

AMS810 DELUXE PRESSURE TRANSDUCER WITH LCD DISPLAY (Completely Field Selectable Range/Output Options)

Ruskin Model AMS810 is an accurate and economical solution for measuring and reporting differential pressure when used in conjunction with any Ruskin velocity pressure air measuring probe (AMP series), air measuring station (AMS series) or air measuring louver (AML series) product. The heart of the unit is a micro-machined single-crystal silicon piezoresistive pressure sensor. The sensor receives a five-point error correction over the compensated temperature range for excellent accuracy, repeatability and stability. The unit comes standard in an IP66-rated enclosure with short circuit proof outputs and reverse polarity protected inputs to perform under real world conditions. The unit installs quickly by connecting standard 1/8" (3) I.D. tubing to the two pressure ports. The various Output Ranges and Pressure Ranges are all field selectable with DIP switches, and the auto-zeroing process is micro-processor-controlled for simplicity.

STANDARD CONSTRUCTION

HOUSING

Hinged, 4" x 5" x 2 1/2" (102 x 127 x 64), UV-resistant Polycarbonate, UL94, V-0; IP66, NEMA4 rated

PRESSURE PORT FITTINGS:

Barbed Brass accepts 1/8" (3) or 5/32" (4) I.D. Tubing

SENSOR

Micro-machined, single-crystal silicone, piezoresistive

LCD DISPLAY

4.5 character displays actual differential pressure (DP)

FIELD SELECTABLE OUTPUT RANGES

4 to 20 mA
0 to 5 VDC
0 to 10 VDC

POWER REQUIREMENTS

7 to 40 VDC (4 to 20 mA Output)
7 to 40 VDC or 18 to 28 VAC (0 to 5 VDC Output)
13 to 40 VDC or 18 to 28 VAC (0 to 10 VDC Output)

POWER CONSUMPTION

4.9 mA max DC at 0-5 VDC or 0-10VDC Output
0.12VA max AC at 0-5 VDC or 0-10VDC Output
20 mA max. DC only at 4-20 mA Output

FIELD SELECTABLE RANGES (INCHES WATER COLUMN)

Unidirectional: 0-0.1", 0-0.25", 0-1.0", 0-2.5", 0-5.0"
(0-25, 0-62, 0-250, 0-625, 0-1250 Pa)

Bi-directional: ±0.1", ±0.25", ±1.0", ±2.5", ±5.0" (±25, ±62, ±250, ±625, ±1250 Pa)

ACCURACY

Accuracy at 72°F (22°C): ±0.25% of range

AUTO-ZERO FUNCTION

Microprocessor Controlled

TEMPERATURE LIMITS

Environmental Operation Range:

-4°F to 140°F (-20°C to 60°C)

Storage Temperature: -40°F to 203°F (-40°C to 95°C)

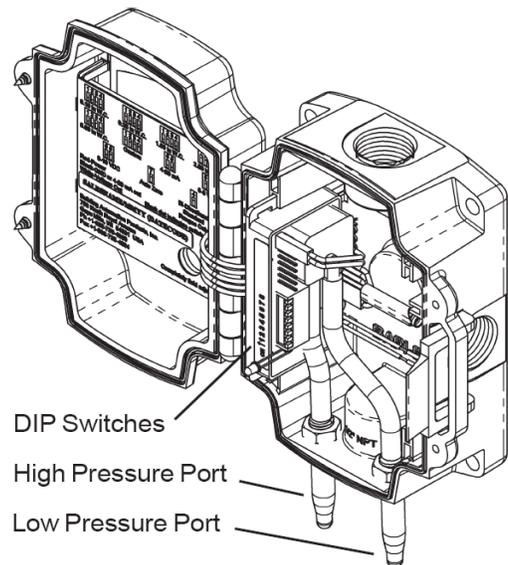
Temperature Error: 0.01% FS/°F (0.02% FS/°C)
(±5.0" W.C. @ -4 to 140°F [-20 to 60°C])

OPERATING RH RANGE

0 to 95% non-condensing

Notes:

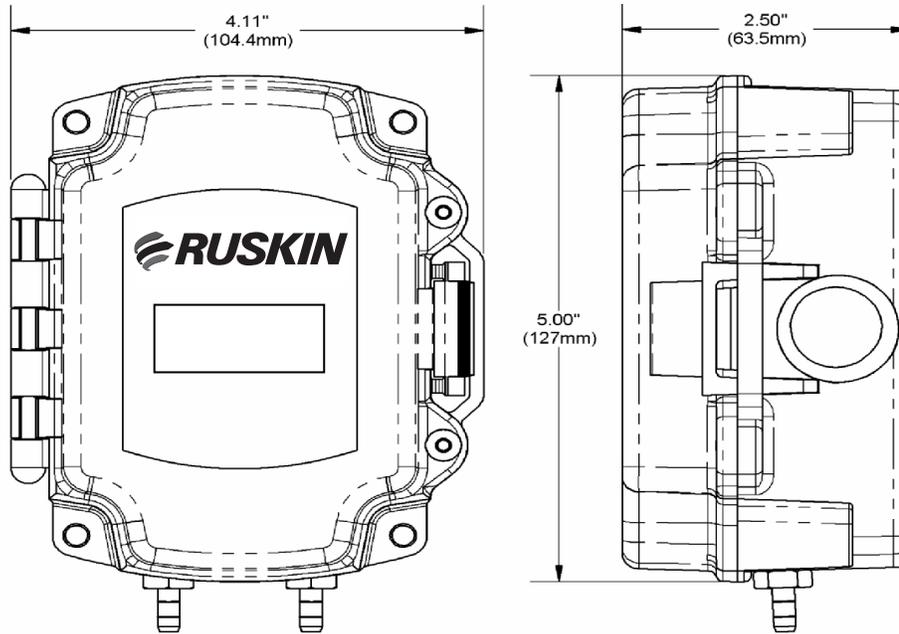
1. Dimensions in inches, parenthesis () indicate millimeters.



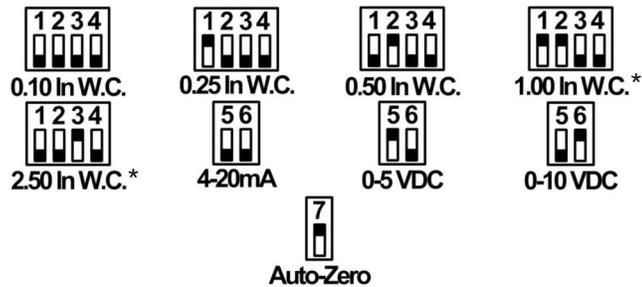
VARIATIONS

The AMS810 is available in a 0 to 1 Inch Water Column (0 to 250 Pa) range for higher resolution where velocities are 2,000 FPM (10.2 m/s) or less.

DIMENSIONAL DATA

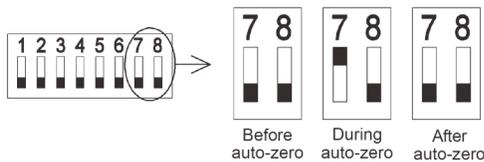


DIP SWITCH SETTINGS FOR FIELD SELECTABLE RANGE & OUTPUT



Red-Power
Black-GND or 4-20 mA out
White-Voltage Out

Black dot indicates switch position



Auto-Zero

SELECTING PRESSURE RANGE

To adjust the pressure range, set dip switches 1-4 to the desired pressure range using the label found inside the cover of the AMS810 unit (or indicated to the left).*

SELECTING OUT PUT RANGE

To adjust the output range, set dip switches 5 & 6 to the desired output range using the label found inside the cover of the AMS810 unit (or indicated to the left).

AUTO-ZERO

To auto-zero the AMS810, remove the tubing from the pressure ports. Use a small piece of tubing to connect the high and low side together, if possible. Turn on dip switch 7 to start the process. The LED light will blink fast and the output will be forced to zero (4mA or 0 V). When LED light blinks slow, replace the tubes and turn dip switch 7 back OFF as shown in detail to the left.

*Note: Optional 0-1.0 Inch Water Column ranges are 0.10, 0.25, 0.50, 0.75 and 1.00.

PARAGRAPH SPECIFICATION

Furnish and install, at locations shown on plans or as in accordance with schedules, an air measuring station pressure transducer, with integral LCD display indicating actual differential pressure. The transducer shall be housed in a polycarbonate enclosure that bears an IP66 rating. Enclosure shall have a hinged cover for access to all dip switches for field adjustment. Dip switches shall allow for field selection of 0-5 VDC, 0-10 VDC or 4-20 mA output signal. Additionally, dip switch settings shall accommodate field selection of a minimum of five pressure ranges from 0" to 2.5" water column (0" to 1.0" optional). The transducer shall have an auto-zero function that is microprocessor

controlled. The transducer assembly shall contain a micromachined, single-crystal silicon, piezoresistive pressure sensor with strain gages to change resistance as a function of applied pressure. Sensor shall be paired with an application specific integrated circuit to digitally compensate for thermal sensitivity. Accuracy of the transducer shall be $\pm 0.05\%$ on 0 to 0.1" range and 0.25" range, $\pm 0.25\%$ on all other ranges. Stability shall be $\pm 0.25\%$ (of span selected) per year. Transducer shall be, in all respects, equivalent to Ruskin Model AMS810 and shall be compatible with all Ruskin air measuring probes and stations.



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