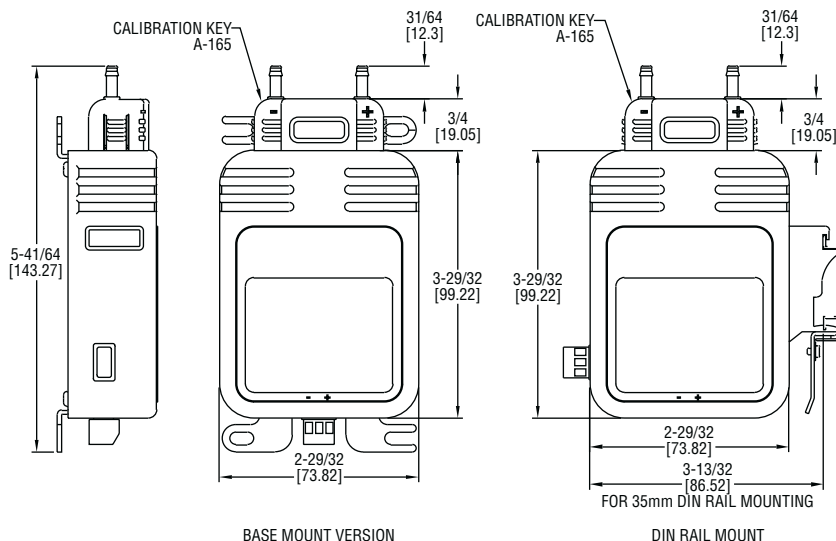




Series 610 Low Differential Pressure Transmitter

Specifications - Installation and Operating Instructions



The Series 610 Low Differential Pressure Transmitter detects differential pressure and converts the pressure difference to a proportional electrical output for either unidirectional or bi-directional pressure. This product can be used to accurately sense the pressures of air or any similar non-conducting gases at great resolutions. Easy access pressure ports and electrical connections, removable process heads, and detachable terminal blocks makes for fast and easy installation. In addition, a calibration key can be ordered that allows the user to set zero and span. One key will work on multiple transmitters.

INSTALLATION

Location:

Select a clean dry mounting location where temperature will remain between 20 to 140°F (-7 to 60°C).

Pressure Connection:

The Series 610 is designed to be used with a 3/16" I.D. push on tubing on a removable process head. To minimize response times a 1/4" I.D. is suggested for tubing lengths above 100 ft and 3/8" I.D. for tubing lengths exceeding 300 feet. The positive (high) pressure port and the reference (low) pressure port can be found at the top of the unit. The high pressure port will be labeled "+" and the low pressure port will be labeled "-".

ELECTRICAL INSTALLATION

The Series 610 is a two-wire loop-powered 4 to 20 mA current output unit and delivers rated current into any external load of 0 to 800 ohms. These terminals have the designation of "+" and "-".

The current flows into the "+" terminal and returns back to the power supply through the "-" terminal. The Series 610 must be used with a DC power supply source with a voltage range between 13.5 and 30 measured between the "+" and "-" terminals. The unit is calibrated at the factory with a 24 VDC loop supply voltage and a 250 ohm load.

CALIBRATION

The Series 610 transmitter is calibrated in the factory before it is shipped and therefore should not require field adjustments when mounted in the vertical position. When possible, any zero and/or span offsets should be corrected by software adjustment in the user's control system. Fine zero and span adjustments can be made through a calibration secure access key. The Series 610 transmitter zero offset is trimmed in the vertical position (pressure ports pointing upward) prior to shipping.

1. Zero/Span Adjustments with Security Key: Remove detachable process head by pressing and pulling on the side tabs. Then install the calibration security key in-place of the process head.

SPECIFICATIONS

Service: Air or similar non-conducting gases.

Accuracy: ±0.25% or ±0.5% F.S.

Stability: ±0.5%/yr.

Temperature Limits: -20 to 160°F (-29 to 71°C).

Pressure Limits: 2 PSI (0.137 bar).

Thermal Effect: 0.5% FS.

Power Requirements: 13.5 to 30 VDC.

Output: 4 to 20 mA.

Loop Resistance: 800 ohms max.

Current Consumption: 25 mA.

Zero and Span Adjustments: External security key pendant.

Response Time: 0.02 to 0.04 seconds.

Electrical Connections: Detachable screw terminal connector.

Process Connections: 3/16" O.D. barbed brass fittings on removable process head.

Enclosure Rating: Fire retardant ABS.

Mounting Orientation: Vertical.

Weight: 9 oz (255 g).

Agency Approvals: CE.

2. Zero Adjustment: Zero may be adjusted while applying zero differential pressure by pressing the cal button to tare zero. Depress cal button while turning the encoder for fine adjustment if needed.
3. Span Adjustment: Span or full scale output adjustments should only be performed by using an accurate pressure standard (electronic manometer, digital pressure gage, etc.) with an accuracy that is at least comparable to that of the Model 610 transmitter. The span may be adjusted while applying full range pressure by pressing the cal button to set span. If fine adjustment is needed on span, apply at least 75% of full pressure and turn encoder until target output is achieved.
4. Restoring Factory Calibration: To restore factory set calibration, turn unit off and press the cal button. Turn the power back on while cal button is depressed and release the cal button.

MAINTENANCE

Upon final installation of the Series 610 Low Differential Pressure Transmitter, no routine maintenance is required. A periodic check of system calibration is recommended. The Series 610 is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.