2360-501

Schneider Electric

Reversing Relay Data Sheet

The Reversing Relay is a proportional device designed for use in pneumatic control systems where the application requires the reversing of a proportional signal from a controlling device. The 2360-501 branch line pressure decreases in direct proportion to an increase in input signal pressure and also amplifies the volume of air available for the final control device, thereby minimizing system lag.

The unit is factory calibrated to decrease the branch line pressure from 16 psig to 0 psig (110 to 0 kPa) as the signal pressure increases from 0 psig to 16 psig (0 to 110 kPa).

Features

- Clearly marked connections eliminate the need to memorize port numbers: M (Main), B (Branch), and S1 (Input Signal).
- A bias adjustment is provided which can be used to advance or retard the output signal as required for specific applications (refer to Figure 2).
- The 2360-501 may be used as part of the panel-mounted, modular control system, or individually, using a 22-150 manifold backplate and its barbed tubing connections or MCS-S-P Socket Kit.
- Ports align with 22-120 socket terminals.

Table-1 Ordering Data.

TAC Uni-line Number	Replaces Model	Function	Bias Adjustment
2360-501	R516	Reversing	±10 psig

Note: Includes plastic mounting strap and adhesive-backed mounting base.

Table-2 Accessories.

Part Number	Replaces Model	Description
22-150	K502	Mounting bracket.
22-120	MCS-S	Socket.
TOOL-082	—	5/64 in. hex wrench.
MCS-S-P	—	Socket kit.

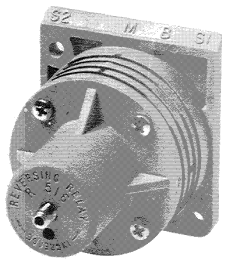

Table-3 Active Connections.

Port	Connected To
M	Main Air
B	Branch Output
S_1	Input Signal

Caution: This device should be installed by a qualified service technician with due regard for safety, as improper installation could result in a hazardous condition.

GENERAL INSTRUCTIONS

This device is to be used on clean, dry, oil free control air only and will operate properly when in any position.

The inherent reliability of this device is enhanced and prolonged through regular inspection and preventive maintenance by a qualified control expert. Should this device become inoperative, it should be replaced by a new unit.

SPECIFICATIONS

Control Action: Proportional - reverses input signal.
Construction: Glass-filled nylon.
Maximum Ambient Temperature: 140°F (60°C).

Supply Air Pressure:

Nominal , 20 psig (138 kPa).
Maximum, 30 psig (207 kPa).

Connections: Barbed nipples for 1/4" O.D. polyethylene tubing.
Main Air Consumption: 29.3 SCIM (8.01 mL/s).
Air Flow Capacity: 230 SCIM (62.8 mL/s).
Adjustments : Crossover point, factory set at 8 psig (55 kPa) (8 psig input = 8 psig output), field adjustable 2 to 15 psig (13.8 to 103 kPa).
Mounting: Designed for use on 22-120 socket. This device can also be surface mounted by using the 22-150 mounting bracket.
Dimensions: 2-1/16" H x 1-7/8 W x 2-9/64" D (52.4 x 47.6 x 54.4 mm).

MOUNTING INSTRUCTIONS & DIMENSIONS

Panel Mounting

This device has been designed to be mounted on a 22-120 socket. One socket, one gasket, and two mounting screws are required in addition to the appropriate manifold backplate.

Surface Or Field Mounting

This device may also be mounted without the backplate, socket, and gasket to replace competitive and old Robertshaw devices by using an optional 22-150 mounting bracket or by using the plastic mounting strap and adhesive base provided with the device.

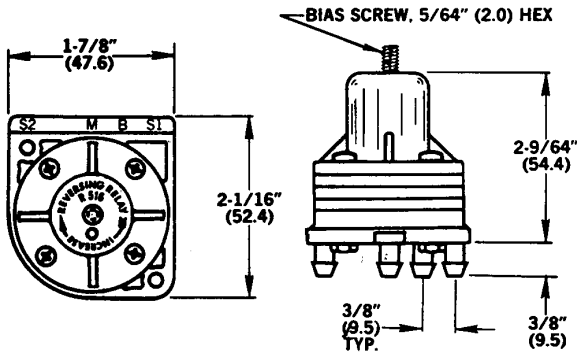

Figure-1

ADJUSTMENTS

The branch output pressure of the 2360-501 may be adjusted to equal 20 psig plus bias (+10 psig to -10 psig) minus the input pressure. Regardless of the input pressure and bias adjustment, the branch output cannot be less that zero nor more than main air pressure. See “Input vs Output” chart (Figure 2). The 2360-501 is factory adjusted for a zero psig bias and can be adjusted by means of a 5/64" hex wrench.

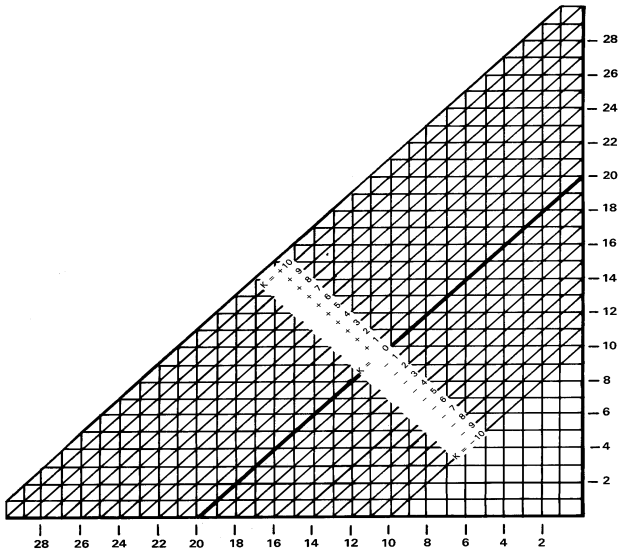

Figure-2 Input vs Output Chart.

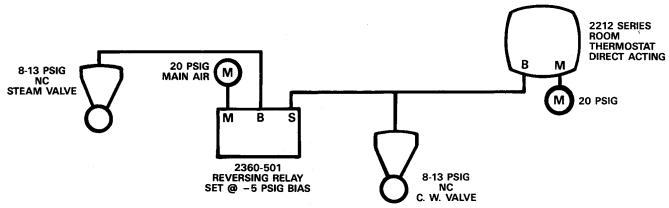

Figure-3

TYPICAL APPLICATION

In the application shown in Figure 3, the heating and cooling valves are being controlled in sequence by a direct acting controller. The valves were specified to be normally closed and to ensure that the valves would close properly, 8-13 psig spring ranges were selected. The 2360-501 Reversing Relay is used to reverse the output of the direct acting controller to open the steam valve on a drop in temperature. It is necessary to adjust the bias of the reversing relay to -5 psig so that the chilled water valve will be closed before the steam valve starts to open. Refer to Figure 1 to determine the amount of bias necessary for this or any other specific applications.

Note: The main air pressure limits the output of the branch. For example, a 15 psig main will not allow a branch output of more than 15 psig regardless of the signal input.

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