTIONS

Remove cover two screws hold cover to enclosure.

CONDUIT CONNECTIONS

Note – It is recommended that Teflon tape or other sealant be used on conduit, bushing or plug threads to ensure integrity of the enclosure.

Standard – one ¾ NPT conduit hole right side.
XJL Variation – two ¾ NPT conduit holes with two ¾ to ½ NPT reducing bushings.
XJK Variation – two ¾ NPT conduit holes.
SPDT – Wire directly to the Switch according to Circuit require. ments. On controls with pilot lights wire lights according to circuit diagram on inside of cover. See special wiring instruction tag for single switches with two pilot lights and dual switches with one or more lights.

2-SPDT – Dual switching elements consist of two SPDT switches mounted together in a bracket. Switches are catibrated to have simultaneous operation within 1% of range either on increasing or decreasing pressure but not in both directions. Wire directly to the front and rear switch according to circuit requirements. Leads are provided on rear. Switch color coded as follows:
Common – White
Normally Closed – Red
Normally Open – Blue

See SPDT instructions for pilot light hook-up.

When hermetically sealed switch element(s) are supplied, the lead color coding is as follows:
Common – White
Normally Closed – Red
Normally Open – Blue

ADJUSTMENT OF SETPOINT

A single setpoint adlusting nut (⅞˝) is located centrally at the bottom on the inside of the enclosures.

For accurate setpoint calibration, mount the switch on a calibration stand, a pump or catalog No. 1305 deadweight gauge tester. A suitable reference standard is necessary to observe convenient changes in pressure, such as an Ashcroft Duragauge or test gauge.

As received, the pressure switch will normally be set to approximately 90% of the indicated range. Pressurize the system to required setpoint and turn the adlustment nut until switch changes mode. Direction of turning is indicated on a label affixed to the inside of the control enclosure. When setpoint has been achieved raise and lower pressure to insure that setpoint is correct.

After installation of the control replace cover to insure electricat safety and to protect internal parts from the environment.

H450 VARIABLE DEADBAND SWITCHES

Deadband is varied by rotating the wheel on the precision switch. When viewed from the front of the enclosure, rotation to the left increases deadband – rotation to the right decreases deadband. Letters on the wheel may be used as a reference.

ADJUSTMENT OF SETPOINT

As received, the pressure switch will normally be set to approximately 90% of range. Rotate the wheel on the MICRO SWITCH alt the way to the right; this will provide smallest deadband. Pressurize the system to the required setpoint and turn the adjustment nut until the switch changes mode. Lower the pressure to reset the switch. Rotate the wheel on the MICRO SWITCH until the desired deadband is obtained. The upper setpoint will be changing upward with this adjustment. Lower the pressure to reset the switch. Then increase the pressure to the desired setpoint and turn the adjusting nut until the switch changes mode. Lower the pressure and check re-setpoint and deadband.

Note – As indicated above, adjustment of setpoint is made by use of ⅞˝ nut. Precision switch element mounting screws and bracket adjusting screw are factory sealed and should not be tampered with.

ASHCROFT®

Hydraulic Pressure Switches, Watertight Enclosure, H-Series

This Ashcroft® speciality switch is designed for applications such as trash compactors, balers and similar types of hydraulic control systems.

- ***Watertight NEMA 4X, IP66 enclosure***
- ***High overpressure protection***
- ***Vibration resistant O-ring sealed piston actuator***
- ***Choice of switch elements for all applications, including hermetically sealed***
- ***Fixed or limited adjustable deadband***
- ***Readily available***

1 - FUNCTION

H4 - Hydraulic switch, type 400, watertight enclosure meets NEMA 4, 4X and 13, IP66 requirements

2 - SWITCH ELEMENTS

Order Code	Description/Maximum Electrical Ratings UL/CSA Listed SPDT	
20[3]	Narrow deadband	15A, 125/250 Vac
23	Heavy duty ac	20A,125/250 Vac
24[1]	General purpose	15A,125/250/480 Vac 1/2A, 125 Vdc 1/4A, 250 Vdc
25	Heavy duty dc	10A,125/ Vac or dc 1/8HP 125/ Vac or dc
26[3]	Sealed environment proof	15A, 125/250 Vac
27	High temp. 300°F	15A, 125/250 Vac
28	High limit, manual reset	15A, 125/250 Vac
32	Hermetically sealed, general purpose	11A, 125/250 Vac 5A, 30 Vdc
	UL/CSA Listed Dual SPDT[2]	
61[3]	Dual narrow deadband	15A, 125/250 Vac
62[3]	Dual narrow environment proof	15A, 125/250 Vac
63	Dual high temp. 300°F	15A, 125/250 Vac
64	Dual general purpose	15A,125/250/480 Vac 1/2A, 125 Vdc 1/4A, 250 Vdc

3 - ACTUATOR SEAL

Order Code	
V-Viton	Viton O-ring, 304 SS press. conn. Connection style 1/4 NPT Female

4 - OPTIONS

(see pages 229-230)

5 - STANDARD PRESSURE RANGES

Range psi	Adjustable Setpoint Limits psi	Proof Pressure psi
1000	75-1000	12,000
2000	100-2000	12,000
3000	150-3000	12,000
5000	200-5000	12,000
7500	500-7500	12,000

NOTES:

1. Standard switch.
2. Dual switches are 2 SPDT snap-action switches not independently adjustable.
3. Estimated dc rating, 0.4A, 120 Vdc (not UL listed).

TO ORDER THIS H-SERIES PRESSURE SWITCH:

Select: **H4 24 V XFS 3000 psi**

1. Enclosure: H4
2. Switch Element: 24
3. Actuator Seal: V
4. Options (see pages 229-230): XFS
5. Pressure Range (from table 5): 3000 psi

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com

DRESSER Instruments