The Model 15 Positive Bias Relay is designed for applications that require an output pressure that is the sum of a controlled input signal plus a fixed bias.

**Features**

- The Model 15 is sensitive to 1/4” Water Column variation which permits use in precision applications.
- A Balanced Supply Valve minimizes the effects of supply pressure variation.
- Aspirator Tube minimizes downstream pressure droop under flow conditions.
- Flow of up to 40 SCFM with 100 psig Supply at 20 psig Setpoint allows use in applications requiring high flow capacity.
- A Separate Control Chamber isolates the diaphragm from the main flow, eliminating hunting and buzzing.
- Mounting Bracket available

**Operating Principles**

The Model 15 Positive Bias Relay provides an output pressure that represents the input signal pressure plus a preset bias. Mathematically \( P_o = P_s + K \) where \( P_o \) is output pressure, \( P_s \) is signal pressure and \( K \) is the spring constant. This unit, available in several bias range configurations to meet a variety of output requirements, offers excellent sensitivity and high flow capacity in a small volume.

The unit is well suited to a variety of control applications, including range shifting, and tension control, and pressure control from a remote location.
Model 15 Positive Relay

Technical Information

Flow Characteristics
Fairchild model 15462

Catalog Information

Catalog Number 154

Pressure Range

<table>
<thead>
<tr>
<th>psig</th>
<th>[BAR]</th>
<th>(kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>[0-0.7]</td>
<td>(0-70)</td>
</tr>
<tr>
<td>0.5-30</td>
<td>[0.03-2]</td>
<td>(3-200)</td>
</tr>
<tr>
<td>1-60</td>
<td>[0.1-4]</td>
<td>(10-400)</td>
</tr>
<tr>
<td>2-150</td>
<td>[0.15-10]</td>
<td>(15-1000)</td>
</tr>
</tbody>
</table>

Pipe Size

- 1/4” NPT
- 3/8” NPT
- 1/2” NPT

Options

- Silicone Elastomers ¹
- Tapped Exhaust
- Viton (Fluorocarbon) Elastomers
- BSPP (Parallel) ²
- Tamper Proof
- BSPT (Tapered)

¹ Maximum Supply Pressure -75 psig, [5.0 BAR], (500 kPa)
² BSPP Threads in Inlet & Outlet Ports Only. Others BSPT.

Specifications

Supply Pressure
250 psig, [17.0 BAR], (1700 kPa) Maximum

Flow Capacity (SCFM)
40 SCFM (68 m³/HR) @ 100 psig, [7.0 BAR], (700 kPa) supply and 20 psig, [1.5 BAR], (150 kPa) setpoint

Exhaust Capacity (SCFM)
5-1/2 SCFM (9.4 m³/HR) where downstream pressure is 5 psig, [0.35 BAR], (35 kPa) above 20 psig, [1.5 BAR], (150 kPa) setpoint

Signal or Output Pressure
150 psig, [10.0 BAR], (1000 kPa) Maximum

Supply Pressure Effect
Less than 0.1 psig, [0.007 BAR], (.7 kPa) for 100 psig, [7.0 BAR], (700 kPa) change in supply pressure

Sensitivity
Less than 1/4” (.64 cm) Water Column

Mounting
Pipe or Panel

Ambient Temperature
-40°F to +200°F, (-40°C to 93.3°C)

Hazardous Locations
Acceptable for use in Zones 1 and 2 for gas atmosphere; Groups IIA and IIB and Zones 21 and 22 for dust atmospheres

Materials of Construction
Body and Housing: Aluminum Alloy
Trim: Stainless Steel, Brass, Zinc Plated Steel
Diaphragms: Buna A and Dacron

Model 15 Relay Kits & Accessories

Mounting Bracket Kit 09921 (sold separately)

Service Kit
A Service Kit is available for the Model 15, refer to the corresponding Fairchild Model 15 Positive Bias Relay, Instruction, Operation and Maintenance Instructions, IS-300000015.