



Intake Airflow Meter / Instrumentation



Intake Airflow Meter

Designed to work with Taylor's DynPro₂ Data Acquisition and Control System, the Intake Airflow Meter measures the amount of intake air consumed by an engine. Available in two sizes: 0 - 1,250 or 0 - 2,130 SCFM (0 - 5,635 or 0 - 9,600 lb/hr). The Intake Airflow Meter uses 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 Airflow 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

Specifications / Requirements	Units	Description
Operating Sizes (2 available)		
Flow Rates (Wet or Dry)	SCFM	0 - 1,250 or 0 - 2,130
	lb/hr	0 - 5,635 or 0 - 9,600
Power		
Input	Volts	20 - 28 VAC or 20 - 40 VDC with Automatic Selection
Ampere	Amps	18 VA at 24 VAC or 13 VA at 24 VDC
Output	Volts	0 - 10
Functional		
Analog Outputs	Volts	Dual transmitter outputs are individually configurable via jumper, 0 - 10 VDC
Performance		
Accuracy	%	+/- 0.1% of natural span, including non-linearity, hysteresis, deadband and non-repeatability
Stability	%	+/- 0.5% of natural span for one year
Temperature Affect		
Zero:	%	None; corrected by AUTO-zero
Span:	%	.015% of full span / °F
Approvals		FM, CSA, CE
Physical		
Signal Connections		High and low pressure, 1/8 in. (3.175 mm) FPT
Electrical Connections		External terminal strip with plug-in connectors
Enclosure Rating		NEMA 1 aluminum enclosure
Weight	lb	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 (length x width x height)
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 - 250.0 seconds
Automatic Zeroing		
Accuracy	%	Within 0.1% of calibrated span
Frequency	%	Every 1 - 24 hours on 1 hour intervals
Over Pressure / Static Limit Pressure	PSIG	25
Circuit Protection		Power input is isolated, fused and reverse polarity protected
Span and Zero Adjustment		Digital, via internally located pushbuttons
Displays	Line/ Character	Standard 2 line x 20 character LCD provides one line of data display LEDs indicated CPU activated, AUTO-zero over-ranged and auxillary alarm "on" status
Humidity Limits	%	0 - 95% RH, non-condensing
Temperature Limits	°F	-20 - 180
	°C	-29 - 82

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SMS6018v001