



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

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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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