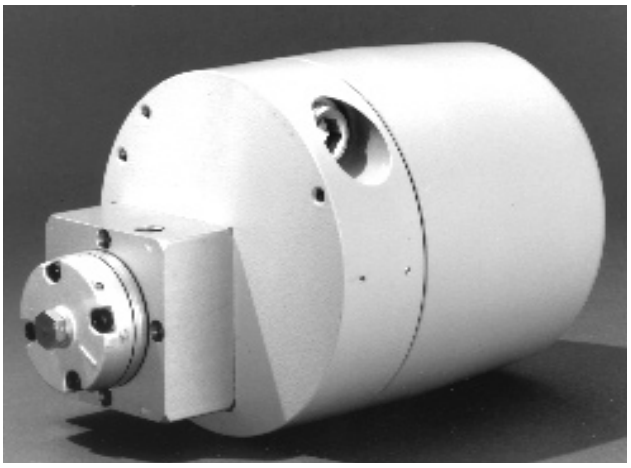
# Bristol® Series 9110-00A
## Remote Set Regulator

### Features

- Compact size
- Integrally mounted
- Discrete and analog inputs
- Guard feature*
- Analog feedback
- Adjustable speed control
- Incremental step change
- Explosion – proof actuator case

**In the guard position, the drive mechanism will be active only if the guard input signal is true.*



### General

The Bristol® 9110-RSR, from Emerson Process Management, is a bi-directional microprocessor based rotary actuator that sets the output of a pneumatic regulator. The output can be adjusted electrically by either discrete (raise/Lower) or analog inputs. These input signals to the “RSR” can be received from remote or local locations either by manual switches or automatic devices.

### Description

Series 9110-00A, Remote Set Regulators are transducer devices that use an electrical input signal to set the level of a pneumatic output signal. Depending on the actual models, the output can be configured for a 1-5 Vdc or 4-20 mA dc signal. For the Raise/Lower models, the input can be configured to accept a continuous or pulse incremental dc signal. The pneumatic output of a Remote Set Regulator may be specified with a 3-15, 3-27 or 6-30 psi output. All models can operate from pressure supplies up to 100 psi maximum.

The Remote Set Regulator is contained in a weatherproof, explosion-proof enclosure having a detachable threaded cover. Removal of the cover provides access to the field wiring terminals and the programmable option switches.

Regulators are factory-furnished for 12 or 24 Vdc supply operation. These voltage ratings are fixed and cannot be changed in the field.

In-line or pipe mounting are offered as for installations. The former uses a ¼ inch rigid pressure line for support, while the latter includes a special bracket for two-inch pipe mounting.

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## Performance Specifications

### Accuracy

- Electrical input to pressure output: ±5% of span
  Pressure output to feedback: ±5% of span
- Feedback volts to pressure output: ±5% of span
  Pulse input to pressure output: ±20% of span

### Sensitivity

- .04% of span (Min. input for readable output)

### Repeatability

- ±0.5% of span

### Environmental Effect

- ±1% max. full scale per 50ºF (28ºC) change

### Supply Voltage Effects

- ±0.15% max. full scale per 1 volt change

### Hysteresis Effect

- (Output to Gage) ½% of span

### Supply Pressure Effect

- 0.1 Max. PSI change in output for 10 PSI change in supply pressure (within supply limits)

### Gas/Air Consumption

- 0.007 SCFM at 40 psig supply pressure, at steady state and increasing supply pressures.

## Environmental Specifications

### Primary Location

- Suitable for field or housed-in unheated buildings

### Temperature Limits

- -20 to 150º F (-29 to 66°C) operating
- -40 to 185º F (-40 to 85°C) storage

### Humidity Limits

- 10 to 95% RH, -20 to 130° F, (-29 to 55° C) operating
- 10 to 50% RH, 130 to 150°F (55 to 66°C) operating

### Vibration Limits

- 0.1 g max., 10 – 500 Hz

### Interference

R.F.I. rejection of the actuator depends on the shielding of the input and output since the aluminum housing (with cover in place) greatly attenuates RF field strength.

Effect with wiring enclosed in conduit SAMA STD PMC 33.1, Class 1 and 2, 20 MHz to 500 MHz: <0.5% FS error

### Case Classification

- Designed to NEMA type 4 hazardous

### Safety

Designed to meet ANSI Standard C39.5 Explosion-proof for Class 1, Division 1, Groups B, C and D; Dust-ignition-proof for Class II, Division 1, Groups E, F and G; Suitable for Class III, Division 1; Nonincendive for Class 1, Division 2, Groups A, B, C and D.

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## Supply Specifications

### Electrical

- Models Requiring 12 volts: 11 to 14 Vdc, 0.35 A max.
- Models Requiring 24 Volts: 22 to 28 Vdc, 0.25 A max.
- Fusing: One 1 A, 250 V 3 AG normal blow chip mounted on terminal board
- Power Failure: In the event that the supply voltage drops below rated value or goes to zero, mechanical memory will retain the last given setting.

### Pneumatic Supply

- Models with 3 – 15 PSI range: 20 PSI min., 100 PSI max.
- Models with 3 – 27 PSI range: 30 PSI min., 100 PSI max.
- Models with 6 – 30 PSI range: 35 PSI min., 100 PSI max.

## Physical Specifications

### General

- Actuator Case:
  Weatherproof, explosion proof
  Cast aluminum housing with gasketed screw-on cover
  Light gray epoxy finish

### Overall Dimensions

- Actuator Case:
  6” (152.4 mm) dia. By 7-1/8” (181 mm) long
  Model 9110 complete:
  10” (254 mm) long by 6” (152.4 mm) dia.

### Mounting

- Model 9110 complete: Line or 2” dia. Pipe mount

### Weight

- Approx. 12 lbs.

# Remote Set Pneumatic Regulator 9110-rsr
# Series 9110-00a
## A B C - D E F

***Model Number: 9110-00A - __ __ __ - __ __ 0***
***9110-00A***

| SELECT | DESCRIPTION | CODE |
|---|---|---|
| A | **ELECTRICAL INPUT X9110BASE** | |
| 10 | Discrete | 1 |
| | Analog | 2 |
| B | **POWER** | |
| 20 | 12 Vdc | 1 |
| | 24 Vdc | 2 |
| C | **PNEUMATIC OUTPUT** | |
| 30 | 3-15 PSI | 1 |
| | 3-27 PSI | 2 |
| | 6-30 PSI | 3 |
| D | **MOUNTING X9110MOUNT** | |
| 40 | Pipe | 1 |
| | Line | 2 |
| E | **APPROVAL** | |
| 50 | None | 1 |
| | FM-EXP . proof CL I, Div. 1, Groups B, C & D | 2 |
| | Dust-ignition proof CL II, Div. 1, Groups E, F & G | |
| | Suitable for CL III, Div. 1 | |
| | Non-incentive CL I, Div. 2, Groups A, B, C & D | |
| | NEMA 4 | |

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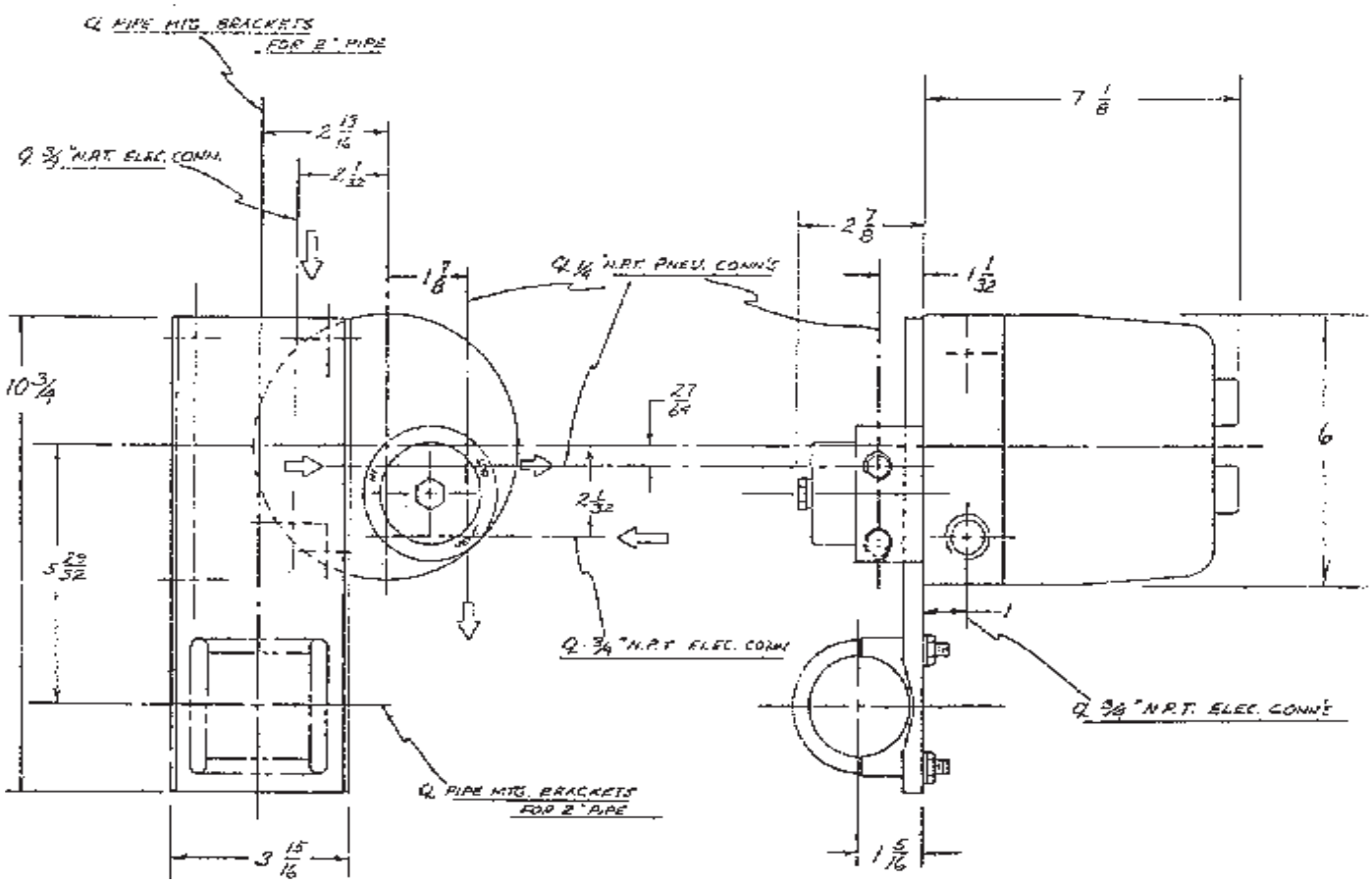




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