

Very Low Differential Pressure Transducers



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Description

The Very Low Differential Pressure Transducers sense differential or gauge (static) pressures and convert pressure difference to a proportional electrical output. The 590 Series is offered with a 0 to 10 Vdc output.

Used in Building Energy Management Systems, these transducers are capable of measuring pressures with the accuracy necessary for proper building pressurization and air-flow control.

The 590 Series Transducers are available in five different air pressure ranges. Static accuracy is $\pm 1\%$ full scale in normal ambient temperature environments. The units are temperature compensated to less than $\pm 0.033\%$ FS/ $^{\circ}$ F of thermal error over the temperature range of 0° F to $+150^{\circ}$ F.

Features

- 10 psi proof pressure on all ranges
- 24 Vac
- 0 to 10 Vdc analog output is compatible with all energy management systems
- Fully protected against reverse wiring
- Internal regulation permits use with unregulated DC power supplies
- 1% accuracy, or better, improves variable air volume system performance
- Meet CE conformance standards
- No field calibration or adjustment necessary

Applications

The Very Low Differential Pressure Transducers are used for the following applications:

- Heating, Ventilation and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume (VAV) and Fan Control
- Environmental pollution control
- Static duct and clean room pressures

590 Series Specifications

Temperature

Operating* 0 to +150°F (-18 to +65°C)
 Storage..... -40 to +185°F (-40 to +85°C)

* Operating Temperature limits of the electronics only.
 Pressure media temperatures may be considerably higher or lower.

Physical Description

Case Fire Retardant Glass Filled Polyester

Electrical Connection.....Screw Terminal Strip
 Pressure Fitting 1/4" Fitting
 Weight3 ounces

Electrical Data (Voltage)

Circuit3-wire (Com, Out, Exc)

Excitation/Output**..... 12 to 30 Vac/0 to 10 Vdc
 **Zero output factory-set to within ±50 mV (±25 mV for optional accuracies).

Bi-directional Output at Zero Pressure2.5 Vdc (±50 mV)

Output Impedance***..... 100 Ohms
 ***Calibrated into a 50K ohm load, operable into a 5000-ohm load or greater.

Pressure Media.....Typically air or similar non-conducting gases

590 Series Product Ordering

Description	Accuracy	Part No.
Differential Pressure Sensor, 5" WC, 10 Vdc Signal	1%	590-501
Differential Pressure Sensor, 2" WC, 24 Vac, 10 Vdc Signal	1%	590-502
Differential Pressure Sensor, 1" WC, 24 Vac, 10 Vdc Signal	1%	590-503
Differential Pressure Sensor, ±0.25" WC, 24 Vac, 10 Vdc Signal	1%	590-505
Differential Pressure Sensor In Conduit Box, 5" WC, 24 Vac, 10 Vdc Signal	1%	590-506
Differential Pressure Sensor In Conduit Box, 2" WC, 24 Vac, 10 Vdc Signal	1%	590-507
Differential Pressure Sensor In Conduit Box, 1" WC, 24 Vac, 10 Vdc Signal	1%	590-508
Differential Pressure Sensor In Conduit Box, ±0.25" WC, 24 Vac, 10 Vdc Signal	1%	590-510
Differential Pressure Transmitter, 1.0", 0.4%, 4 to 20 mA, Conduit Cover, 24 Vac	0.4%	590-780
Differential Pressure Transmitter, .65", 0.4%, 4 to 20 mA, Conduit Cover, 24 Vac	0.4%	590-781
Differential Pressure Transmitter, 0.5", 0.4%, 4 to 20 mA, Conduit Cover, 24 Vac	0.4%	590-782

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Sensors