

The Backpack by TopWorx is designed for use with industrial globe, diaphragm and pinch style valves for signaling needs in hazardous locations.

The Backpack housing mounts directly to linear actuators utilizing custom mounting brackets and appropriate fasteners. A "Quick-Set" magnet assembly mounts directly to the linear actuator stem connector and provides easy adjustment for sensing position.

These magnetically actuated proximity switches are located inside the housing to indicate valve position by completing electrical circuits.

Installation

1. Magnet Assembly (Figure 2.)

- A. Remove bolts from actuator stem connector.
- B. Mount magnet assembly bracket using bolts from Step A. Ensure rollpin hole located on bracket is closer to actuator.
- C. Install mounting coupler (14) to assembly bracket using 3/8" bolt (21). Ensure rollpin (20) is installed to mounting coupler. Rollpin should locate into magnet assembly bracket.
- D. Attach magnet housings (15) to mounting coupler using #10-32 bolts (16), washers (17) and star washers (18). At this time, tighten bolts finger-tight to ensure washers are attached.

2. Switch Enclosure

- A. Mount bracket to actuator and tighten bolts (see Figure 3a. & 3b. for mounting orientation).
- B. Install switch on bracket using two 5/16-18 bolts ensuring switch base faces magnet assembly. Switch base must be aligned no farther than 1/4" away from magnet assembly.

Electrical Connections

1. The Backpack features three 3/4" NPT conduit entries and a pre-wired terminal strip. A wiring diagram is included under the lid. Make the desired connections to the terminal strip using applicable local and national electrical codes. Grounding screws are located on the inside and outside of the enclosure.

2. Solenoids may also be mounted and wired through the switch enclosure. At least two auxiliary terminals are included as standard. Wire the solenoid to the auxiliary terminals, then connect power leads to the opposite terminal side. Be sure to properly ground the solenoid to the ground terminal provided on the Backpack housing.

Special Hazardous Location Instructions

1. UL and National Electrical Code (NEC) require an approved sealing fitting within 18 inches of the switch enclosure for hazardous locations. Open conduit entries must be closed after installation using a close-up plug approved for hazardous locations. Conduit and plugs must engage a full five threads. An external ground is provide to meet CENELEC standards.

Calibration

1. Facing the actuator, the right magnet housing indicates valve "Open" position and left magnet housing indicates valve "Closed" position.
 - A. Stroke actuator to "Open" position.
 - B. Adjust right magnet housing. Locate magnet directly across from trip point indicated on switch housing by target stickers. If larger stroke length is required, rotate magnet housing 180°.
 - C. Stroke actuator to "Closed" position.
 - D. Repeat Step B with left magnet housing.
 - E. For fine adjustment, Steps A through D may be repeated several times until desired results are achieved.
 - F. Tighten magnet assembly bolts after adjustments are complete.

Backpak - Linear Valve Position Monitors

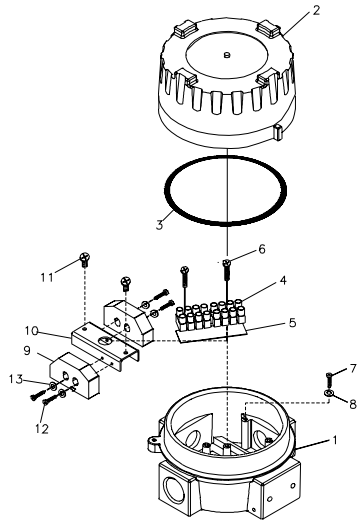


Figure 1. Target View

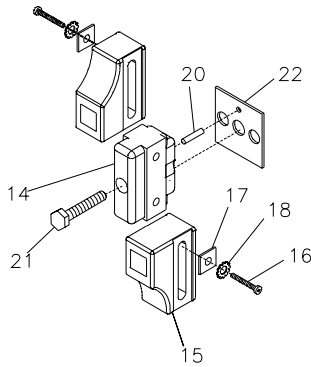
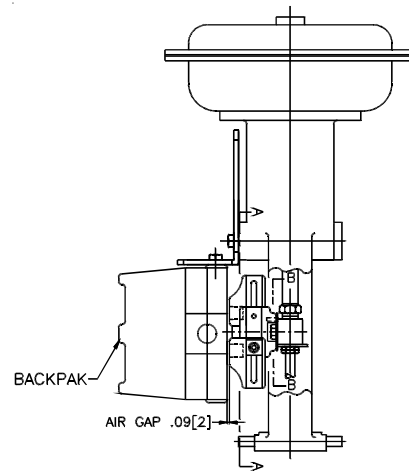
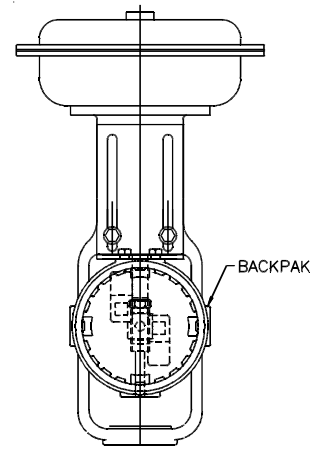


Figure 2. Magnet Assembly

ITEM	DESCRIPTION	QTY
1	Housing Base	1
2	Housing Cover	1
3	O-Ring	1
4	8 Strip Terminal	1
5	Marker Strip	1
6	3-48 x 1/2 PHS	2
7	#8-32 x 3/8 HHS	2
8	#8 Cup Washer	2
9	GO Switch	2
10	Bracket	1
11	#4-40 x 1/4 RHS	2
12	#4-40 x 3/4 PHS	4
13	#4 Flat Washer	4
14	Mounting Coupler	1
15	Magnet Housing	2
16	#10-32 x 1.5 SST SHS	2
17	Washer	2
18	#10 Star Lockwasher	2
19	Magnets	2
20	1/8 x 1/2 Rollpin	1
21	3/8-16 x 1.75 HHS	1
22	Mounting Assembly Bracket	1



Figures 3a. & 3b. Mounting Orientation

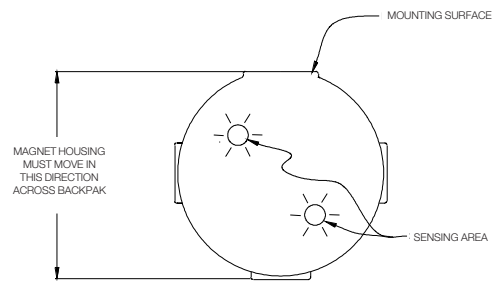


Figure 4. Backpak Backside View

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