

ELDRIDGE PRODUCTS

Solutions

Combustion Control

Combustion systems play a critical role in many aspects of our industrial life. By improving the efficiency of the combustion process, significant savings may be realized in any or all of four major categories affecting corporate profitability:

- Basic fuel costs — by monitoring the fuel-to-air ratio, the most cost-effective mixture for efficient combustion is better controlled;
- Reduced emissions — efficient combustion helps to avoid fines associated with excess environmental pollution;
- Lower plant maintenance costs — efficient combustion reduces the amount of routine maintenance associated with this volatile process; and
- Extended equipment life — by keeping the combustion process within its optimum design specifications, the overall system's operating life is extended.



Any cost savings in your combustion process will contribute directly to your company's bottom line. The key element in optimizing the combustion process, and realizing these potential savings, is achieving the correct gas mass ratio of air to fuel. To help you accurately monitor this critical balance, Eldridge Products, Inc. (EPI) offers the Master-Touch™ Family of microprocessor-based thermal gas mass flowmeters . . .



Thermal Technology

Thermal mass flowmeters are solid state instruments that use the principle of convective heat transfer to directly measure mass flow. EPI's sensors consist of two resistance temperature detectors (RTDs). A forced null, Wheatstone

bridge, preferentially heats one RTD; the other RTD acts as the temperature reference. The process gas flow dissipates heat from the first RTD, causing an increase in the power required to maintain a balance between the RTDs. This increase is directly related to the gas molecular rate of flow.



Our sensors are temperature compensated and insensitive to pressure changes, so no additional instrumentation or calculations are required. The output signal is a true mass flow rate signal which can be directly interfaced with your data acquisition system.

Master-Touch™ Advantages

With a Master-Touch™ flowmeter, you get a powerful set of features that includes:

- Exceptional accuracy of $\pm [1\% \text{ of Reading} + (.5\% \text{ of Full Scale} + .02\%/\text{°C})]$, with a turndown ratio of 100:1 or more, and repeatability of 0.2% Full Scale;
- A 2 line, 16 character display for rate, total, and relay status;
- Up to four independent metering ranges, and the ability to switch between the ranges without interrupting your production process;
- A wide variety of user-selectable engineering units that dynamically convert the flow rate and elapsed total to the new units;
- Continuous timestamping of your maximum and minimum flows;
- Simple adjustment of signal filtering and signal response time; and
- Two 1-amp relays for flow alarms, batch counting, and timer functions.



You can control all of these features with the four button touch keypad or via RS232 and RS485 I/O

communications. The double-sided NEMA 4 enclosure gives you convenient access to all power supply input and sensor signal output connections. Your installation requirements can be easily accommodated by your choice of in-line or insertion

models with 115VAC, 230VAC, or 24VDC configurations, and with either integral or remote displays.

The Master-Touch™ is CE compliant.

Specifications

Linear signal output	0–5 VDC & 4–20 mA
Signal Interface	RS232 & RS485
Accuracy (including linearity)	± [1% of Reading + (.5% Full Scale + .02%/°C)]
Repeatability	± 0.2% of Full Scale
Sensor response time (stainless)	1 second
Turn down ratio	100:1 minimum
Electronics temperature range	0–50° C (32–122° F), extended temperature optional
Gas temperature range	0–200° C (32–392° F), extended range available
Gas temperature effect	.01% /° C
Gas pressure effect	Negligible over ± 20% of absolute calibration pressure
Pressure rating maximum:	
Inline flowmeters	500 PSI Std., > 500 special
Insertion flowmeters .500 O.D.	125 PSI Std., > 125 special
" " .750 O.D.	55 PSI Std., > 55 special
Transmitter power requirements	5 Watts or less
Flow transmitter enclosure	NEMA 4, Class 1, Div 1, Groups B, C, & D, Std.
Wetted materials	316 Stainless Steel (Hastelloy and Monel optional)
Standard temperature & pressure (STP)	70° F & 29.92" Hg (Air .075 lb./cubic foot)
NIST traceable calibration	Standard

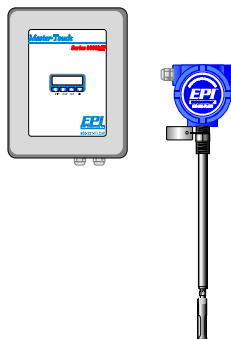
SPECIFICATION NOTICE

The specifications contained herein are subject to change without notice. EPI cannot guarantee the applicability or suitability of our products in all situations since it is impossible to anticipate or control every condition under which our products and specifications may be used.

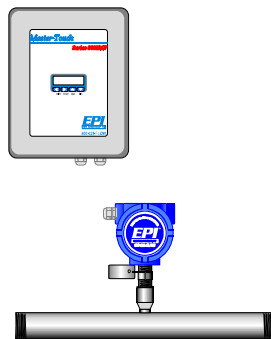
LIMITED WARRANTY

EPI warrants its products to be free from defects in materials and workmanship for one year from the date of factory shipment. If there is a defect, the purchaser must notify EPI of the defect within the warranty period. Upon receipt of the defective product, EPI will either repair or replace the defective product at its sole option. EPI MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AS TO THE PRODUCTS. EPI MAKES NO WARRANTY THAT THE GOODS SOLD TO ANY PURCHASER ARE FIT FOR ANY PARTICULAR PURPOSE. FURTHERMORE, EPI MAKES NO WARRANTY OF MERCHANTABILITY WITH RESPECT TO ANY PRODUCTS SOLD TO ANY PURCHASERS. There are no other warranties that extend beyond the description on any brochure or price quote.

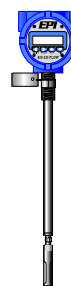
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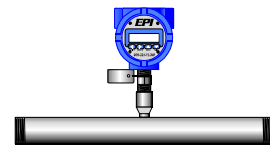
Series 8200MP



Series 8600–8700MP



Series 8800MP



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