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Ashcroft® Switches

PIP #: SW-PI-62

Applicable to:

INFORMATION & GUIDELINES FOR SETTING ASHCROFT PRESSURE, TEMPERATURE AND DIFFERENTIAL PRESSURE SWITCHES

All Ashcroft Pressure, Temperature and Differential Pressure switches can be set at any point between about 15% and 100% of the range as designated on the label or the nominal range designated in the catalog. In addition, L, G and P-Series adjustable deadband switches have a reset point adjustment which is used to meet specific deadband requirements, such as pump, compressor or level control applications. N-Series has both setpoint and deadband adjustments to accomplish the same thing.

XFS

All Ashcroft switch series above can be either set in the field or ordered from the factory preset to your requirements. When we set the switch at the factory, our specification is ±1% of the nominal range. Factory setting, or XFS, is a very popular option, and as a result, we often get orders that do not have enough information or have incorrect information. When this happens, the order is delayed and extra phone calls are needed to resolve. The following should help you meet your customers needs correctly the first time:

HOW TO ORDER

When "XFS" is shown in part number:

1. Setpoint must be indicated.
2. Increasing or decreasing pressure must be indicated.
   Ex: B424B XFS 100#
   Set: 60# decreasing
3. For differential pressure switches, static operating pressure must be given also.

COMMON XFS ORDERING ERRORS

- Indicating "XFS" with no setpoint supplied.
- Indicating setpoint without adding "XFS" to part number.
- Indicating setpoint below or beyond the capable range.
- Indicating setpoint, with no "increasing" or "decreasing".
- Indicating setpoint, but no reset point on an adjustable deadband switch.
- Indicating 2 setpoints on a switch only capable of one setpoint.
- Ordering differential pressure switches with XFS, but without giving the static operating pressure.

SETTING GUIDELINES BY SWITCH TYPE

Pressure (ALL)

Pressure switches may generally be set between about 15% and 100% of their operating range on increasing pressure. Be sure that switches can also reset within the switch range. Refer to the approximate deadband table in the OH-1 bulletin.

For Example:

a. B424B-100 psi (According to the approximate deadband table, deadband is between 1.5 and 5.0 psi) this switch can be set at 15% or 15 psi, and will reset somewhere between 10 and 13.5 psi.

However:

b. B468S-100psi (Deadband is calculated by multiplying the catalog limits by 1.7 for stainless steel and 1.6 for a dual code 32, giving limits of 5.7 to 19 psi).

This switch might not reset unless it were to go into vacuum. Note: This switch could be set on decreasing pressure, since reset would be at a higher pressure.

Temperature (All)

Temperature switches may generally be set throughout their full range or temperature span. However, you should be aware of deadbands and be sure that the process temperature can change enough to reset the switch, if the application requires it.

Differential Pressure (All)

Setpoint changes with changes in static operating pressure. Therefore, the static pressure must be given when the switch is ordered. Refer to SW/PI-51 "Static Working Pressure Effects On Differential Pressure Switches."

Optional XHS actuator greatly reduces the effects of static operating pressure shifts. Refer to SW/PI-57 "High Static Operating Pressure Differential Pressure Switch."

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SETTING GUIDELINES BY ASHCROFT PRODUCT LINE

Product Line — **Capability**

B Single setpoint only, even on dual switch elements.

Ex: B424B XFS 1000#
Set: 750# Increase

Code 50 Switch Element – variable deadband element. A setpoint as well as a reset point must be indicated. The deadband between the these two points must not be less or greater than the deadband range listed in the approximate deadband table.

Ex: B450B XFS 100#
Deadband table limits are 1.1 to 3.5 psi
Set: 75# Increase
Reset: 72# Decrease

L,G,P **LPS, LDS, LTS –** Single setpoint, fixed deadband
GPS, GDS, GTS
PPS, PDS, PTS

Ex: LPSN4GB25 XFS 200#
Set: 130# on Decrease

L**PD, LDD, LTD -** Dual setpoints, fixed deadband on each. Setpoints
GPD, GDD, GTD must be at least 5% of range apart.
PPD, PDP, PTD

Ex: LPDN4GGB25 XFS 400#
Set: A side 120# on Decrease
Set: B side 350# on Increase

LPA, LDA, LTA - Single setpoint, adjustable deadband. A setpoint
GPA, GDA, GTA and a reset point must be indicated. The deadband
PPA, PDA, PTA between these points must not be less or greater than the deadband range listed in the approximate deadband table.

Ex: LPAN4HV25 XFS 150IW
Set: 145IW Increase
Reset: 90IW Decrease

L,G **LPS, LDS, LTS –** Single setpoint, fixed deadband **(X2C Option)**

GPS, GDS, GTS DPDT Contacts. This option provides simultaneous operation on either increasing or decreasing pressure for Code G switch elements when ordered with XFS only. Field adjusted switches or other switch elements will operate within 1% of range of each other.

N **NPA -** Single setpoint, adjustable deadband. Deadband is adjustable between .1% - 95% of nominal range.

Ex: NPAN4DLS01 XFS 30#
Set: 25# Increase
Reset: 7# Decrease

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