

PIBVEXP Explosion Proof Post Indicator and Butterfly Valve Switch



Specifications

Contact Ratings:	One SPDT (Form C) Switch 15 A @ 125/250/480 VAC; 1/8 HP @ 125 VAC, 1/4 HP @ 250 VAC 1/2 A @ 125 VDC; 1/4 A @ 250 VDC
Dimensions:	3.75"L X 3.25"D X 4.5"H
Operating Temperature Range:	-40°F - 160°F (-40°C - 71°C)
Maximum Stem Extension:	2.1875"
Shipping Weight:	1-3/4 lb.
Enclosure Rating:	UL Listed explosion proof switch enclosure for use in hazardous locations. Class I, Groups C and D; Class II, Groups E, F and G

Important

Please Read Carefully and Save

This instruction manual contains important information on the installation and operation of supervisory switches. Purchasers who install supervisory switches for use by others must leave this manual or a copy of it with the user. These instructions apply to Safe Signal switches for post indicator and butterfly type valves. Read all instructions carefully before beginning. Follow only those instructions that apply to the model being installed.

CAUTION

To prevent ignition of hazardous atmospheres, disconnect supply circuit before opening. Keep assembly tightly closed when in operation. Do NOT leave unused wires exposed.

All supervisory switch installations must comply with local codes and ordinances and the requirements of the authority having jurisdiction. Additional information is available in National Fire Protection Association standards NFPA 13, 13D, 13R, 71, and 72.

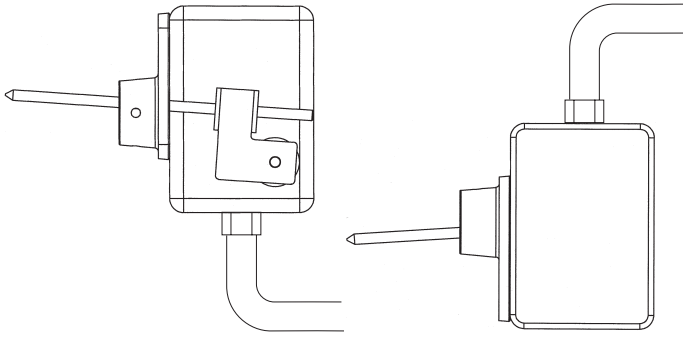
General Information for Post Indicator Valves and Butterfly Valves

1. Model PIBVEXP is designed for installation in a 1/2" NPT tapped hole and located so that the actuating lever of the switch engages the target or flag of the valve. The switch actuating lever is spring loaded against the flag or target of the valve and is released when the valve moves toward the closed position from the fully open position.
2. Model PIBVEXP is equipped with a removable 1/2" NPT pipe nipple which is locked in place with two set screws. A hex wrench is provided for this feature. These models also include an adjustable length actuating lever which eliminates any need for alteration of the length of the lever.

Figures 1A and 1B:

Rising Flag

Falling flag



Section 1

Installation Instructions For Post Indicator Valves

1. There are two types of post indicator valves - rising flag and falling flag. In a rising flag installation, the PIBVEX mounts below the target assembly, as shown in Figure 1A. Closing the valve raises the target assembly and releases the actuating lever on the PIBVEX. In a falling flag installation, the PIBVEX mounts above the target assembly (Figure 1B). Closing the valve lowers the target assembly and releases the actuating lever on the PIBVEX.

The PIBVEX will work for either application. To prevent binding on the actuating lever the unit must be oriented with the conduit entry pointing downward for a rising flag application and pointing upward for a falling flag application. An improper installation can cause damage to the PIBVEX device.

2. If the post indicator valve is predrilled with $\frac{1}{2}$ " NPT mounting hole, remove the plug and go to step 6. If the post indicator valve is NOT equipped with a $\frac{1}{2}$ " NPT mounting hole, it will be necessary to drill and tap the hole.
3. Position the valve in the fully open position ("OPEN" should appear in the window) and remove the head and target assembly. In doing so, ensure that the assembly can be reinstalled with its original adjustment.
4. (a) In a falling flag installation (flag lowers as valve is closed), measure the distance from the bottom of the head to the upper surface of the target that will contact the actuating lever of the PIBVEX. Add $\frac{3}{32}$ " to this measurement and mark the outside of the housing at that location. Drill with a $2\frac{3}{32}$ " drill bit and tap a $\frac{1}{2}$ " NPT thread.
(b) In a rising flag installation (flag rises as valve is closed), measure the distance from the bottom of the head to the lower surface of the target that will contact the actuating lever. Subtract $\frac{3}{32}$ " to this measurement and mark the outside of the housing at that location. Drill with a $2\frac{3}{32}$ " drill bit and tap a $\frac{1}{2}$ " NPT thread.
5. Replace the head and target assembly.
6. Screw the locknut onto the threaded nipple which is supplied with the PIBVEX.
7. Screw the nipple hand tight into the $\frac{1}{2}$ " hole in the valve and tighten the locknut against the housing to secure the nipple in position.

8. Insert a probe into the hole through the nipple to measure the distance from the open end of the nipple to the to the desired position on the target assembly. Subtract $\frac{5}{8}$ " from the distance and set the length of the actuating lever of the PIBVEX from the end of the enclosure to this distance. Tighten the set screw which holds the actuating lever.
9. Close the valve 3 to 4 revolutions.
10. Install the PIBVEX onto the nipple and orient the conduit entry per Section 1. Apply pressure to the PIBVEX and lock the set screws to secure the nipple to the PIBVEX.
11. Slowly open the valve to its fully open position. The switch should trip as the valve opens, but not force the actuating lever against the nipple when fully open. To check for this condition, open the valve fully and depress the top of the actuating cam to stretch the actuating spring further. There should be some additional movement available. If no movement is available, damage may occur to the PIBVEX actuator lever. It will be necessary to adjust the flag location by removing the head and turning the handle while the valve stem is disengaged (refer to the valve manufacturer.)
12. After checking the fully open position to ensure adequate clearance, close the valve slowly until the PIBVEX contacts trip. The switches must trip within $\frac{1}{5}$ of the full travel distance of the valve.
13. If the PIBVEX does not change states within $\frac{1}{5}$ of the length of travel, it may be necessary to adjust the flag up or down by removing the head and turning the handle (refer to the valve manufacturer.)
14. Wire the switch as shown in Fig. 3.
NOTE: When removing the cover of the PIBVEX use provided allen wrench in box.

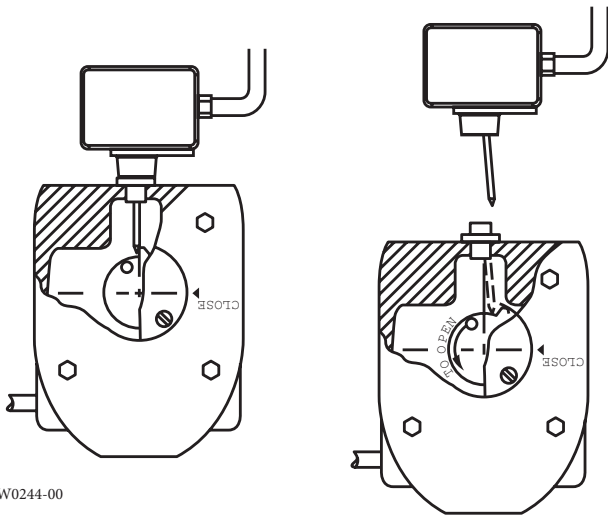
Section 2

Installation Instructions For Butterfly Valves

(See Figure 2)

1. Remove the $\frac{1}{2}$ " NPT plug from the gear housing.
2. Loosen 2 set screws that hold the nipple on the PIBVEX and remove the nipple.
3. Screw the locknut onto the nipple.
4. Screw the nipple into the $\frac{1}{2}$ " NPT hole and hand tighten. Tighten the locknut firmly to the housing to secure the nipple.
5. Open the valve fully and close the valve approximately 3 revolutions, noting which direction the target moves.
6. Retract the actuating arm and install PIBVEX onto the nipple, orienting the PIBVEX to trip the switch as the valve closes. To prevent binding on the actuating lever, the unit must be oriented so the flag falls away from the actuating lever when the valve is closed. Apply pressure to PIBVEX and tighten set screws to secure the assembly.
7. Slide the actuating arm into the valve until it bottoms on the flag, but do not tighten the lever screw.

Figure 2:

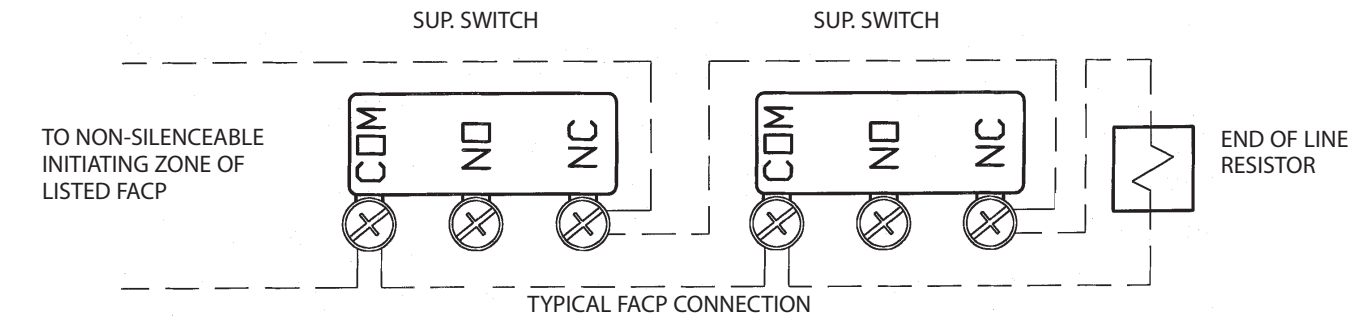


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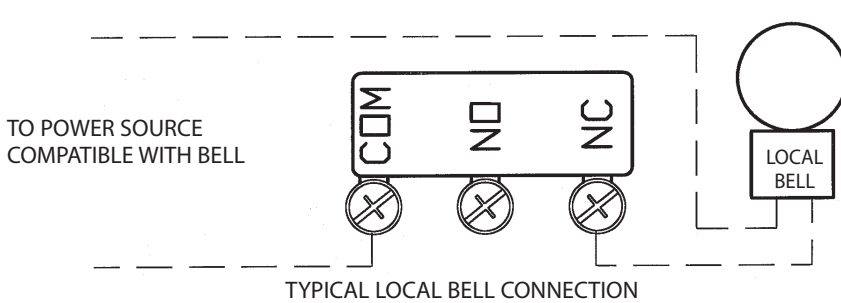
8. Open the valve to the full open position and tighten the lever screw to hold actuating arm in position. (Actuating arm length will adjust slightly as valve is opened.) Check to ensure that in the full open position the actuating arm is not resting on the nipple.
9. Carefully close valve and note the number of handle revolutions until the switch trips. The switch must trip within $\frac{1}{5}$ of the total travel range of the valve.
10. Wire the switch as shown in Fig. 3.

NOTE: When removing the cover of the PIBVEXP use provided allen wrench in box.

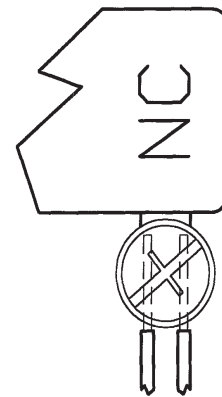
Figure 3:



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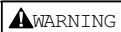


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BREAK WIRE AS SHOWN FOR SUPERVISION OF CONNECTION. DO NOT ALLOW STRIPPED WIRE LEADS TO EXTEND BEYOND SWITCH HOUSING. DO NOT LOOP WIRES.

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The Limitations of Supervisory Switch Alarm Devices

1. Alarms generated by the actuation of the activating lever may not be received by a central station if telephone or other communication lines to the alarm device are out of service, disabled, or open.
2. Supervisory switch alarm devices have a normal service life of 10-15 years.
3. Supervisory switches are not a substitute for insurance. Building owners should always insure property and lives being protected.

THREE-YEAR LIMITED WARRANTY

SAFE SIGNAL warrants that the equipment herein shall conform to said descriptions as to all affirmation of fact and shall be free from defects of manufacture, labeling, and packaging for a period of three (3) years from the invoice date to the original purchaser, provided that representative samples are returned to SAFE SIGNAL for inspection. Upon a determination by SAFE SIGNAL that a product is not as warranted, SAFE SIGNAL shall, at its exclusive option, replace or repair said defective product or parts thereof at its own expense except that Purchaser shall pay all

shipping, insurance, and similar charges incurred in connection with the replacement of the defective product or parts thereof. This Warranty is void in the case of abuse, misuse, abnormal usage, faulty installation, or repair by unauthorized persons, or if for any other reason SAFE SIGNAL determines that said product is not operating properly as a result of causes other than defective manufacture, labeling, or packaging.