

## RP913A Load Analyzer Relay

### DESCRIPTION

The RP913A Load Analyzer is a bleed-type, diaphragm-logic, pressure selector used in pneumatic control applications. It selects the highest and/or lowest branch pressure input from up to seven inputs and passes the signal on to operate a final control element.

Figs. 1 and 2 show approximate dimensions in inches (millimeters.)

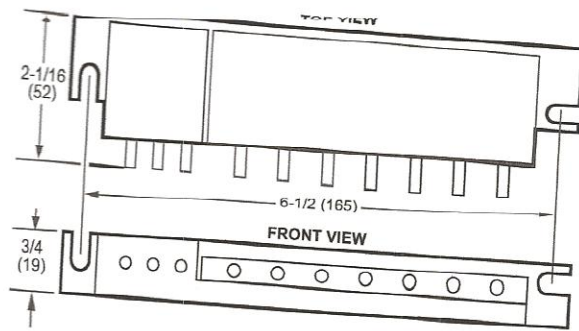


Fig. 1. Dimensions of RP913A.

Fig. 2 shows recommended spacing for two load analyzers.

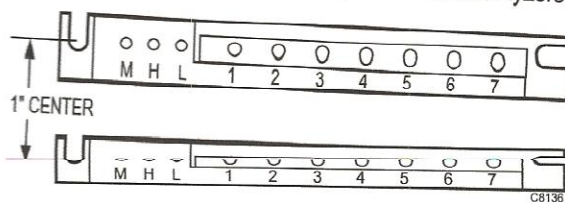


Fig. 2. Dimensions for Two RP913As.

### INSTALLATION INSTRUCTIONS

#### INSTALLATION

##### Mounting

Mount on a surface with two #8 screws (not provided). Fig. 3 shows two ways of mounting: with ports mounted parallel (3A) and perpendicular (3B) to the mounting surface.

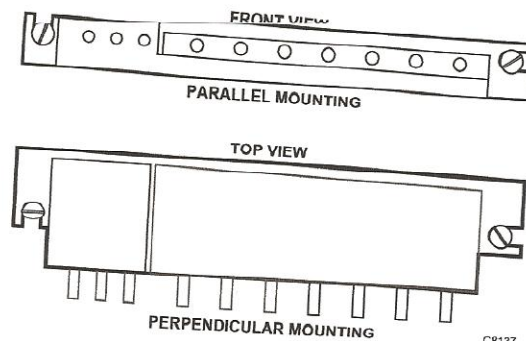


Fig. 3. Parallel and Perpendicular Mounting.

##### Piping

#### CAUTION

To prevent damage to the sharp barb connections, do not attempt to cut or pull tubing. To remove the tubing from the barb connections, cut tubing a few inches from the control device. Use a coupling to reconnect tubing.

All ports are 1/4 inch sharp barb type for 1/4 in. O.D. polyethylene plastic tubing.

NOTE: If the system is other than copper or polyethylene tubing, adapt as shown in Fig.4.

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95-7114

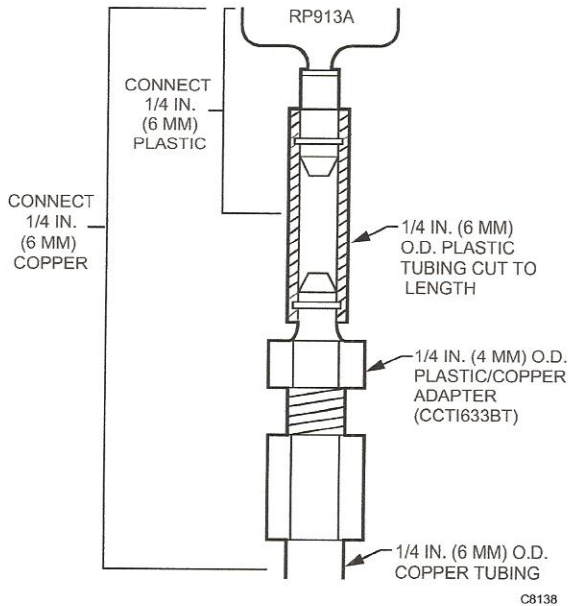


Fig. 4. Adaptation Piping.

### Port Identification

There are 10 ports. Ports 1 through 7 are the input ports from zone thermostats (Fig. 5). The Main (M) port is connected to the system air supply. The H and L ports (H, higher pressure; L lower pressure) provide the output control signals.

Fig. 5 Port Identification.

### Port Identification Table

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### Checkout and Test

Ensure that the output of the L port matches the lowest input pressure from the zone thermostat, and the output of the H port matches the highest input pressure signal.

- 1 Plug the unused H or L port, and connect the unused input ports to used input ports.
- 2 Adjust all inputs so they are equal, then lower one input. The output of the L port should track the lowered input signal.
- 3 Adjust all inputs so they are equal, then increase one input. The output of the H port should track the increased input.
- 4 If the RP913A still does not operate properly and the main air supply and inputs are correct, check for possible leaks in the input lines. If the malfunction is not located, replace the RP913A and recheck per the above instructions.

### ENGINEERING DATA

#### Specifications

**Model:**

RP913A Optimatic Load Analyzer

**Operating Pressure (Switch and Pilot) Range:**

Normal: 18 psi (124 kPa)

Maximum pressure to any port must not exceed 25 psi (172 kPa.)

**Ambient Operating Limits:**

Temperature: 40 to 140°F (4 to 60°C)

Relative Humidity: 10 to 90%

**Air Consumption**

0.04 scfm (0.019 ml/s)

**Construction**

Manifold and cover plate are glass-filled, molded thermoplastic

Restrictions are stainless steel

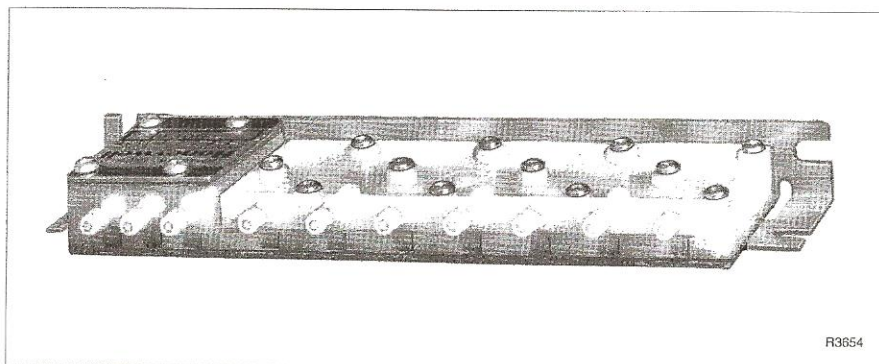
Diaphragms are cork neoprene

### Operation

The RP913A selects the lowest or highest pressure, which is then available at the L or H port.

Each RP913A contains 14 small diaphragms and control nozzles (Fig. 6.) The diaphragms are arranged in two rows of seven diaphragms. One row selects the highest pressure, the other row selects the lowest pressure. Each input pressure is connected to two diaphragms, one in each row.

## RP913A Load Analyzer



### *General*

The RP913A is a diaphragm logic pressure selector used in pneumatic control applications to select the highest and/or lowest branch pressure input from zone thermostats. It will select the highest pressure demand (cooling) and/or lowest pressure demand (heating) to operate final control elements.

### *Features*

- Seven input manifold containing logic diaphragm, air filter, and restrictions
- Ten sharp barb connectors for all piping requirements
- Large integral filter assures clean air to the manifold
- Requires no field adjustment, and plastic construction results in minimum maintenance
- Two analyzers can be connected together to increase inputs to twelve

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### Specifications

**Model:**

RP913A

**Operating Temperature Range:**

40 to 140F (4 to 60C)

**Air Consumption:**

0.04 scfm (0.019 L/s)

**Supply Air Pressure**

18 psi (124 kPa)

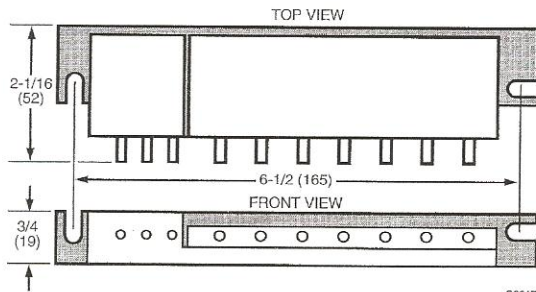
**Maximum Air Pressure**

25 psi (172 kPa)

**Air Connections:**

Ten sharp barb type of 1/4-in. OD plastic tubing ("M", "H", "L", "1-7" inputs). Plug unused output (H or L port)

**Dimensions In Inches (Millimeters):**



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