

Description

The **aira** 500 IP series transducers are ideally used to convert current or voltage input signal to a linearly proportional pneumatic output pressure. This versatile instrument is rugged and reliable force balance transducers for use in both process control and industrial applications, for standard process control applications which typically utilize 3 to 15 psig output and industrial & high pressure application which typically utilize pressure output up to 120 psig. **aira** 500 IP series transducers combines low cost, high accuracy and minimum air consumption with field proven technology. Versatile design features and rugged, compact housing with a choice of CMRI and ATEX* approved versions for explosion proof or intrinsically safe operation when used with a suitable barrier.

Principle of Operation

The **aira** 500 IP series transducer is a balance device in which, when electrical current is passed through the coil of transducer, a magnetic field is created which acts on the magnet assembly, causing the anvil & diaphragm to move away from or forward the nozzle (flapper nozzle) depending on the direction of current flow. Motion at the nozzle assembly is proportional to the amount of current passing through the coil.

The flapper/anvil move away from or forward towards the nozzle creates back pressure which acts as pilot pressure to an integral booster relay. When input electrical current increases (or decreases for reverse acting) causes proportional output pressure increases.

Zero and Span are calibrated by turning easily accessible adjusting screw on the front face of the unit. The zero adjusting screw causes the nozzle to move relative to the flapper/anvil. The span adjusting screw is a potentiometer that limits the current through the coil. A thermistor circuit in series with the coil provides temperature compensation.

Split Ranging

If split ranging is required the 4-20 mA input and 3-15 psig output version (**aira** 500 IP) can be recalibrated to provide 3-9 psig or 9-15 psig output.

Mounting

The **aira** 500IP series transducers can be pipe, panel or bracket mounted in any position. Position other than vertical will require recalibration of the zero and span adjustment. Transducers should be mounted in a vibration-free area.

Field Reversible

All **aira** 500IP series transducers are calibrated at the factory for direct acting operation but may be used in reverse acting mode by reversing the polarity of signal leads and recalibrating. When calibrated for reverse acting operation, the output pressure will drop to zero (i.e. 3 psig) upon input signal failure.

Integrated Characteristics

- Compact Design.
- Low Air Consumption.
- Integral Volume Booster flow capacity up to 20 SCFM is boosted by the built in volume booster.
- Field Reversible Output provides inversely proportional to input signal.
- Flexible Adjustments of Zero & Span.
- Standard Process Inputs.
- Split Ranging.
- NEMA 4X (IP65) Enclosure Optional.
- Saving in Investments.
- CMRI and AFEX approval pending

Application

The **aira** 500 IP series transducers converts electrical signal to a pneumatic output which can be used to operate the followings:

- Valve, Valve-Actuators,
- Damper and Louver Actuators
- Valve Positioners
- Air-Cylinders
- Relays
- Clutches
- Web Tensioners and Brakes

Used in

- Petrochemical Processing Systems
- Energy Management
- HVAC Systems
- Textile Processing Systems
- Pharmaceutical Processing System
- Pulp and Handling Controls

