



MDT500 Mounted to Meriam 50MC Series LFE

# Impressive Accuracy In Less Time

- Flow rate accuracy of +/- 0.8% of Reading
- Response time of less than 0.1 seconds
- Flow rate calculations of 10 per second

# Pressure Measurement

#### **Optional Pressure Ranges**

Differential Sensor: 12 inches water column at 20°C Absolute Sensor: 38 psia 100 psia

# NIST Traceable Accuracy

Differential:  $\pm 0.05$  % of full scale including all effects of linearity, repeatability, hysteresis, and temperature (-20°C to +50°C) Absolute:  $\pm 0.025$  % of full scale including all effects of linearity, repeatability, hysteresis, and temperature (-20 °C to 50 °C)

# **Operating Temperature**

-4°F to +122°F (-20°C to +50°C)

# **Over Range Limits**

Differential Sensor: 2x range when pressurized on P1 (HI) side only; 150 psi when applied simultaneously to P1 (HI) & P2 (LO) sides Absolute Sensor: 2x range

# MDT500 Multivariable Digital Transmitter

A Complete Flow Solution for Air and Gas Measurement

|                                  | MDT50                                      | 0   |                    |            |
|----------------------------------|--|---|--------------------|------------|
| neriam                           | MULTIVARIABLE DAT                          | A TRANSMI                                 | TTER               | meriar     |
| MEASUREMENTS                     |  | CALCULATED VALUES                         |                    |            |
| Differential Pressure 0.00000E+0 | POUNDS_PER_SQUARE_INCH                     | Mass Flow Rate                            |                    |            |
| Absolute Pressure 0.00000E+0     | POUNDS_PER_SQUARE_INCH                     | Volumetric Flow Rate                      | 0000E+0            | PER_MINUTE |
| Temperature 0.00000E+0           | DEGREES_FAHRENHEIT                         | Volumetric Flow Rate 0.00                 | 0000E+0            | PER,MINUTE |
| Relative Humidity 0.00002E+0     | PERCENT                                    | Density 0.0                               | 0000E+0 POUNDS PER | CUBIC FOOT |
|                                  |  | Viscosity 0.0                             | 0000E+0 MECROPOISE |            |
| LFE COEFFICIENTS                 | STANDARD CONDITIONS OF FLOW                | CALCULATE TAKE MEASUREMENTS AND CALCULATE |                    |            |
| Coefficient 1 0.00000E+0         | DEFAULT STANDARD CONDITIONS                |   |                    |            |
| Coefficient 2 0.00000E+0         | Temperature 7.00000E+1 DEGREES FAHRENHEIT  | CONFIGURATION FILES                       |                    |            |
| Coefficient 3 0.00000E+0         | Pressure 1.46960E+1 POUNDS PER SQUARE INCH |   |                    |            |
| Coefficient 4 0.00000E+0         |  | LOAD CONFIGURATION                        | (s                 |            |
| Coefficient S 0.00000E+0         | MDT COMMUNECATION                          |   |                    |            |
| Equation CLASSIC                 | COML CONNECT                               | SAVE CONFIGURATION                        | 8                  |            |

Screenshot of LabVIEW<sup>®</sup> Program (included)

# **Pressure Update Rate**

7 readings per second from both differential and absolute pressure sensors

#### **Media Compatibility**

Differential Sensor: Clean, dry, non-corrosive gases only (brass, 316 SS, Viton<sup>®</sup>, Silicon gel) *Absolute Sensor:* Media compatible with 316 SS

#### Resistance/Temperature Measurement

**NIST Traceable Accuracy** ± 1 °F including all effects of linearity, repeatability, hysteresis, and temperature with Pt100 Probe connected.

**Operating Temperature** -4°F to +122°F (-20°C to +50°C)

**Temperature Update Rate** 14 readings per second

# **Overall Technical Specifications**

Material Base Plate is 6061-T6 Aluminum

**Power** USB: high power (500 mA) USB port or USB hub

**Media Compatibility** Clean, dry, non-corrosive gases only (brass, 316 SS, Viton, Silicon gel)

**Connections** Pressure: ¼" FNPT Power & Communications: USB – receptacle type Mini B RTD: M12 Connector

Software Supported Operating Systems Vista Windows XP Windows 7

Software Development Kit (SDK) Example Programs with Source Code in LabVIEW® and C# Supporting .NET (C# / VB)

# Temperature Sensor Specifications

**Accuracy** Class A Tolerance Class (per IEC 60751)

**Temperature Range** -58°F to 482°F (-50°C to 250°C) Connector is 185°F (85°C Max)

Material 316L Stainless Steel Sheath and Housing

Temperature Probe Pt100 (100 Ohms at 0°C, .00385 TCR (alpha))

Probe Dimensions 1/4" diameter, 6" long

**Connection** 5 meter M12, molded cordset

# Enclosure Dimensions

Weight 1.5 lbs. (Hook up fittings add .26 lbs.)

**Height** H x 2.6", W x 3.6", L x 5.6" H x 66 mm, W x 91 mm, L x 142 mm

Compatible with All Meriam Laminar Flow Element Models Including







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