

Series 8200MP

A leading manufacturer of Thermal Mass Flow Meters Since 1988.

Eldridge Products, Inc. has pursued innovation and excellence in thermal dispersion mass flow measurements since 1988. Thermal Mass Flow Meters offer simple, low cost operating for accurate, economical and reliable gas flow measurements for various applications - Compressed Air, Biogas, Natural Gas, Aeration, Digesters, Landfill, Wet Gas, HVAC systems - virtually any gas flow application. Master-Touch flow meters can solve your gas measurement challenges.

Master-Touch Series 8200MP Flow Meters are for use in hazardous area locations (Flame proof locations) Certified to CSA/CUS, ATEX, IECEx, KOSHA standards.

Insertion Style Thermal Mass Flow Meters include a sensor & probe assembly that is inserted into the process gas flow conduit to allow the process gas to flow across the flow sensing elements. Our insertion style flow meters are available in 1/2" O.D. probe to 36", 3/4" O.D. probe to 60", or 1" O.D. probe 84". Optional mounting items- Tube fittings, flange, ball valve retractor. For problematic or unique installations, please consult our factory.

Remote style thermal mass flow meters utilize two enclosures. The probe enclosure is Explosion proof (Flame proof) rated for use in hazardous are locations. The enclosure is mounted directly to the insertion probe assembly. The enclosure contains the electrical connections, signal processing electronics and the LCD display, with programming keypad. The remote enclosure has a Type 4X rating and is usually placed in a readily accessible ordinary location. Optionally available, is an Explosion-proof remote enclosure. The enclosure contains the electrical connections, signal processing electronics, and the LCD display, with programming keypad. Only a four-wire, twisted-pair cable is required to carry the input power and flow signal between the two enclosures.

SERIES 8200MP

THERMAL GAS MASS FLOW MEASUREMENT APPLICATIONS-

Compressed Air Monitoring
Ventilation Hood Alarms
Bio / Digester Gas production
Boiler Combustion Efficiency
Pharmaceutical Clean Rooms
Food Processing
Wet Gas
and many more.....

Natural Gas Consumption
Water & Waste Aeration
Landfill Gas Recovery
Stack / Flue Gases
Semiconductor Fabrication
Nitrogen Purging
Pulp & Paper Mills

Master-Touch™

Series 8200MP

RTD's (Resistance Temperature Detectors)



Thermal mass flow meters generally follow King's Law, and use the principle of convective heat transfer to directly measure mass flow. EPI's proprietary thermal mass flow sensors use two precisely matched, reference-grade platinum Resistance Temperature Detectors (RTDs). The sensor elements are hermetically sealed in 316L Stainless Steel (or optional Hastelloy C276) thin wall sheaths. Our microcontroller operated smart sensor technology 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 molecular gas flow rate. Our sensors are temperature compensated for a wide process gas temperature range and insensitive to pressure changes, therefore the flow meter output is a direct mass flow rate value.

Specifications

Linear signal output	0–5 Vdc & 4–20 mA (Flow and Temperature)
Event Relays (Two)	1 Amp @ 30 Vdc event selectable functions (see Manual)
Communication Protocols	RS232 & RS485 Modbus RTU or BACnet; Optional HART or Profibus DP
Display LCD 2-line 16-characte	Rate, Total, milliwatts, Temperature, Event
Accuracy including linearity (Ref.: 21°C)*	±(1% of Reading + 0.5% of Full Scale + GTC)
Repeatability	±0.2% of Full Scale
Sensor response time	1 second to 63% of final value
Turn down ratio	100:1; 10 SFPM (0.05 NMPS) Minimum Reading
Withstands Ambient temperature (electronics)	-40° to 158°F (-40° to 70°C)
Suitable Process Gas temperature range**	-40° to 392°F (-40° to 200°C)
Gas temperature coefficient (GTC)	0.02% Full Scale/°C
Gas pressure effect	Negligible over ± 50% of factory calibration pressure
Pressure rating maximum	500 PSI Std.
Input power requirement	6 Watts 24 Vdc @ 250mA 120 Vac 50/60 Hz optional 240 Vac 50/60 Hz optional
Flow Meter power requirements	5 watts maximum
Date/Time RAM Back-up	Lithium Button Cell, ten-year life, quantity 1
Wetted materials	316L Stainless Steel (Optional Hastelloy C276)
Standard temperature & pressure (STP)	70°F & 29.92" Hg (Air 0.075 lb./cubic foot) Optional 0°C & 1.0132 BarA (Air 0.081 lb./cubic foot) Or user specified STP at time of order
NIST traceable calibration	Yes

* EPI is not responsible for measurement errors due to flow profile irregularities caused by installation, piping configurations, surface corrosion or scale, valve placement, etc.

** Specify average process operating temperature, with high & low limits.

NOTE: Specifications subject to change without notice. Consult our web site, www.epiflow.com, at time of order.

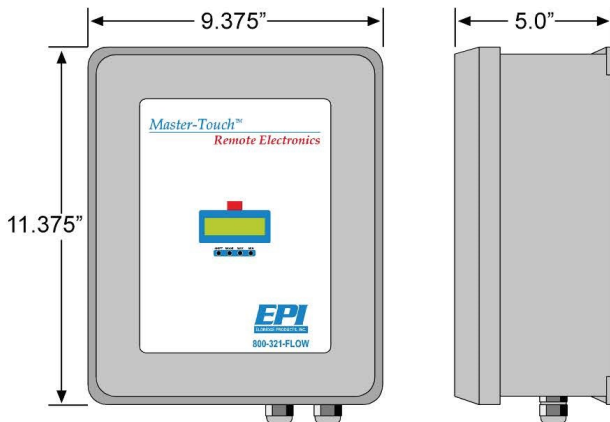
NOTE: Eldridge Terms & Conditions for sales available on our web site, www.epiflow.com.

Master-Touch™

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Dimensional Specifications

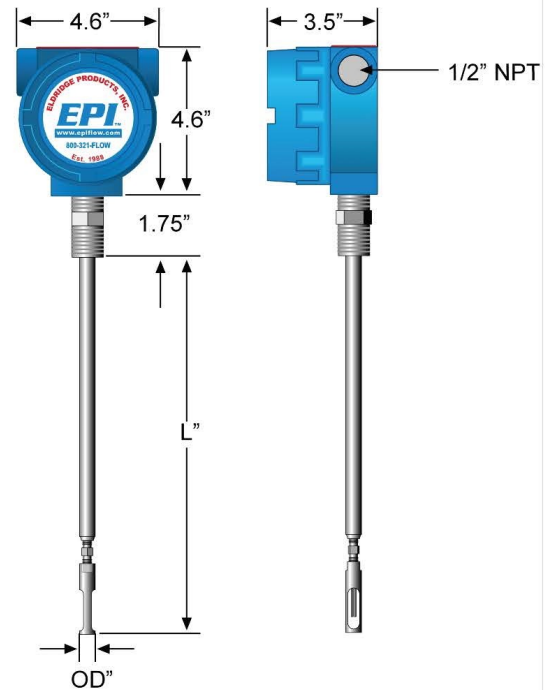
Remote Electronics Enclosure



Two-wire, twisted pair interconnect cable required between Remote Electronics and Flow Transmitter (Max. 5 ohm resistance).

AWG	Wire Length
20	200"
18	300"
16	500"
14	800"
12	1250"

Flow Transmitter Assembly



Model Number	OD"	Length
8240MP	1/2"	to 36"
8260MP	3/4"	to 60"
8280MP	1"	to 84"

Certification Choices

Flow Transmitter - CSA/CUS, ATEX, IECEx, KOSHA (specify preference at the time of order)

Remote Enclosure - CSA/CUS Non-Hazardous area location (Ordinary Locations)

Optional CSA/CUS, ATEX, IECEx, KOSHA (Specify preference at the time of order)



CSA/CUS APPROVED INSTRUMENT
For use in hazardous area locations; Class I Group B, C, D; Class II Group E, F, G; Class III: Encl Type 4X; Class I Zone I; AEx d IIB + H2 IP66; Ex d IIB + H2 IP66; T2 or T3 or T4 as marked; Ta = 0°C to 50°C

Consult Factory for T3 or T4



IECEx APPROVED INSTRUMENT
For use in hazardous area locations; T2 or T3 or T4 as marked; Ta = 0°C to 50°C; Ex d IIB + H2 T2...T4 Gb IP66; Ex tD A21 IP66, T135°C...T300°C IECEx CSA 11.0014

Consult Factory for T3 or T4



KOSHA APPROVED INSTRUMENT
For use in hazardous area locations; Class I Group B, C, D; Class II Group E, F, G; Class III; Encl Type 4x; Class I Zone I; AEx d IIB + H2 IP66 Ex d IIB + H2 T2...T4 Gb IP66; Ex tD A21 IP66 T135°C...T300°C

Consult Factory for T3 or T4



ATEX APPROVED INSTRUMENT
For use in hazardous area locations; Ta = 0°C to 50°C; IP66; Ex d IIB + H2 T4 Gb / Ex t IIIC T135°C Db or EX d IIB + H2 T3 Gb/ Ex t IIIC T2000°C Db or Ex d IIB + H2 T2 Gb/Ex t IIIC T3000°C Db; SIIRA 12ATEX1302

Consult Factory for T3 or T4



CE APPROVED INSTRUMENT