Model 66 Amplifying and Reducing Relays

Introdction

Features & Benefits

- Pneumatic signal conditioning provides control circuit design flexibility
- Powder coating provides improved corrosion resistance

Description

The Model 66 Amplifying and Reducing Relays are used to increase or decrease control-circuit pressure signals.

Its input pressure, acting upon the effective area of the top diaphragm, produces a force that is balanced by the force produced by the output pressure applied over the effective area of the lower diaphragm. Any imbalance in these opposing forces will operate the plunger, increasing or decreasing air supply to the output chamber. (The amplifying or reducing ratio is fixed by the ratio of input-to-output diaphragm areas.)

An increase in input opens the pilot valve to admit supply air directly to the output. A decrease in input opens the exhaust port to exhaust air from the output.

Specifications

Function Specifications

Supply Pressure

Normal: 20 psig (140 kPa)
Maximum: 80 psig (550 kPa)
Minimum: 1 psi (7 kPa) above maximum required output

Range Limits

80 psig max. for input or output - whichever limits

Overrange Limits

100 psig (690 kPa) at any connection

Maximum Output Pressure

Within 0.1 psi (0.7 kPa) of supply

Minimum Output Pressure

Less than 0.4 psig (3 kPa) with zero output

Ratio Accuracy

Within 1% of normal ratio

Linearity

±1% of output span

Reproducibility

Within 0.02 psi (0.15 kPa)

Operating Temperature

-40 to 180°F (-40 to 82°C)

Performance Specifications

Response Level

0.2" H_2O (5 mm H_2O)

Zero Error

66BA6: ±0.36 psi (2.5 kPa)
All Others: ±0.24 (1.5 kPa)

Flow Capacity

2.2 scfm minimum

Air Consumption

0.12 scfm maximum

Mechanical Specifications

Materials of Construction

Brass, aluminum, stainless steel, and Neoprene

Values based on 20 psig supply unless otherwise noted.

Relays

Model 66 Amplifying and Reducing Relays

Technical data

Model Selection

Amplifying		Reducing	
Model No.	Input-to-output Ratio	Model No.	Input-to-Output Ratio
66BA2	1:2	66BR2	2:1
66BA3	1:3	66BR3	3:1
66BA4	1:4	66BR4	4:1
66BA6	1:6	66BR6	6:1

Mounting Dimensions