Differential Pressure Transmitters

The Series MS2 Magnesense® II Differential Pressure Transmitter combines the proven stable Hall Effect sensing technology of our original Series MS with additional features to reduce installation time and simplify ordering. In this second generation transmitter, we have added additional field selectable pressure ranges so that each model can have four selectable ranges along with four additional bidirectional ranges. When using the pluggable integral display or the portable remote display tool, both Metric and English engineering units can be selected via on board dip switches. Dual current and voltage outputs allow users to simultaneously take either a current or voltage output to their building controller and have a local test circuit for verification of the output reading. The voltage output can be selected to be either 0 to 5 VDC or 0 to 10 VDC, while the current is always 4 to 20 mA. Both the current and voltage output can also be inverted. The MS2 can also be ordered with either a BACnet® or MODBUS® Communications protocol output that will allow the transmitters to be daisy-chained together.

Like the original Series MS, the second generation transmitter can be used as a linear pressure output or a linear velocity output with the square root extraction done in the transmitter. Additional parameters have been included to expand the square root capability to include flow measurements.

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### SPECIFICATIONS

**Service:** Air and non-combustible, compatible gases.

**Wetted Materials:** Consult factory.

**Accuracy:** ±1% FS for 0.25” (50 Pa), 0.5” (100 Pa), 1” (250 Pa), 2” (500 Pa), 5” (1250 Pa), 10” (2 kPa), 15” (3 kPa), 25” (6 kPa), ±2% FS for 0.1” (25 Pa), 1” (250 Pa), and all bi-directional ranges.

**Stability:** ±1% / year FSO.

**Temperature Limits:** 0 to 150°F (-18 to 66°C).

**Pressure Limits:** 1 psi max., operation; 10 psi burst.

**Response Time:** Adjustable: 0.5 to 15 sec. time constant. Provides a 95% response time of 1.5 to 45 seconds.

**Zero & Span Adjustments:** Digital push buttons.

**Loop Resistance:** Current Output: 0 to 1250 Ω max; Voltage Output: Min. load resistance 1 kΩ.

**Current Consumption:** 40 mA max.

**Display (Optional):**

**Electrical Connections:**

- 2-wire removable European style terminal block for 16 to 22 AWG;
- 2-wire removable European style terminal block for 16 to 22 AWG.

**Weight:** 8.0 oz (230 g).

**Agency Approvals:** BTL, CE.

**ACCESSORIES**

- A-435, Field Upgradeable LCD
- A-435-A, Remote Display Too
- A-480, Plastic Static Pressure Tip
- A-481, Installer kit. Includes 2 plastic static pressure tips and 7 ft (2.1 m) of PVC tubing
- A-489, 4" 303 SS Straight Static Pressure Tip with Flange
- A-302F-A, 4" 303 SS Static Pressure Tip with mounting flange. For 3/16" ID rubber or plastic tubing
- SCD-PS, 100 to 240 VAC/VDC to 24 VDC Power Supply

**Modbus® is a registered trademark of Schneider Automation, Inc.**
One Unit for all your Building Pressure Applications
The Industry Standard for Building Automation

• **Field Upgradable LCD.** No need to order two separate transmitters. Simply stock a transmitter and display and you can satisfy any customer's requests. Simply remove cover and snap the LCD onto the board.

• **Large Integral LCD.** Second generation Magnesense® has a larger LCD that includes the engineering units. Display also has 5 digits allowing measurements up to 99,999 to be displayed directly.

• **Remote Display Tool** reduces instrument cost by eliminating need for each transmitter to have its own display. The buttons on the display tool also provide a means to zero and span the units without reaching into the transmitter.

• **Field Selectable Ranges** in metric or English. Lowers stock and inventory requirements. You'll always have the right transmitter for every job.

• **Field Selectable Air Velocity and Flow Modes** for fan and blower applications. Unit provides square root output that accurately tracks fpm or m/s for velocity measurements. Now area can be programmed to directly display cfm or m³/hr for volumetric flow measurements. No need for a smart programmable indicator or PLC to convert pressure to air flow. Reduces components and installation time lowering overall costs.

• **Digital Push Button Zero and Span.** Reduces calibration time significantly over other transmitters that utilize potentiometers. Lowers maintenance time and costs.

• **Simultaneous Current/Voltage Output** reduces inventory by combining 0 to 10 V, 0 to 5 V and 4 to 20 mA models into one model. Both outputs are always present allowing field selection of which signal to use and the other signal can be used for local diagnostic without interrupting system.

• **Removeable Terminal Block** ease installation by allowing for the wiring to be done outside of the housing where the installer has more room.

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