



Mass Air Flow Meter

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The Taylor Dynamometer Mass Air Flow Meter is designed to work with the DynPro Data Acquisition and Control System. This meter measures the amount of intake air consumed by an engine. Using the Pitot principle to measure the total and static pressure components of airflow, the pressure sensing ports sense the impact pressure of the approaching air stream allowing the transmitter to determine the volumetric flow of air. With the ports positioned at designated angles, the meter assures accurate measurement of the sensed airflow rate and eliminates the need for an airflow straightener upstream. The transmitter provides an automatic zeroing circuit capable of electronically adjusting the transmitter to zero at predetermined time intervals while simultaneously holding the transmitter output signal. The automatic zeroing circuit eliminates all output signal drift due to thermal, electronic or mechanical effects, as well as the need for initial or periodic transmitter zeroing. For Mass Air Flow Meters operated in temperature controlled spaces (with no thermal effect upon span), this automatic zeroing function essentially produces a "self calibrating" transmitter.



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TECHNICAL DATA

| TECHNICAL DATA | | |
|------------------------------------|----------|---|
| POWER REQUIREMENTS | | |
| INPUT | UNITS | VOLTS |
| AMPERE | | 20-28 VAC OR 20-40VDC WITH AUTOMATIC SELECTION |
| OUTPUT | | AMPS |
| | | 18VA @ 24VAC OR 13VA @ 24VDC |
| | | VOLTS |
| | | 0-10 |
| OPERATING SPECIFICATIONS | | |
| UNITS OF MEASUREMENT | UNITS | SCFM & Lbs/Hr |
| FLOW RATES (WET OR DRY) | SCFM | 0 - 1250 OR 0 - 2130 |
| | Lbs/Hr | 0 - 5635 OR 0 - 9600 |
| FUNCTIONAL SPECIFICATIONS | | |
| ANALOG OUTPUTS | VOLTS | Dual transmitter outputs are individually configurable via jumper, 0-10VDC |
| PERFORMANCE SPECIFICATIONS | | |
| ACCURACY | % | +/- 0.1% OF NATURAL SPAN, INCLUDING NON-LINERITY, HYSTERESIS, DEADBAND, AND NON-REPEATABILITY |
| STABILITY | % | +/- 0.5% OF NATURAL SPAN FOR ONE YEAR |
| TEMPERATURE AFFECT | % | None; corrected by AUTO-zero |
| ZERO: | % | None; corrected by AUTO-zero |
| SPAN: | % | 015% of Full Span/°F |
| APPROVALS | | FM, CSA, CE |
| PHYSICAL SPECIFICATIONS | | |
| SIGNAL CONNECTIONS | | High and low pressure, 1/8" FPT |
| ELECTRICAL CONNECTIONS | | External terminal strip with plug-in connectors |
| ENCLOSURE RATING | | NEMA 1 aluminum enclosure |
| WEIGHT | Lbs. | 4.1 |
| | Kg. | 1.9 |
| OVERALL DIMENSIONS | IN. | 24" X 14" X 17-1/16" |
| (LENGTH X WIDTH X HEIGHT) | MM. | 610 X 356 X 433 |
| MISCELLANEOUS | | |
| MOUNTING POSITION EFFECT | | None; corrected by AUTO-zero |
| TRANSDUCER RESPONSE TIME | | 0.5 seconds to reach 98% of a step change |
| LOW PASS FILTRATION | | Response time to reach 98% of a step change is adjustable from 2.0 to 250.0 seconds |
| AUTOMATIC ZEROING | % | Within 0.1% of calibrated span |
| ACCURACY: | % | Every 1 to 24 hours on 1 hours intervals |
| FREQUENCY: | PSIG | 25 |
| OVERPRESSURE/STATIC LIMIT PRESSURE | | Power input is isolated, fused and reverse polarity protected |
| CIRCUIT PROTECTION | | Digital, via internally located push-buttons |
| SPAND & ZERO ADJUSTMENT | LINE/CHR | Standard 2 line x 20 character LCD provides one line of data display |
| DISPLAYS | | LED's indicate CPU activated, AUTO-zero over-ranged, and auxillary alarm "on" status |
| HUMIDITY LIMITS | % | 0-95% RH, non-condensing |
| TEMPERATURE LIMITS | °F | -20° TO 180° |
| | °C | -29 TO 82 |

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