

MASS-tron II / CEM

ULTRA-LOW RANGE DIFFERENTIAL PRESSURE/ FLOW TRANSMITTER

The ultra-low differential pressure transmitter converts differential pressure, temperature, and static pressure signals received from the STACK-probe(s) into a continuous output signal representing the volumetric flow in SCFM (wet or dry basis) being discharged into the atmosphere. An internal microprocessor manages all system calibration and purge timing functions. AUTO-cal circuitry provides 40CFR75 required calibration drift reporting.

PERFORMANCE SPECIFICATIONS

Accuracy. ±0.1% of Natural Span, including non-linearity, hysteresis, deadband, and non-repeatability.

Transducer Response Time. 0.5 second to reach 98% of a step change.

Stability. ±0.5% of Natural Span for six months.

Power Consumption.

Temperature Effect
Zero. None; corrected by AUTO-zero.
Span. 0.015% of Full Span/°F.

	Standard		w/AUTO-purge/CEM	
	In Rush	Hold	In Rush	Hold
24VAC	14.4VA	14VA	88VA	76VA
24VDC	9.6W	9.0W	39W	39W
120VAC	19.2VA	18.67VA	110VA	95VA

Mounting Position Effect. None; corrected by AUTO-zero.

FUNCTIONAL SPECIFICATIONS

Digital Outputs.
Form C dry contact rated for 3 Amps at 24VAC/VDC for AUTO-cal in progress. Dual Form A dry contacts rated for 3 amps at 24VAC/VDC for AUTO-purge acknowledgment.

Overpressure and Static Pressure Limit.
25 psig.

Digital Inputs.
Dry contact for AUTO-cal external start command.
Dry contact for AUTO-purge external start command.

Circuit Protection.
Power input is isolated, fused, and reverse polarity protected.

Span and Zero Adjustment.
Digital, via internally located push-buttons.

Analog Outputs.
Three standard 4-20mA DC outputs for flow, temperature, and, absolute pressure. One additional output is optionally available.

Displays.
Standard 5 line x 20 character backlit graphical LCD provides five lines of data display. LED's indicate AUTO-zero in progress, CPU activated, AUTO-zero over-ranged, AUTO-purge in progress, and AUTO-cal in progress.

Analog Inputs.
4-20mADC for temperature input.

Temperature Compensation Selection.
Push-button selection of linearized or non-linear input. Choice of thermocouple (Type E, K, J, and T) or 100 ohm platinum RTD temperature sensor type.

AUTO-purge Management.
AUTO-purge cycle is initiated via an external dry contact input from an external smart relay R-1.

Pressure Compensation.
Absolute pressure (atmosphere or duct static), 20" to 40" Hg standard.

Power Supply.
Standard 24VAC (20-28VAC) or 24VDC (20-40VDC), with automatic selection. Optional 120VAC (100-132VAC), via external transformer.

Humidity Limits.
0-95% RH, non-condensing.

Low Pass Filtration.
Response time to reach 98% of a step change is adjustable from 2.0 to 250.0 seconds.

Temperature Limits.
-20°F to 180°F Storage.
+40°F to 140°F Operating.

Automatic Zeroing.
Accuracy. Within 0.1% of calibrated span.
Frequency. Every 1 to 24 hours on 1 hour intervals.

Calibration Drift Reporting.
Once every 24 hours. Refer to AUTO-cal Report Signal Timing Diagram.

