Valtek Position Pac
Design Features

The Valtek® Position Pac™ series position transmitter and switches deliver the level of accurate position sensing required by today’s modern process control systems.

Position Pac contains an infinite resolution potentiometer which senses the precise position of a valve coupled with a two-wire transmitter, sending a continuous 4-20 mA signal to a remote indicating device.

Position Pac is versatile. The output can be easily adjusted from 5 to 90 degree input rotation with multi-turn zero and span adjustments. Reversing the action is easily accomplished by a switch on the circuit board. Position Pac can be ordered with the analog 4-20 mA position transmitter alone or accompanied by two independently adjustable (SPDT) limit switches. Models are also available with two or four independently adjustable limit switches only.

The rugged cast aluminum housing of the Position Pac is explosion proof, in addition to weather and dust-proof protected. The transmitter circuit is conformal coated for humidity protection, and incorporates solid-state integrated circuitry with few components for high reliability.

Mounting hardware is available for the standard Valtek linear and rotary actuators. Position Pac can also be used for position indication on other valves and mechanical devices such as louvers or dampers.

FEATURES AND ADVANTAGES

- **High accuracy** transmits linear signal within ±1.0 percent throughout the range.
- **Two-wire design** reduces field wiring costs.
- **Easy field adjustments** include non-interacting multi-turn zero and span settings, reverse polarity action switch, clockwise or counterclockwise operation.
- **Rugged cast aluminum housing** features baked-on epoxy powder paint coating and Buna-N O-ring seals, insuring explosion proof safety along with weather-proof and dust tight protection.
- **Shock and vibration resistant** withstands acceleration forces to 483 ft/sec².
- **Independent operation** is maintained between limit switches and transmitter.
- **Multiple usage** may be installed on linear and rotary actuators, louvers, dampers and other devices.
- **Stable operation** insensitive to ambient temperature swings and power supply fluctuations.
- **Adjustable span** from 5° to 90° of shaft rotation.
- **Reverse polarity protected** insures trouble-free installation.
Valtek Position Pac
Specifications

Table I: Specifications

<table>
<thead>
<tr>
<th>Analog Output</th>
<th></th>
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<tbody>
<tr>
<td><strong>Power Supply Range</strong></td>
<td>12.5 to 40 VDC (24V DC typical)</td>
</tr>
<tr>
<td><strong>Maximum Load Resistance (see Figure 3)</strong></td>
<td>Maximum Resistance (ohms) = Supply Voltage - 12.5</td>
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<tr>
<td><strong>Current Signal Output</strong></td>
<td>4-20 mA</td>
</tr>
<tr>
<td><strong>Span</strong></td>
<td>Adjustable from 5° to 100° of angular rotation</td>
</tr>
<tr>
<td><strong>Null</strong></td>
<td>4 mA position may be set at any angular position</td>
</tr>
<tr>
<td><strong>Linearity</strong></td>
<td>±1.0% full-scale*</td>
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<tr>
<td><strong>Repeatability</strong></td>
<td>±0.25% full-scale</td>
</tr>
<tr>
<td><strong>Hysteresis</strong></td>
<td>±1.0% full-scale</td>
</tr>
<tr>
<td><strong>Operating Temperature Range</strong></td>
<td>-40° to 185° F (-40° to 85° C)</td>
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</table>

**Ambient Temperature Range**
For a 100° F (38° C) change in ambient temperature, maximum zero shift is ±0.4% full scale, maximum span shift is ±0.7% full scale

**Power Supply Output signal changes less than 0.05% when supply voltage is varied between 12.5 and 40 volts dc**

**Limit Switches**
(SPDT) 20 amps, 125, 250, 480 VAC, ind. and UL/CSA Rating (L23) res. 1 Hp. 125 VAC; 2 Hp, 250 VAC, 0.5 amp. 125 VDC; 0.25 amp, 250 VDC res.

**Mechanical**
Input motion ±105° from the center; spring loaded to return to the center

* Linearity is ±1.0% for 90° rotary shaft input. When mounted to linear travel valves, linearity is dependent on linkage design and stroke length. Typical linearity is ±1.5% full-scale on Valtek Mark One control valves.

* Application Note: Enclosures are based, in general, on broad definitions outlined in NEMA Standards. Therefore, it is necessary to check that a particular enclosure will adequately meet any unusual conditions that might exist with intended applications.
Valtek Position Pac
Dimensions

Mounting Dimensions (inches / mm)

Rotary

Short Housing

Long Housing

Lever Actuators

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