Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

We offer a full range of valve & instrumentation products & services, with our product range representing leading technologies & brands:

**Flow:** Flow Meters & Transmitters, Flow Switches, Flow Control Valves & Batch Control Systems

**Temperature:** Temperature Probes & Thermowells, Temperature transmitters, Temperature Regulators & Temperature Displays

**Level:** Level Transmitters & Switches

**Pressure:** Pressure Gauges & Transmitters, Precision & High Pressure Regulators & I-P Converters, Volume boosters.

**Precision Pneumatics:** Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

**Valves:** Solenoid & Pneumatic Valves, Control Valves & Positioners, Actuated Ball, Globe or Diaphragm Valves & Isolation Valves

**Services:** Repair, Calibration, Panel Build, System Design & Commissioning
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.
**Technical Information**

- **Flow Characteristics**
  Fairchild model 15462

- **Wall Mounting Configuration** shown with Model 15

**Catalog Information**

- **Catalog Number**
  154

- **Pressure Range**
  - psig [BAR] (kPa)
  - 0-10 [0-0.7] (0-70) .... 2
  - 0.5-30 [0.03-2] (3-200) .... 3
  - 1-60 [0.1-4] (10-400) .... 4
  - 2-150 [0.15-10] (15-1000) .... 6

- **Pipe Size**
  - 1/4” NPT .... 2
  - 3/8” NPT .... 3
  - 1/2” NPT .... 4

- **Options**
  - Silicone Elastomers ¹
  - Tapped Exhaust
  - Viton (Fluorocarbon) Elastomers
  - BSP (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, [.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, [.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

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**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.