

F-Series Pressure Switches for Hazardous Locations



RELIABLE IN –

- Offshore oil rigs
- Chemical and petrochemical plants
- Pulp and paper mills
- Engines, turbines and compressors
- Pipelines
- Water and wastewater treatment plants
- Machinery and equipment where compact size is important

Ashcroft Inc. supplies highly reliable Ashcroft® switches and controls for industrial and process applications. We begin with rock-solid designs, matching the most appropriate technology with the safety and reliability requirements of the applications. The materials of construction are specified to exacting standards, and product is built to last in the toughest applications. Our modern, responsive manufacturing facility in Connecticut is supported by an extensive network of stocking distributors and factory sales offices located in virtually every part of the world. Special application assistance is always just a telephone call away.

The Ashcroft® F-Series switch line of compact, adjustable pressure switches is designed to satisfy most requirements for alarm, shutdown, control and interlock on a wide variety of process and equipment

applications. Electromechanical pressure switches are usually more cost effective than transmitters for these applications. Materials of construction have been selected for long life. A wide variety of precision switch elements are available to meet every application requirement, including standard hermetically sealed contacts with added reliability and safety. The actuators we use have been proven in more than 20 years of service in the world's plants and mills. Simplicity and ease of use are stressed to improve reliability of the installation. F-Series is designed to easily retrofit many similar models and are readily available.

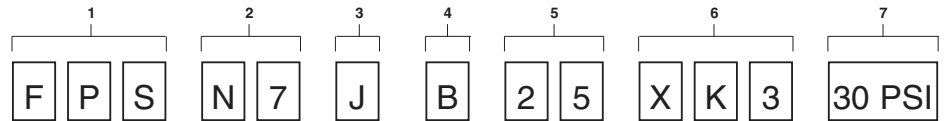
Hermetically Sealed Switch

All Ashcroft F-Series models feature standard hermetically sealed switch contacts. We recommend hermetically sealed switch elements for improved reliability in harsh and corrosive environments. The Ashcroft F-Series is also approved for installation in Division I and II hazardous locations.

F-Series Pressure Switches for Hazardous Locations

F-SERIES PRESSURE SWITCH MODEL NUMBER:

To specify the exact switch desired select entries from appropriate tables as shown in example below.



1 – FUNCTION

FPS – Pressure switch, single setpoint, fixed deadband

2 – ENCLOSURE

N7 – NEMA 3, 4, 7 & 9, IP66
Anodized aluminum for hazardous locations

3 – SWITCH ELEMENTS FOR FPS CONTROLS

Code	S.P.D.T. Switch Elements UL/CSA Listed	
P	Hermetically Sealed, Narrow Deadband	5A, 125/250 Vac
J	Hermetically Sealed, General Purpose	11A, 125/250 Vac 5A, 30 Vdc
L	Hermetically Sealed, Gold Contacts	1A, 125 Vac
JJ	Dual Hermetically Sealed, General Purpose	11A, 125/250 Vac 5A, 30 Vdc
LL	Dual Hermetically Sealed, Gold Contacts	1A, 125 Vac

4 – ACTUATOR SEAL

Code	Material	Process Temperature Limits °F ⁽¹⁾
B	Buna N	0-150
V	Viton	20-200
T	Teflon	0-150
R	Stainless Steel Diaphragm/ Viton O-ring	0-150
S	316 Stainless Steel Welded	0-200
H	Stainless Steel Piston/ Viton O-ring	20-200

5 – PRESSURE CONNECTION

Code	Description
25	¼ NPT Female
07	½ NPT Female (Standard)

6 – F-SERIES OPTIONS

Code	Description
XFP	Fungus Proofing
XFS	Factory Adjusted Setpoint
XK3	Terminal Blocks
XNH	Tagging Stainless Steel
X6B	Clean for Oxygen Service

7A – NOMINAL RANGE AND PERFORMANCE TABLE – BUNA (CODE B)

Nominal Range		Proof Press. psi	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
30" Hg Vac.†	–1	1000	1.8-8.0	0.4-5.0
30	2	1000	0.2-1.5	0.1-1.3
60	4	1000	0.2-2.5	0.3-1.5
100	7	1000	0.5-4.0	0.5-2.5
200	14	1000	1.5-8.0	0.5-5.0
400	28	1600	3.0-15.0	1.5-9.0
600	40	2400	4.0-28.0	2.0-15.0
1000	70	4000	6.0-50.0	3.0-30.0

7B – NOMINAL RANGE AND PERFORMANCE TABLE – HIGH PRESSURE (CODE H)

Nominal Range		Proof Press. psi	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
1000	70	12,000	50-100	n/a
2000	140	12,000	100-200	n/a
3000	210	12,000	150-300	n/a
4000	280	16,000	150-350	n/a

7C – NOMINAL RANGE AND PERFORMANCE TABLE – WELDED SS (CODE S)

Nominal Range		Proof Press. psi	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
30	2	1000	1.0-4.5	0.5-3.5
60	4	1000	1.0-5.0	0.5-4.0
100	7	1000	1.5-10.0	1.0-6.0
200	14	1000	2.0-18.0	1.0-12.0
400	28	1600	5.0-32.0	2.0-20.0
600	40	2400	9.0-50.0	4.0-30.0
1000	70	4000	15.0-80.0	7.0-50.0

7D – NOMINAL RANGE AND PERFORMANCE TABLE – VITON, TEFLON, SS w/VITON O-RING (CODES V, T & R)

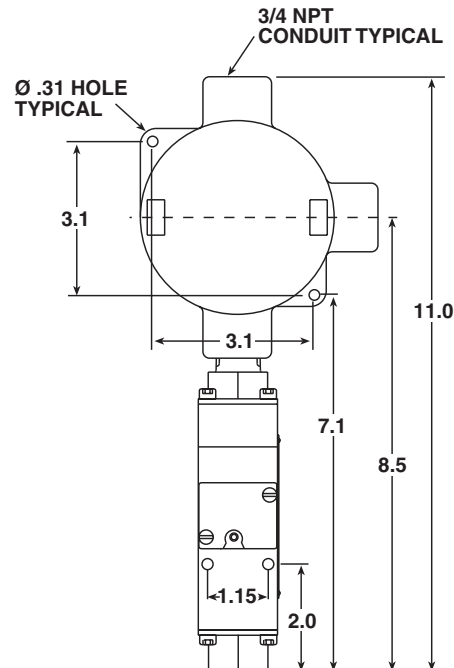
Nominal Range		Proof Press. psi	Deadband (by Switch Element)	
psi	bar		Code J	Code P, L
30" Hg Vac.†	–1	1000	1.5-10.0	0.5-7.0
30	2	1000	0.5-3.5	0.2-2.5
60	4	1000	0.5-4.0	0.5-3.0
100	7	1000	1.0-7.0	1.0-4.5
200	14	1000	2.5-12.0	1.0-8.5
400	28	1600	5.0-30.0	2.0-17.0
600	40	2400	8.0-48.0	4.0-34.0
1000	70	4000	10.0-80.0	5.0-55.0

All models feature ±1 percent of range setpoint repeatability and a minimum of 400 percent of range proof pressures. Setpoints are field adjustable between 15% and 100% of nominal range listed in Table. Exception: Stainless Steel welded(s), limits are 20% and 100%.
†Vacuum range not available with stainless steel.

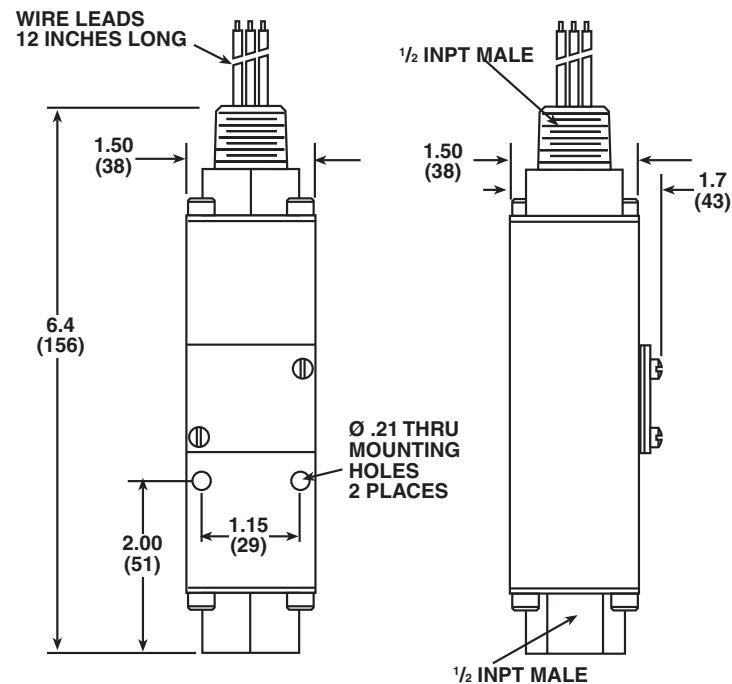
(1) Ambient operating temperature limits –20 to 150°F, all styles, setpoint shift of 1% of range per 50°F temperature change is normal. Switches are calibrated at 70°F ambient reference.

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Pressure Switch with XK3



Pressure Switch



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